Understanding the value processes and barriers facing ecological sustainable entrepreneurs

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Abstract

The green economy is an emerging sector that offers great opportunities for future business development. Extant literature argues that large companies must take on an entrepreneurial orientation in order to grow, however there is a lack of knowledge regarding the process that ecological sustainable entrepreneurs follow in their approaches to create new value, that large companies can mimic in their approach. The study focuses on the process, values and barriers that ecological entrepreneurs face on their journey of creating a sustainable value proposition.

The study shows that ecological sustainable entrepreneurs constantly search for alternatives to the challenges they face in terms of the current accepted norms. They engage in market opportunities that satisfy their need to create value beyond their product value proposition through a stakeholder approach by building trust and acceptance through a knowledge sharing process. This is underpinned with values such as trustworthiness, relationship-building through empathy and respect, upholding fairness and maintaining integrity.

The barriers faced can be grouped into customer barriers, personal barriers, business and industry barriers, and political and regulatory barriers, which ecological sustainable entrepreneurs have to constantly navigate by means of the process they adopt and the values that they ascribe to.

Keywords

Ecological sustainable entrepreneurs, stakeholders, green economy, entrepreneurial orientation.

Declaration

I declare that this research project is my own work. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration at the Gordon Institute of Business Science, University of Pretoria. It has not been submitted before for any degree or examination in any other University. I further declare that I have obtained the necessary authorisation and consent to carry out this research.

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Table of Contents

List of tables

List of figures

1. CHAPTER 1: INTRODUCTION TO THE RESEARCH REPORT

1.1 Introduction

This study aimed to uncover the process that ecological sustainable entrepreneurs follow in order to establish their businesses. It is expected that the process coincides with the values that they ascribe to and the barriers that they face in an economic model that aims to be more sustainable. By understanding these processes, values and barriers, policy makers will be able to provide guidelines for green entrepreneurship to be stimulated. In addition, firms aiming for sustainability will know which values to prioritise and entrepreneurs can use the model to start a sustainable venture.

1.2 Description of the problem

At the World Economic Forum held in Davos 2017, it was pointed out that if the current trend of climate change continues, millions of people around the world could regress into poverty as climate change affects lower income populations the worst. With the implementation of the millennium development goals and the subsequent sustainable development goals (SDG), one would expect that existing firms and entrepreneurs would have numerous incentives and opportunities to develop new business markets, however companies struggle to make a shift to a sustainable business model (Frishammar & Parida, 2019), green entrepreneurs battle to secure funding from venture capitalists (Ball & Kittler, 2019), and a large number of venture capital-backed firms fail (Kerr, Nanda, & Rhodes-Kropf, 2014). As a result, the process and barriers to creating a sustainable business tend to be different than those for businesses that are not concerned with sustainability. Some scholars have indicated that the presence of political interference and influence is a big contributor to this phenomenon, and no allowance has been made for the adaption to take place (Griggs, Stafford-Smith, Gaffney, Rockström, Öhman, Shyamsundar, Steffen, Glaser, Kanie & Noble, 2013; Pinkse & Groot, 2015).

Given the finite resources that the planet has to offer, it is necessary that our natural resources are acknowledged as being limited and that people understand that the current exploitative nature of the industry cannot persist (Allen & Malin, 2008). Allen

and Malin (2008) proposed that the management of natural resources be done through green entrepreneurship, which would ensure a sustainable future. In order to lead to such a transformation in the industry, it is important that green entrepreneurship is allowed to flourish in the current competitive market. This could furthermore lead to green entrepreneurship becoming a competitive advantage in the future, for example by providing green low-cost housing in South Africa (PAGE, 2017).

Gast, Gundolf and Cesinger (2017) argued that green entrepreneurial actions should be classified under the collective name of 'ecological sustainable entrepreneurship', and that the specific values that drive ecological sustainable entrepreneurs need to be further explored. By understanding the barriers that prevent the exploration of green entrepreneurship, changes can be made to policies, politics and perceptions in order to stimulate further development in the industry. This would also present an important opportunity to enable the achievement of the SDGs and to safeguard the planet for future generations.

Incumbent firms have a further challenge of their legacy systems; adapting from this model would be difficult as it is usually entrenched in their organisational culture. In order to change this rooted culture, new learnings and experiences would be required to entrench new assumptions as the industry norms (Christensen & Shu, 2006). By understanding the process that ecological sustainable entrepreneurs employ to foster success, a transition by incumbent firms to green technology will be more viable than existing models for the foreseeable future (Naam, 2020). In addition, incumbent firms would be able to adopt the hiring criteria of green firms to assist them to make the transition to sustainable business outlooks, as human resource capital has the ability to effect the behavioural changes required.

1.3 Current environment

In some developed countries, great progress has been made in terms of the sustainability of renewable energy, but in developing countries there are indications that sustainability adoption is limited (Kardooni, Yusoff, & Kari, 2016). This research thus focuses on understanding how entrepreneurs can adapt in order to overcome

the barriers presented by following an ecological sustainable entrepreneurship outlook. This would further contribute to the alignment of ecological sustainable entrepreneurship as a subgroup of entrepreneurship.

Without understanding the process of ecological sustainable entrepreneurship in the context of the green economy, a transition to the green economy remains a challenge, as business leaders do not know what to look at and where to improve in their existing processes. Entrepreneurship plays an important role in the growth of the economy, and given the vast opportunities that the green economy offers, a failure to understand the values, processes and barriers would easily translate into a lost opportunity to drive countries forward. In order to remain viable, it is important that firms utilise green strategies and drive green product innovation (Shrivastava & Tamvada, 2019). As such, ecological sustainable entrepreneurship needs to be relevant in each company's future strategy.

Given South Africa's rising unemployment level, particularly the youth unemployment rate of 43.2% (Stats SA, 2020) and the country's low economic growth rate, the future of the youth is under threat. For this reason, an innovation sector is required for job creation and innovation to flourish. One such opportunity is presented by the green economy, where entrepreneurs can join in a technology-enabled green future where sustainable development is a catalyst for prosperity. Small and medium enterprises (SMEs) play a critical role in growth and job creation, as they spur new value propositions to the market and the non-consumption community and offer alternatives to customers. By combining the value that SMEs offer with the opportunities that the green economy offers, a strong, structured and sustainable job creation system can emerge.

1.4 Research objectives

The objectives of this research were to investigate, explore, understand and isolate the process that ecological sustainable entrepreneurs engage in, in order to build a viable business. This is required as the sector is still emerging and evolving and is not yet fully explored and understood (Gast, Gundolf, & Cesinger, 2017). This includes the values that they ascribe to and how they go about changing their

approaches and strategies to eliminate the barriers that they face in the market.

The values of ecological sustainable entrepreneurs are important to understand as this will help us to understand their 'internal drive', where the temptation of larger financial gains through unsustainable actions are always present. Furthermore, this would also allow for an understanding of the intrinsic motivation that is noted in the behaviour of ecological sustainable entrepreneurs.

1.5 Research scope

As the green economy gains in popularity and viability due to environmental and cost concerns, there will be an increased demand for ecological sustainable entrepreneurs to enter into the market and address the needs of society. Incumbent firms, however, still have the upper hand in the market due to long established business models as well as deep pockets and resources at their disposal. Yet this could easily change as the green economy has the potential to be a disruptor in the existing sectors.

The industry can also learn and adapt to be more viable in the foreseeable future, through changing their approach and business model, although this would require a totally new approach to doing business (Stoughton & Ludema, 2012). A possible change in human capital could also be a possibility if one understands the values and characteristics to look for in the recruitment process. Rauter, Jonker and Baumgartner (2017) indicated that the best performance is achieved in a firm when the personal values and emotions of the individual entrepreneur aligns with the company's economic outcomes and the desired environmental outlook. This is required from employees in a firm while keeping an entrepreneurial orientation outlook in the business.

1.6 Conclusion

As the renewable energy market seems to have the potential to become more cost effective than fossil fuel technology (Naam, 2020), and sustainable product line offers are becoming more attractive to environmentally conscious consumers, it is

important to understand how ecological sustainable entrepreneurs can understand and take advantage of the business opportunities in the green economy to stimulate growth in the economy.

The World Economic Forum has started to engage in sustainable approaches with the launch of initiatives such as RE100, which strives to realise 100% renewable energy production, and the net-zero emissions goal for countries and other big players in the world. Such initiatives create a platform for ecological sustainable entrepreneurs to push the green economy forward, to be part of the solution and to make the world a better place.

Ensuring that entrepreneurial ventures can engage in sustainable business models will assist in protecting the environment, while creating new employment opportunities for society. By understanding the processes, values and drivers of green firms, the creation of more green entrepreneurial businesses could be possible, and these could guide incumbent firms on how to transition into the green economy.

A change to a sustainable solution might not be the easiest route for a business to take, and in the short term may not be the most profitable, however caring about the environment will lead to profitable and sustainable solutions in the long term.

2. CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

This section provides an overview of the current approaches and skillsets that ecological sustainable entrepreneurs exhibit in order to create and sustain a green business. As their business outlook differs from those of traditional businesses, their approach, skills and orientation tend to differ as well. Recognising that their actions are underpinned by prioritising the environment, is critical to understand the values and the process followed to develop a successful green business.

This literature review was conducted by undertaking a search on Google scholar, where the key words included ‘green entrepreneurs’, ‘ecopreneurship’, ‘sustainable entrepreneurship’ and ‘enviropreneurship’. These terms were then further paired with terms such as ‘skills’, ‘values’, ‘characteristics’, ‘business’ and ‘green economy’ to find further relationships within the literature. Interesting references and follow up citations were also explored for further insights.

2.2 The one-pillar model of sustainable development

According to Gast, Gundolf and Cesinger (2017), the one-pillar model of sustainable development for business has increased in popularity and is becoming a major consideration for new business ventures. This model prioritises the ecological effects of the business, where decisions and actions are taken in an unconventional way to consider the environment in all respects. New ventures and SMEs have started to develop in the area of ecological sustainable entrepreneurship where the business outlook is characterised by the internal values and motivation of the entrepreneur (Gast, Gundolf, & Cesinger, 2017). The process and experiences that shape and motivate the entrepreneurs can vary in terms of their own experiences and outlooks, however (Gast, Gundolf, & Cesinger, 2017; Jolink & Niesten, 2015; Kardooni, Yusoff, & Kari, 2016). The values that motivate green entrepreneurs can also be shared by larger and multinational companies in terms of establishing an entrepreneurial mindset and an adaptive space for operational requirements (Uhl-Bien & Arena, 2017). This holds especially true for companies that want to ensure a sustainable performance, where their green entrepreneurial orientation can offer a competitive advantage (Jiang, Chai, Shao, & Feng, 2018).

The existing literature focuses on large companies entering the green economy and what approaches they should take in order to be competitive in the market. Ambec and Lanoie (2008), Demirel, Li, Rentocchini and Tamvada (2019) and Jiang, Chai, Shao and Feng (2018) found that large organisations need to have an entrepreneurial orientation to grow within the green economy, and that green technology is only being used to fuel market differentiation, cost efficiencies and better risk mitigation actions. These studies indicate that a deep understanding of the ecological sustainable entrepreneur's start-up journey is somewhat unexplored and that the approach followed by large organisations cannot simply be translated to ecological sustainable entrepreneurs and their business ventures (Demirel, Li, Rentocchini, & Tamvada, 2019).

Furthermore, there have been some conflicting views in terms of the true value and competitive edge that going green or being sustainable can achieve for a business. Ambec and Lanoie (2008) showed that the cost of environmental actions can normally be offset through specific gains made in another area of the business, especially in well-regulated segments of the market. Pacheco, Dean and Payne (2010), however, found that sustainable actions are dependent and interlinked with the actions of competitors and the incentives associated with the sustainable actions. Where unsustainable actions can lead to a better financial outcome than deliberate sustainable outcomes if all players in the market does not follow the same sustainable approach. This closely resembles the prisoner's dilemma (where players are worse off by playing their optimum strategy and not rather collaborating for a better outcome), which is referred to as the green prison, where the proposed solution is seen to be the establishment of strong institutions (Pacheco, Dean, & Payne, 2010).

2.3 The process for ecological sustainable entrepreneurs

As ecological sustainable entrepreneurs need to deal with a variety of challenges, processes and personal skills, development can be achieved through experimentation in terms of effectuation (Fisher, 2012) and mending soft skills as the business progresses (Mamabolo & Myres, 2019), as opposed to detailed planning.

Mamabolo and Myres (2019) also suggested that ecological sustainable entrepreneurs are normally technical in nature and start the entrepreneurial journey with a lot of self-confidence, where they aim to achieve shared value through their business ventures (Slavova, 2019). Persuasion, social networks, networking skills, collaboration, emotional connections, resilience and agility are also part of the unique skillset that ecological sustainable entrepreneurs use to overcome barriers along their journey (Gast, Gundolf, & Cesinger, 2017; Dickel, Hörisch, & Ritter, 2018; Kibler, Fink, Lang, & Muñoz, 2015; Mamabolo & Myres, 2019). These skills and emotions can also further differentiate the ecological sustainable entrepreneurs from their competitors, as the winners are often determined by the market when experimentation in the field is critical (Kerr, Nanda, & Rhodes-Kropf, 2014). A constant change in the popularity of solution-driven technologies also requires ecological sustainable entrepreneurs to constantly adapt their ways and adjust to market gaps (Slavova, 2019).

The skillset required by green entrepreneurs has been documented as having similarities to those of regular entrepreneurs. However, these similarities do not describe the process that is followed in order to persist on the green entrepreneurial journey. Jiang, Chai, Shao and Feng (2018) described a process of green entrepreneurial orientation that attempted to explain how firms focus on green products, reductions in emissions and a focus on consumer safety, which leads to a positive influence on the firm's financial performance. This is, however, very descriptive from an established firm point of view, and does not add any value in terms of how an ecological sustainable entrepreneur would approach their own business venture and their business or personal points of view. Three characteristics that are associated with the green entrepreneurial orientation are green innovativeness, proactiveness and an openness to risk. These characteristics can therefore show that the skills and orientation of an ecological sustainable entrepreneur should play a primary role in the process that they follow to create a green business. Understanding the process followed can facilitate a green entrepreneurial orientation focus in the market.

Stakeholder focus has become very prominent in the business landscape in recent years (Buchholtz & Carroll, 2018). According to Buchholtz and Carroll (2018), having

a stake in a business refers to the fact that one shares in the value offered by the business. Since ecological sustainable entrepreneurs have close interactions with the environment, their stakeholder focus quickly becomes widespread. Bıçakcıoğlu-Peynirci and Tanyeri (2020) have also shown how crucial the role of stakeholder pressure can be when it comes to participating in the green economy, and therefore directly influencing the behaviour and strategy of a business. It should be noted that this is not perceived as a threat, but rather acts in terms of facilitating and speeding up the process for the business. Bıçakcıoğlu-Peynirci and Tanyeri (2020) also noted that stakeholders take on a duel role of demanding better sustainable actions and outcomes while still expecting higher profits and growth. These expectations force the company to be more competitive with their value offering in the market. Upon entering the market, ecological sustainable entrepreneurs have similar pressures and expectations placed on them by their stakeholders, where sustainable products have to compete alongside unsustainable products. Maak and Pless (2006) heeded the call to leaders for the inclusion of stakeholders by creating a responsible leadership model where active engagement from different avenues is required to weave together the necessary responsible approach. Involving and including stakeholders in the green economy would therefore be an important consideration for ecological sustainable entrepreneurs.

Funding plays an important part in any business venture, and ecological sustainable entrepreneurs have the tendency to pose a unique risk to financial institutions due to their heavy front-end capital investment, limited collateral, perceived higher political risk, and longer pay-back periods (Migendt, Polzin, Schock, Täube, & von Flotow, 2017; Demirel, Li, Rentocchini, & Tamvada, 2019). This has the tendency to immediately place ecological sustainable entrepreneurs at a disadvantage compared to other market industries that do not have such limitations in terms of securing funding. One normal route of capital funding, i.e. sourcing funds from venture capitalists (VCs), is difficult for ecological sustainable entrepreneurs due to the long pay-back periods of green technology and the lack of scalability of the value proposition (Migendt, Polzin, Schock, Täube, & von Flotow, 2017). This challenge can, however, be overcome, if the green technology or product can compete on market-driven adoption through a price reduction and efficiency (Migendt, Polzin, Schock, Täube, & von Flotow, 2017). In some cases, this can be justified, but in most cases, it is not feasible (Pacheco, Dean, & Payne, 2010).

Furthermore, policymakers also have a substantial influence on the effectiveness and quantity of private finance that is available for ecological sustainable entrepreneurs, thus the role that they play should not be underestimated (Migendt, Polzin, Schock, Täube, & von Flotow, 2017). Melay, O'Dwyer, Kraus and Gast (2017) found, however, that ecological sustainable entrepreneurs are reluctant to accept any external funding from private investors, and would rather employ techniques such as self-funding and publicly available funds in their initial funding model (Demirel, Li, Rentocchini, & Tamvada, 2019). Obtaining finance in the form of long-term debt is also a challenge for ecological sustainable entrepreneurs, due to low collateral, which further complicates funding for a green busines (Demirel & Parris, 2015). It can thus be said that the funding of green ventures remains a challenge, but is an important factor that ecological sustainable entrepreneurs must consider as part of their value offering.

Organisational capabilities in a green venture, through relationship building and organisational learning, are key to enabling green ventures to remain profitable and set out a good strategy in their environment (Bıçakcıoğlu-Peynirci & Tanyeri, 2020). These organisational capabilities would enable ecological sustainable entrepreneurs to collaborate a lot more in the green economy , which would enhance their performance and capability. It should be noted that green ventures tend to collaborate a lot more in their business activities up and down the value chain in order to enhance and sustain their value proposition, compared to conventional businesses (Bıçakcıoğlu-Peynirci & Tanyeri, 2020; Demirel, Li, Rentocchini, & Tamvada, 2019). Having these capabilities is therefore a critical aspect that ecological sustainable entrepreneurs tend to focus on.

De Lange (2016) noted that local entrepreneurs have a better chance of succeeding if trust is built in the communities that they operate in. This links to the emotional connection described by Kibler, Fink, Lang and Muñoz (2015), i.e. that ecological sustainable entrepreneurship is sensitive to the stakeholder relationship (Gast, Gundolf, & Cesinger, 2017). Eccles, Perkins and Serafeim (2012) have further shown that a high level of trust allows one to take the required risks in order to innovate with the new ideas and concepts that are required to be sustainable. This

alludes to the fact that the process followed by ecological sustainable entrepreneurs is deeply rooted in trust and would be easy derailed if that trust were to be compromised. Corradini (2019) suggested that as the products of ecological sustainable entrepreneurs are technologically driven and require innovation, the spatial distribution of ecological sustainable entrepreneurs depends on area-specific hotspots. These hotspots depend on clusters where existing businesses are and engage with activities where the need is greatest to serve the market. The incumbents would also be technology-driven and therefore create an environment where high end developments can take place. Corradini (2019) suggested that this is due to knowledge spill-over that occurs in the region, but also cautioned that a point of diminishing returns occurs when these technology-driven firms are too densely spaced, as no new ideas can be achieved through cross-pollination. This would suggest that location would also play a role with regards to the processes followed by ecological sustainable entrepreneurs.

2.4 Value drivers

For entrepreneurs to act responsibly within a given environment, they need to rely on their personal values and their emotional connections (Rauter, Jonker, & Baumgartner, 2017; Kibler, Fink, Lang, & Muñoz, 2015). In entrepreneurial firms, these are often aligned to the values of the founder. As such, employing an ecological sustainable entrepreneurship outlook depends to a large extent on the values of the entrepreneur, where the personal values and the economic outcomes have to align with each other.

Muñoz and Dimov (2015) indicated that this alignment can be achieved through two mechanisms that are either conformist or insurgent. The former occurs when there is real care and a deliberate action to go into a sustainable business venture, while the latter occurs due to a business need or an opportunity in the market that a sustainable solution can address. These two mechanisms can be the result of vastly different values from the entrepreneur's side, and requires prior knowledge of the systematic effects and outcomes of the different mechanisms. Gast, Gundolf and Cesinger (2017) argued, however, that going into green entrepreneurship is rather rooted through intrinsic motivation to develop a business in a sustainable way.

Therefore, the reasons for the motivation as a result of the values play a key factor in ecological sustainable entrepreneurship.

Demirel, Li, Rentocchini and Tamvada (2019) agreed that there are divergent views regarding the core values and true motivations for starting a sustainable venture, and how these differ from a normal start-up orientation. These views range from companies joining the green economy just as a vehicle to generate profit, to entrepreneurs who are truly concerned about the environment and the impact that business has on the environment. Furthermore, Demirel, Li, Rentocchini and Tamvada (2019) pointed out that firms that enter the green economy directly are fundamentally set up differently to companies that transition or evolve into a sustainable company. This is due to the fact that companies dedicated to a green value proposition emerge from an ecological sustainable entrepreneur who establishes an SME, or develop from an academic project where a company aiming to transition to the green economy might see it as the next evolutionary step that the business model needs to take in order to stay relevant in the current market. As such, it would be expected that the culture and the behaviour of companies dedicated to sustainability from the start would be different.

Gast, Gundolf and Cesinger (2017) further suggested that ecological sustainable entrepreneurs are value-driven in their approaches and strategies, i.e. they are not opportunity-driven. This idea only has merit if the divergent views of Muñoz and Dimov (2015), as well as Demirel, Li, Rentocchini and Tamvada (2019), are considered as being true for ecological sustainable entrepreneurs entering the market, not just for a quick turnover. Gast, Gundolf and Cesinger (2017) thus defined the term ‘value-driven ecological sustainable entrepreneurship’ in order to avoid any confusion, which is the term that this study also adopted. Yet William and Schaefer (2013) indicated that the fit of personal and business values is important for the ecological sustainable entrepreneur and the green business venture. As such, the motivation is less based on the theoretical values of the business case, and rather more on if the personal and business values are aligned and can produce results. The alignment of these values furthermore leads an ecological sustainable entrpreneur to take personal responsibility for the cause and leads to the attainment of a more resilient business than merely being profilable. This indicates that

ecological sustainable entrepreneurs are intrinsically motivated to pursue sustainability, where they personally believe that their own driving actions and behaviours can have a chain reaction in the marketplace, which will lead to social benefits for the wider community (Gast, Gundolf, & Cesinger, 2017).

Rauter, Jonker and Baumgartner (2017) pointed out that being sustainable in the market is not necessarily seen as a competitive advantage, and should therefore not be the primary outcome of a business. They argued that the drive should rather be to ensure that the personal values of the entreprneur and economic outcomes align with each other. Furthemore, Pacheco, Dean and Payne (2010) pointed out that ecological sustainable entrepreneurs do at times enter into a stage where they reach a prisoner's dilemma (green prison), i.e. where unsustainable actions are required in order to grow in the market and achieve the desired objectives. In this instance, the true values of the entrepreneur are tested. The drive for the business is therefore rather aligned to the personal values of the entrepreneur. Any company willing to not fall into the green prison is characterised by the self-responsibility of the employees, an openness to criticism, a sense of continous improvement, an openness to innovation and an openness to risk-taking (Rauter, Jonker, & Baumgartner, 2017). The specific values of the entrepreneur that create such an outlook in a company have, however, not been well explored, although the entreprenuer is clearly focused on obtaining long term profitability and not short term goals (Demirel, Li, Rentocchini, & Tamvada, 2019).

Networking with external stakeholders is one of the methods that ecological sustainable entrepreneurs use in order to substitute for their limited resources (Gast, Gundolf, & Cesinger, 2017). Bıçakcıoğlu-Peynirci and Tanyeri (2020) did, however, indicate that external stakeholders tend to influence the strategy that an ecological sustainable entrepreneur takes, and that the organisational resources and capabilities, in the form of relationship building and organisational learning, have a mediating effect on the business strategy of ecological sustainable entrepreneurs. Hamann, Smith, Tashman and Marshall (2017) also showed that managers' attitudes and behaviours have a stong influence, and can be used as a predictor of sustainable activities and the outlook of the business. As such, one may note that different stakeholders can act as moderators for behaviours, and therefore a focus on the

values of ecological sustainable entrepreneurs are justified.

Dickel, Hörisch and Ritter (2018) argued that the extent of a new venture's environmental orientation determines the need and required size of the business and social network. The network would then be used to limit some of the challenges experienced in a sustainable start-up through the liability of being new, and to compensate for their market size with regards to the industry that the business would target. Gast, Gundolf and Cesinger (2017) agreed with the network approach, but rather established it in terms of collaboration with stakeholders that are required to use the network to influence policy and public behaviour positively towards their own goal, as suggested by Pinkse and Groot (2015).

2.5 Barriers faced by ecological sustainable entrepreneurs and the external environment

Due to the fact that ecological sustainable entrepreneurs tend to challenge some of the customs that society has become used to, some resistance to their value proposition could be expected. This section investigates what barriers and external environment effects could be expected by ecological sustainable entrepreneurs.

The literature shows that a vast array of different terminologies are used to describe entrepreneurship that occurs in a sustainable manner and takes the environment and society into consideration. Gast, Gundolf and Cesinger (2017) described this as fragments and inconsistencies that are present in the industry, which Demirel, Li, Rentocchini and Tamvada (2019) indicated is a possible source of confusion and lack of unity. This, in turn, could lead to confusion within the market segment regarding what the real value offering and differentiation is between the different terms. This calls for future research to be conducted and industry norms to be established, so that a common terminology can be created that unites the value propositions of ecological sustainable entrepreneurs (Gast, Gundolf, & Cesinger, 2017; Demirel, Li, Rentocchini, & Tamvada, 2019).

Ecological sustainable entrepreneurs face additional unique barriers when compared

to traditional entrepreneurs. As per Griggs et al. (2013), these barriers include a strong political agenda, which greatly influences ecological sustainable entrepreneurs' ability to grow. Possible customers, such as municipalities, sometimes also see green entrepreneurs as a threat to the existing system, and a disruption that they are not willing to allow into the market (Mamabolo & Myres, 2019), despite the fact that it could assist them to provide a better service.

As green technologies are newer than the traditional technologies, the adoption of these more modern technologies is required in order to generate a solid customer base. This adoption can be explained through the use of the technology acceptance model (TAM), where the primary drivers are centred around the technologies' perceived usefulness and perceived ease of use (Venkatesh & Davis, 2000). The technology acceptance can be explained as green technology development is driven by innovation in the market segment (Corradini, 2019). Kardooni, Yusoff and Kari (2016) also indicated that although certain green technology can be shown to be better than existing technologies, the knowledge and cost of a technology may serve as a barrier for customers when it comes to accepting a new technology in the marketplace. A lack of education regarding the value offering of a product, as well as the high up-front costs, are two of the main deterrents seen in the TAM when it comes to the adoption of technology.

Customers also have different ways of ascribing value to environmentally friendly products and services, and in some areas the market is yet to accept sustainable business practices (Gast, Gundolf, & Cesinger, 2017). Value association is based on customers' perception that value environmental products through aligning with their principles and also how environmental products aim to disvalue competing products (Jolink & Niesten, 2015). While there are indications that green technologies have higher set-up costs (Kerr, Nanda, & Rhodes-Kropf, 2014; Mamabolo & Myres, 2019) and thus compete with existing technologies from a disadvantageous position, other reports show that green technologies can indeed compete with existing technologies through price, and have the potential to even fall below the cost of existing technologies (Naam, 2020).

A true understanding of product life cycle costs and the implication of these for research and development and strategy decisions plays a primary role in the required policies and regulatory framework for sustainable products (Demirel, Li, Rentocchini, & Tamvada, 2019). However, ecological sustainable entrepreneurs do not have any direct control over the policies, and do impose uncertainty onto the sector in terms of new development, where ecological sustainable entrepreneurs would then also become more politically involved where their strategy involves scalability of their products (Pinkse & Groot, 2015). Ambec and Lanoie (2008) suggested that the type of market segment that one offers a value proposition to, including the product's homogeneity, also plays a role in the regulatory framework, and therefore the competitive advantage potential of such a product.

Entrepreneurs in the renewable energy market face major challenges with regards to political influence during start-up, and support from other institutions is thus required (Pinkse & Groot, 2015). This forces entrepreneurs in the industry to become more politically active with regards to governmental policies than other entrepreneurial markets. Ball and Kittler (2019) indicated that policy makers have a big influence on the start-up of ecological sustainable entrepreneurs, which could possibly deter them from entering the market. Demirel, Li, Rentocchini and Tamvada (2019) argued, however, that the government plays a critical role in enabling ecological sustainable entrepreneurs, as well as the power enjoyed by incumbents wishing to play in the green economy. This shows how big the influence of external sources can be on the value proposition of ecological sustainable entrepreneurs given the context and operating environment.

2.6 Conclusion

Hall, Daneke and Lenox (2010) alluded to the fact that entrepreneurship is seen as essential in moving the current business environment to a sustainable business model, yet limited models have been developed in this regard. By creating a model to understand the process drivers, values and barriers that influence ecological sustainable entrepreneurs, the needs of the economy, environment and society can be fulfilled in a sustainable way (Gast, Gundolf, & Cesinger, 2017). Further, incumbent firms would also be equipped to alter their business models for a

sustainable future.

It is clear that green businesses are gaining momentum by prioritising environmental concerns in a market where consumers value these traits and where ecological sustainable entrepreneurs largely drive these values in their business. The skills required to embark on a green entrepreneurship journey have been well established, but the process that is followed for the desired outcome has not received much focus. It is clear from the literature that the motivation for going green is an important driving force, but the values behind these actions are yet to be explored. The adoption of green technology has been investigated to some degree, but policy has been identified as a key factor that prevents it from gaining in popularity. Further barriers are required to be understood to facilitate the acceptance of green technologies by customers.

3. CHAPTER 3: RESEARCH QUESTIONS

This chapter links the literature to the underlying research question and the gap in the literature. This is done by defining the research objectives through a set of research questions.

3.1 The business process for ecological sustainable entrepreneurs

As detailed in the literature review, existing scholarship focuses on large companies entering the green economy and what approaches they take in order to be competitive in the market. These companies are normally attempting to make the transition into the green economy, i.e. they did not enter the market as a born green firm that emerged from SMEs established by ecological sustainable entrepreneurs (Demirel, Li, Rentocchini, & Tamvada, 2019). However, based on the studies of the larger firms, it was concluded that these organisations need to take an entrepreneurial approach to this transition, shift to the green economy, and grow in the sector (Ambec & Lanoie, 2008; Demirel, Li, Rentocchini, & Tamvada, 2019; Jiang, Chai, Shao, & Feng, 2018).

Ecological sustainable entrepreneurs have sensitive stakeholder relationships that need to be managed (Gast, Gundolf, & Cesinger, 2017) with an emotional connectedness (Kibler, Fink, Lang, & Muñoz, 2015), which signifies the presence of a trusting relationship. Bıçakcıoğlu-Peynirci and Tanyeri (2020) noted how big the impact of stakeholders can be on influencing the strategy of a business directed at the green economy.

Incorporating these two lines of thought, the first research question is:

RQ1: What are the process and drivers used by ecological sustainable entrepreneurs to build trust and generate financial returns?

3.2 The value drivers of ecological sustainable entrepreneurs

In a sustainable business, the current accepted practices in the industry can be challenged to see how the business can still be profitable while taking into

consideration the environment, to move the consumption-based mindset of consumers to a more sustainable framework. However, since there are incentives to give into non-sustainable practices that offer short term rewards (Pacheco, Dean, & Payne, 2010), the ecological sustainable entrepreneur needs to focus on their intrinsic motivation and values to persist with the overarching vision to stay sustainable (Gast, Gundolf, & Cesinger, 2017).

In order to act ecologically responsible also requires one to have a sense of obligation or philanthropy towards the environment, as legitimate law enforcement cannot enforce such behaviour on an ongoing basis (Bansal & Roth, 2000). The specific values of the entrepreneur who creates such an outlook in a company have not been well explored, however, although the entrepreneur is clearly focused on obtaining long term profitability and not short term goals (Demirel, Li, Rentocchini, & Tamvada, 2019). This premise led to the second research question.

RQ2: What values do ecological sustainable entrepreneurs ascribe to that drive them, and how are they intrinsically motivated?

3.3 The barriers faced by ecological sustainable entrepreneurs

The introduction of the green economy tends to disrupt the accepted consumer-driven economy, and therefore resistance in the market can be expected. Certain key role players, such as policymakers and government agents, enjoy great power, and play a critical role in how ecological sustainable entrepreneurs can structure their business models and value propositions to match the power of incumbent firms in the future (Demirel, Li, Rentocchini, & Tamvada, 2019). However, all of the literature focus has been on examining the effects of external market conditions, which have not fully explored any influential internal barriers.

These barriers can also be expanded to South Africa in terms of the independent power producers' programme, which is currently strictly controlled and regulated by the Department of Energy. This shows how big an influence external bodies can have, as customers and policymakers have power over the business models of

ecological sustainable entrepreneurs. This leads to the final research question:

RQ3: What external factors influence the behaviours and processes of ecological sustainable entrepreneurs, and are there also internal barriers?

4. CHAPTER 4: RESEARCH METHODOLOGY AND DESIGN

4.1 Introduction

A wide array of options is available for a qualitative researcher to conduct their research in order to attain the desired outcome, however the method chosen must be aligned to that outcome (Creswell, Hanson, Clark Plano, & Morales, 2007). This chapter explains the research methodology and the design utilised in order to reach the hoped-for outcome. Section 4.2 explains the choice of methodology that was adopted for the study, followed by Sections 4.3 to 4.9, which describe the research methodology and design used.

4.2 Choice of methodology

The philosophical underpinning of this research was interpretivism. Using interpretivism, the researcher was able to understand how the subjects interact with their environments in their own unique ways, and what the differences are (Saunders & Lewis, 2018). This led to the notion that reality can be different for each and every individual in the various areas of green entrepreneurship, and that this subjectivity can be explained through the inductive approach of generating a theory. A discovery outlook was taken to formulate the value drivers that green entrepreneurs base their actions on, as a researcher generally wants to understand why a certain phenomenon is present and not attempt to generalise the findings. This was consistent with conducting interviews with the sample population, as each ecological sustainable entrepreneurship can employ their own tactics and project their own values to achieve similar results. The aim of the interpretivist methodology was to attempt to link the different factors together through a common thread.

As per Gast, Gundolf and Cesinger (2017) and Demirel, Li, Rentocchini and Tamvada (2019), ecological sustainable entrepreneurship and the green economy remain an unexplored field, and thus theory building approaches are still required. The aim of this study was to identify common trends within the observations and interviews in order to formulate the data obtained into a framework that can be used in future studies (Saunders & Lewis, 2018). As such, the approach to the study was inductive in order to further explore the topic, which in general is more open-ended (Myres, 2019). With an inductive research approach, the aim is not to test a model

in any way, but rather to be engaged in a constructive manner in order to develop new theory.

The method used to collect data for a study is explained through the methodological choice selected (Saunders & Lewis, 2018). This study was conducted in a limited time period due to deadlines, which is why a mono-qualitative method was used to collect the data. Conducting interviews with knowledgeable people was also in line with the recommendation of Creswell, Hanson, Clark Plano and Morales (2007) for a narrative research approach, as the research was focused on understanding the process used by the ecological sustainable entrepreneur that has an impact on their green entrepreneurial business. The time horizon of a research study refers to the extent of time in which the study was conducted. Due to the time constraints of the researcher, the time horizon for this research was a cross-sectional study. The data were gathered during a particular time and were thus in essence a snapshot of the particular environment and the participants' outlook at the moment that the interviews were conducted (Saunders & Lewis, 2018), without tracking any changes that may have taken place over time.

The purpose of research design is to indicate how the data will be collected and analysed in a coherent manner. As the field of ecological sustainable entrepreneurship is still in an exploratory stage (Gast, Gundolf, & Cesinger, 2017), the research design was exploratory in nature. This is due to the fact that the field is still new and that an understanding is still required as to how ecological sustainable entrepreneurs interact with their environments to achieve their desired outcomes. By exploring the different stories of ecological sustainable entrepreneurship, a deeper understanding of linkages and differences can be understood within the environment (Sandelowski, 1991).

In order to understand the process followed by ecological sustainable entrepreneurs, a narrative research strategy must be employed. Narrative research attempts to understand the life experiences of a person and what chronological actions were taken in order to develop the specific outcomes of interest (Creswell, Hanson, Clark Plano, & Morales, 2007). This was the strategy chosen, as the researcher attempted

to understand and capture the thinking and methods used by the ecological sustainable entrepreneurs to build successful businesses. As indicated by Sandelowski (1991), a narrative strategy is characterised by an asymmetrical relationship with the different parties involved in the interviews. This was a technique that was considered and used during the interviews to capture the essence of the relevant narratives of the participants.

Based on the exploratory nature of the research, semi-structured interviews were used in order to collect data. An interview guide was used during the interviews to facilitate a discussion, but the interviews were open-ended to allow participants to tell their own stories and to allow for adjustments and changes to be made to the discussions where needed (Creswell, Hanson, Clark Plano, & Morales, 2007). Additional discussions and opportunities were considered when certain aspects were addressed and incorporated with the remaining interviews and were deemed to be valuable (Aguinis & Solarino, 2019). This method was used to enhance the quality of the data obtained, as the narrative approach can lead to each participant having their own recollection of events, which structured interviews would not provide the freedom to adapt.

4.3 Population

The population represents the target group that a study focused on, i.e. it has an identifiable set of elements of interest to the research. As this research was focused on ecological sustainable entrepreneurship, the population was limited to include people who were involved in entrepreneurship, who had a product that was sustainable/renewable, or who had a business that was focused on the use a circular economy model (Frishammar & Parida, 2019). As per Gast, Gundolf and Cesinger (2017), the collective term for the population of a study such as this one can vary widely to include terms such as ecological sustainable entrepreneurship, sustainable entrepreneurship, ecopreneurship, environmental entrepreneurship/ enviropreneurship and green entrepreneurship. All of these terms were included when participants were considered.

4.4 Unit of analysis

The unit of analysis is the predominant unit that is focused on in a study. For a qualitative study, specifically focusing on narrative research, the unit of analysis was the individuals that interviews are conducted with (Creswell, Hanson, Clark Plano, & Morales, 2007). This was due to the fact that the recollection of their actions and methods became the point of interest (Creswell, Hanson, Clark Plano, & Morales, 2007). The interviewees' stories were used in this research as the data in order to conduct the analyse through generation of common thought keywords and group together through an inductive approach.

4.5 Sampling method and size

Non-probability sampling techniques were used, as the sampling frame did not include a complete list of the available population and in-depth interviews were conducted with each participant (Bernard, 2017; Aguinis & Solarino, 2019). The sampling technique that was used was purposive sampling, due to the fact that the participants were chosen based on the contribution of their key insights to the study (Bernard, 2017; Merriam & Tisdell, 2016). The specific focus criteria were that the interviewee had to be the founder or co-founder of a business operating in the green economy, and the business could be no older than ten years.

The sampling was homogenous sampling, which forms part of purposive sampling (Guest, Bunce, & Johnson, 2006), as the specific characteristic, in this case ecological sustainable entrepreneurship, was the main focus of the study. The initial participants were obtained through the researcher's personal network, who were then asked to further recommend participants who could contribute to the outcome of the study. This technique did not prove to be very successful, however, as a very poor reference success rate was accomplished. Association memberships were also approached for possible participants, including the SAIEE (South African Institute of Electrical Engineers), but this technique also failed as the association would not share any personal information. Internet searches for green ventures were reverted to which delivered limited success, with only two out of the ten possible participants agreeing to an interview. Participants were also approached where the researcher is a customer in the hope of engaging participants through the use of their products,

but once again only limited success was achieved in this regard. GIBS alumni were also approached through personal networks in order to obtain participants, as were references obtain by the researcher's supervisor. This approach was followed as businesses in the field of the green economy normally operate alongside each other where collaboration is important, such as manufacturers, installers, designers and platform founders, and therefore different perspectives needed to be obtained from a wide variety of fields (Mamabolo & Myres, 2019). The different perspectives also assisted with the triangulation of the data, as the participants were not just limited to one industry. This helped with the credibility of the data (Roulston, 2010).

Ecological sustainable entrepreneurs were approached for an interview in order to understand the approach taken in their businesses. A suggested sample size of 12 (Guest, Bunce, & Johnson, 2006) was initially anticipated, with an expected duration of 45 – 60 minutes per interview, as participants were asked about their own stories. Twenty requests for participants were sent out, where only eight agreed to meet for an interview, leading to a 40% success factor.

4.6 Measurement instrument

As the research has a narrative approach, open-ended questions were asked in order to hear the participants' stories (Creswell, Hanson, Clark Plano, & Morales, 2007). The phrase 'Tell me about…' was used in the interview guide as far as possible, as this facilitated discussions in line with the exploratory nature of the research (Jacobs & Furgerson, 2012). The questions were used as a guide to set the contents of the study, and from there to stimulate a discussion and allow for the recollection of the participant's sequence of events. The interview guide focused on the participants' journey through entrepreneurship, with a particular focus on ecological sustainable entrepreneurship, and how and why they had chosen this particular field. The data were arranged in a chronological manner (Creswell, Hanson, Clark Plano, & Morales, 2007) in order to flow as a narrative. In order to facilitate this the questions were asked in a chronological way as far as possible, starting at the beginning of the participants' journey and including what drivers they used to push through any barriers.

In structuring the interview guide, guidelines were linked in segments to the research questions such as identification of the process used and barriers in the field. The open-ended questions were limited to nine and three introductory questions in order to not exceed the time frame and to keep the focus on the topic (Jacobs & Furgerson, 2012). After reviewing some of the interviews, two additional further probing questions were added if it assisted with the narrative of the study. As a semi-structured interview guide was used, the interviewer could venture into an area of interest mentioned by an interviewee if he believed that it would enhance the quality and relevance of the data being collected. The topics discussed included how the business was started and the reasons behind the specific environment, outlooks on shared value, principles that drive business decisions, value-based beliefs and drivers, as well as barriers within the ecological sustainable entrepreneurship area and how they were overcome. (See the consistency matrix and interview guide in Appendices A and B.)

4.7 Data gathering process

The data were gathered through semi-structured interviews which were held via a Zoom video call, with one exception which was done telephonically. These platforms were used as a result of the Covid-19 restrictions that were in place at the time to ensure that all social distancing protocols were adhered to. The prospective participants were all initially contacted by e-mail, after which the interview arrangements were finalised by telephone or e-mail. The data gathering process with requests for interviews carried on for nine weeks, after which the data analysis phase started. The questions were structured in order to allow for data saturation to take place (Guest, Bunce, & Johnson, 2006). Participants were sent an informed consent form ahead of time, but at the start of each interview this point was also raised, and the participants were asked if the interview could proceed and a recording be made, which all the participants agreed to. The recordings were processed, and transcribing software was used for transcribing the interviews. The AI-generated transcript was then re-evaluated by the researcher to confirm that the transcription was done correctly.

The aim of the data gathering process was to collect data and continue until

saturation was reached. Saturation is the point where no new insights from interviews are obtained and is reached through tacking the amount of new codes generated after each interview (Aguinis & Solarino, 2019). This process started when six of the interviews had been completed. Considering that the group was expected to be homogenous due to the purposive sampling method, saturation was anticipated to be obtained early on, however to ensure saturation, the initial goal was set at 12 interviews (Guest, Bunce, & Johnson, 2006).

In total eight interviews were conducted – a summary of the code words is displayed in Figure 1. On average the interviews lasted for 63 minutes, with two interviews reaching 81 minutes and the shortest interview lasting 33 minutes. As can be seen in Figure 1, most of the key words were generated by respondent 1, with a reduced amount of key words being generated as the interviews progressed. A trend line is also incorporated which shows the constant expected decrease in newly generated keywords. This indicates that no new additional insights were obtained from the interviews after six were held, and as such saturation was reached in the data gathering process.

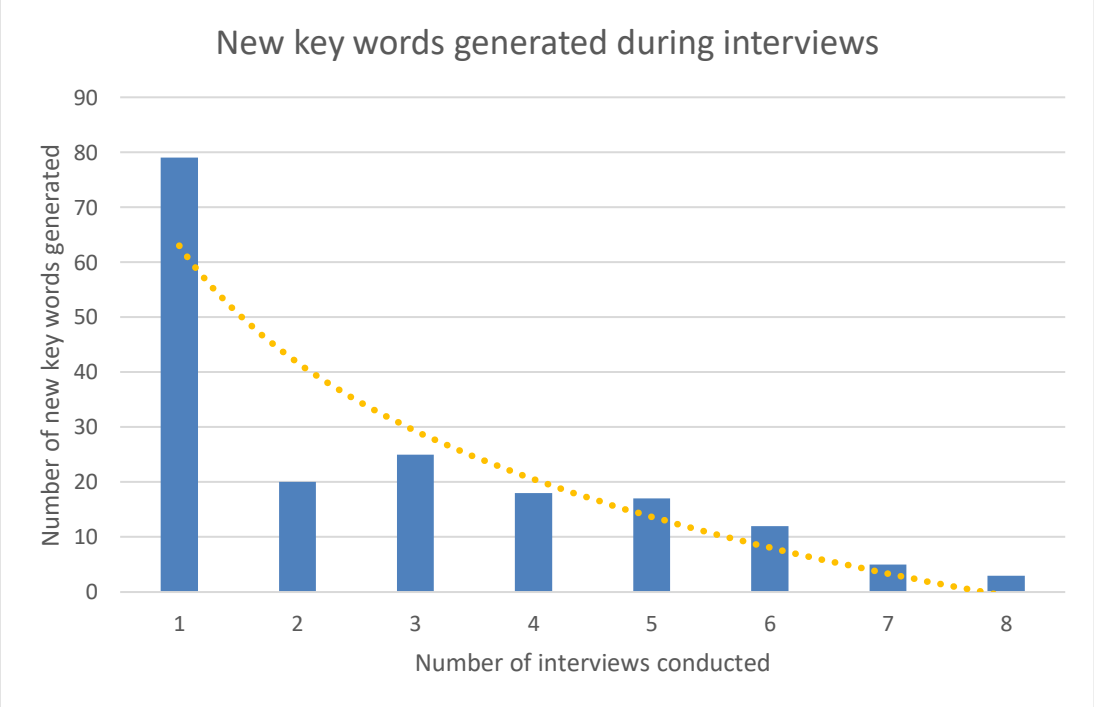

Figure 1: Summary of new key words generated from the interviews

4.8 Analysis approach

The analysis approach centres around the method used to analyse data into a coherent framework. Since the data were collected through interviews, qualitative content analysis (Hsieh & Shannon, 2005) was used to analyse the transcripts obtained from the interviews. A codebook was generated through the development of content-driven codes, whereby themes could be identified within the groupings (Guest, Bunce, & Johnson, 2006; Roulston, 2010). A conventional content analysis approach was used to generate the keywords from the transcripts, which enabled the researcher to explore the obtained data from the interviews (Hsieh & Shannon, 2005). As no preconceived ideas or keywords were used as a reference, this also further assisted with the exploratory nature of the study (Hsieh & Shannon, 2005).

Atlas.ti was used to facilitate the generation of a relevant codebook and to monitor codeword saturation. The codes generated were reviewed and placed within a field grouping with supporting evidence from the interviews in order to explain the data obtained (Roulston, 2010), as well as to assist with obtaining new insights. In total 172 codes were generated from the analysis of the interviews, with 12 groups being formed.

4.9 Quality control

Sandelowski (1991) emphasised the importance in a narrative approach of the interviewer listening actively to what the participants have to say. Using the semi-structured interview guide, this was done by encouraging the participant to talk about their particular field and listening to their approach, ways and method used in their story to establish their green venture and function in the green economy.

When conducting narrative research, one must be aware of the fact that the participant will only reveal what they are comfortable talking about (Roulston, 2010). The interviewer was therefore directly responsible for the quality of the data by stimulating a one-way conversation with the interviewee, by remaining neutral and by asking good questions while minimising bias (Roulston, 2010). A safe space was thus created during the interview by starting with easy/basic questions to build trust, before moving towards the more difficult questions (Jacobs & Furgerson, 2012). This was the method and the flow approach that was utilised in this study in order to

conduct the semi-structured interviews.

Roulston (2010) pointed out that the design and method used to conduct an interview is very important in order to get the correct data and ensure the quality of a qualitative study. The entire methodology thus assists in ensuring that quality data are obtained during the research process. Furthermore, getting multiple viewpoints from an array of participants can assist with data triangulation during a qualitative study (Roulston, 2010). This was done in this study by talking to ecological sustainable entrepreneurs who operate in various markets, who use different applications, who are in different stages of the business lifecycle, and who face different complexities. The sectors covered within this study included independent power producers, solar installers, energy efficiency experts, sustainable consultants, consumer retail products, green construction, platform-oriented businesses, and base of pyramid energy suppliers.

Transparency is important in order to create replicable results, and details must be shared regarding the methodological choice and the research design used to ensure future quality control (Aguinis & Solarino, 2019). Pre-existing relationships have the potential to alter the results that are obtained during qualitative research methods (Aguinis & Solarino, 2019), thus these relationships must be avoided or be stated upfront in the methodology. This was done as explained previously in this chapter.

4.10 Limitations

As this research is qualitative in nature, it is important to remember that the findings cannot be generalised as the context can differ (Creswell, Hanson, Clark Plano, & Morales, 2007). Furthermore, Sandelowski (1991) pointed out that transcripts, in general, are seen to be incomplete, therefore no causal links can be claimed directly through a qualitative research method. Sandelowski (1991, p. 164) also cautioned that “a story must end before it can be explained”, and as such it is always retrospective.

The mono method was used to gather data, therefore deeper insights into the research could have been missed (Saunders & Lewis, 2018). This should not be a

big concern due to the timeframe of the study, however, as well as the fact that the time horizon was a cross-sectional study.

5. CHAPTER 5: FINDINGS

5.1 Sample and analysis introduction

This chapter presents the findings obtained from the eight interviews that were conducted in the study as described earlier in Chapter 4. The chapter is laid out in a sequential way to match up with the research questions as presented in Chapter 3. The sample was spread across sectors and is summaries in Table 1. Table 1 shows that the respondents are spread over different segments of the market and that most of the respondents are involved in the renewable energy sector. Experience levels of the individuals ranges from 2 years to 25 years in the industry considering the time invested in the start-up of the business and excluding prior experience in the corporate sector. The total sample is made up of eight respondents which includes six males and two females all with diverse backgrounds in term of their journey of reaching the current point in their careers. The respondents are all primary based in the Gauteng and Western Cape area with two of the respondents having satellite operations in different areas as indicated in Table 1. Before the interviews commenced, all of the respondents received an introductory e-mail, broadly explaining the goal and the purpose of the topic under investigation.

The transcriptions from the interviews were all analysed through the Atlas.ti software, where keywords were generated and grouped in order to create understanding of the ecological sustainable entrepreneur's thought process, in order to answer the three research questions. In order to protect the identity of the respondents, the respondents will be referred to in terms of their number as per Table 1 and no company names would be used in any of the discussions.

Table 1: Market segments and descriptive details of respondents

Respondent no.	Function of respondents*	Industry	Description of role	Area
1	Co-founder and director	Sustainable investment	Advises investors of future sustainable solutions and market trends. Analyses funding options and alternative approaches that can be followed in industry in order to compete with existing fossil fuel technologies.	Cape Town
2	CEO and founder	Construction	Leads an architectural firm that is focussed on green building practices. The individual is still involved in the design of buildings and structures while managing the business as well.	Johannesburg
3	CEO and founder	Independent power producer	Develops and manages renewable energy power plants under energy procurement contracts. Generates electricity as an IPP.	Johannesburg and North Cape.
4	Co-founder	Micro franchising enterprise, with impact product focus.	Co-founder of the business, previously from a corporate environment and currently focussing on sourcing funding for the business to develop and expand further. Focus is on impact products for the BoP target market with a current focus on solar and cooking product for BoP market.	Pretoria
5	Co-founder, Head of business development.	Renewable energy (Solar)	The business is currently in a start-up phase and involves the sourcing of capital, marketing and further refining of the product to get fully into the market after MVP was launched. Currently performing an array of tasks during the start-up.	Johannesburg
6	Co-founder	Retail environmentally friendly cleaning products	Manages a small team with the entire value chain form the product sourcing, packaging, marketing and distribution, for the environmentally friendly cleaning product range on offer.	Cape Town
7	Founder and MD	Energy efficiency consultant and solar power installer.	Manages a small team that consult on building and plant energy efficiency practices, with a primary focus on LED lighting technology. Also installs and commissions solar installation. The individual is still very involved from a technical aspect in terms of analysing data for energy efficiency and	Johannesburg and Secunda

			commissioning the solar installations.	
8	Founder and CEO	Renewable energy platform business	Manages team responsible for a renewable energy platform. Also, an activist and a speaker for support of renewable energy practices.	Cape Town

* All the respondents started the business as an entrepreneur and the function just reflects their current title.

5.2 Introduction

With the development of green technologies and products, new market segments have started to emerge. As with the development of technology, different solutions become available in the market that need to be addressed, which offer unique opportunities for entrepreneurs. The green products offer entrepreneurs the option to venture into this newly discovered market and created an impact and offer other alternatives that was previously not possible in the market. Although ecological sustainable entrepreneurship has some similarities with entrepreneurship, as it is a subgroup, there are also some unique differences to the processes followed, which is explained in the coming sections.

5.3 Results: Research question 1

RQ1: What are the process and drivers used by ecological sustainable entrepreneurs to build trust and generate financial returns?

During the interviews, respondents focussed primarily on three different themes which describes and makes up to different process that they follow in order to generate a business venture of value form a sustainability point of view. These aspects are described further in subsequent subsections.

5.3.1 Processes for financial return - Market opportunities

As per the respondents, ecological sustainable entrepreneurs are focused on products and services that are valuable in the market, but which do not compromise the environment in any way, or they minimise the impact that current products have on the environment.

> *"[Ecological sustainable entrepreneurs] provide a solution or technology that can mitigate [degradation of the environment]." – Respondent 5*

The respondents also iterated that, the unique outlook and set of criteria that they set for themselves, limits some of the allowable actions that ecological sustainable entrepreneurs allow themselves to take in the competitive market, as some market expected actions go against the principles that they ascribe to. This leads to some unique approaches and outlooks being taken by ecological sustainable

entrepreneurs.

Ecological sustainable entrepreneurs are clearly focused on the market opportunities that have opened up as a result of the green economy and circular economy trends, which have gained popularity in recent years. The interviewees reported that they do not intend to just focus on a social action, but rather on one with a dedicated purpose in a market segment, as well as generate profit from that market segment, i.e. they are not non-profit organisations that are only focused on bettering people's lives.

> *"And what I like to say is we don't chase profits; we chase making a difference and the profits will follow." – Respondent 5*

The products on offer is however aimed at making an impact to the specific market that they are deployed in. As such their focus is on ensuring that the two goals run in parallel, rather than having one be superior to the other. This is illustrated through some of the following quotations:

> *"So, the foundation is not the product and making money. That's not the driving force, the driving force is how do we create livelihoods, a livelihood around solving a problem. So, the starting point is the problem, not the product." – Respondent 1*

> *"….our mission statement is, is not based on any kind of financial drive, and it's really based on making a difference." – Respondent 2*

> *"So, for us the starting point was that we wanted to do something in a sustainable way to create jobs." – Respondent 4*

The entrepreneurs in the study showed that they are clearly running for-profit businesses; they focus on the market conditions and a gap in the market that they intend to fill, as there has to be a market opportunity.

> *"…it's not about looking for opportunities to design products, that I think the market will like, that is less of an issue for me than actually trying to change and shape the market and offer people alternatives that can actually make a difference." – Respondent 1*

These entrepreneurs build their business models in such a way as to generate a return, and they use financial metrics to monitor their products. As such, their value

proposition is aimed at a particular market segment and to address a particular need and therefore jobs to be done. However, what is clear from the outlook of the interviewees is that profit is not a stand-alone metric that dominates all the other decisions and thinking processes; it is also sometimes considered as an outcome and that the focus is on rather making a difference in the community with profits that will be an outcome later.

> *"So, for us, sustainability is about purpose over profit." – Respondent 4*

The interviewees are clearly aiming to make a profit and a difference, and see their model as creating shared value. This translates to the shared vision of the employees, as per respondent 5:

> *"And everyone within the company has this shared vision. And that's how we are able to successfully move forward at each point in time."*

The companies need a profit to stay relevant, but do not want to compromise on what they stand for. In a sense this dual parallel model emerges for having an impact through the value proposition as well as delivering profits. The profits can, however, vary to a great extent; in some cases, they are used to enrich the livelihoods of a community or to have a further impact through innovation.

> *"I've explained my company to a commercial minded person, I say we have a no profit company, because, if we were making above 20% returns on things, we wouldn't be able to invest in the research that we need to do in order to innovate." – Respondent 2*

> *"[Shareholders] will not expect money in return, they expect a social impact in return." – Respondent 6*

5.3.2 Processes for financial return - Funding model

The respondents indicated that funding a sustainable business is a challenge in the sense of normal shareholder expected returns, as not all of the direct returns are focused as a return on investment in the conventional sense. Furthermore, they confirmed that the funding model structures that are currently in place do not always support ecological sustainable entrepreneurs with the entrepreneurial ventures during the start-up phases, therefore ecological sustainable entrepreneurs look for alternative models of finance. Funding for a start-up business is normally a

challenge, but ecological sustainable entrepreneurs have the added challenge of not directly focusing on profit, as mentioned earlier. Respondent 5 confirms this challenge:

> *"The biggest challenge. I think with any start-up is funding, getting money into doing what we need to do is definitely the biggest challenge, and with that comes getting those needed skills into the team."*

Ecological sustainable entrepreneurs from the study explained, however, that they use an array of techniques to overcome their funding challenges so that they can generate a financial return. One of these is that they set up their profit model to ensure that they have a consistent supply of funds. This model does not generate additional value for shareholders through dividends but is used to fund the entrepreneurial activities. As such, the financial model and business set-up is essential in order to ensure that the company remains feasible.

Secondly, self-funding plays a vital role in terms of ensuring that the business stays relevant and true to its cause. The respondents agreed that selling a green impactful value proposition to traditional investors and commercial banks is still a challenge for ecological sustainable entrepreneurs. Respondents 3 and 1 respectively described their frustrations with this:

> *"I see commercial banks have started looking at that, like company A and company B, but the process of applying for that money is stupidly hectic."*

> *"So, why is it that we're having to rely on a broken banking system and fossil fuels? Why can't we transition?"*

The respondents indicated that this self-funding develops when ecological sustainable entrepreneurs downgrade their own lifestyles or set up internal funding mechanisms in the business in order to provide financial reserves. This action also leads to the ecological sustainable entrepreneur taking on a big personal risk for the business venture :

> *"So, what I did is I downsized everything. I took my entrepreneurship hat, and risked it all." – Respondent 3*

It was clear from the interviews that alternative funding models also start to emerge as ecological sustainable entrepreneurs investigate different and alternative funding models. They do so to ensure that their businesses stay relevant and have sufficient capital to be able to expand without relying on the existing financial institutions and the traditional capital structures comprised of equity and debt. As the green economy is still in its developing phases, it further tends to imply risk to financial institutions. These alternative funding models include peer to peer funding and consumer funding models that are uniquely orientated for the green economy, and which create and generate the shared vision and values that they long to establish in the market. Respondents 8 and 4 in particular showed great interest in the alternative models, while respondent 3, among others, has made headway by ensuring that they are able to set up their own internal capital fund within their current business structure.

> *". . .to enable people around the world to own solar panels here, if they could be leased to the projects peer to peer via our platform." – Respondent 8*
>
> *"Another whole big topic around the kind of market that we are involved in is consumer funding." – Respondent 4*
>
> *". . . start our own fund that will fund our little projects going forward." – Respondent 3*

During the study it became clear that ecological sustainable entrepreneurs tend to use alternative tactics and seek alternative funding, i.e. they do not just rely on conventional funding models in order to establish and grow their business ventures.

5.3.3 Processes for financial return - Long term outlook

According to the respondents, the business goals and outlooks of ecological sustainable entrepreneurs also follow a different trend when it comes to business objectives, as they tend to evaluate the business and make decisions with a long term outlook, as opposed to immediate gains and deliverables. In a sense they are more patient with the expected returns. They also do not consider profit as the only metric, as previously explained, which enables them to have a long term outlook. The respondents agreed that a desired return is also seen as an impactful return and not a pure financial driver. This was evident in the following phrases:

> *"It's just the paybacks over the long term, they can't be measured as much*

as financial paybacks, it's emotional cultural paybacks, you know." – Respondent 2

"…they don't know how to build financial models that would make your business sustainable, and how to think long term." – Respondent 4

5.3.4 Processes for building and using trust

The respondents all agreed that generating trust within your organisation and for your product is an important aspect for ecological sustainable entrepreneurs, as the field is still emerging to form a green economy. As such, ecological sustainable entrepreneurs are often questioned about their value proposition and have to constantly prove themselves, as mentioned by respondent 1.

"I have to prove myself every day with what I know, to say that I'm on top of things."

The first and most mentioned technique by respondents, is that ecological sustainable entrepreneurs generate trust through their knowledge of the subject and through knowledge sharing. They need to stay on top of things and have a wide range of knowledge, and must be able to integrate and understand the different aspects of a market segment or the entire industry. This was seen in the interviews, when the respondents explained that they generate trust, while interacting with customer, while using key phrases listed below.

"…to promote that sense of belonging, we do a massive amount of information sharing and a massive amount of communication and creating two-way communication." – Respondent 4

"I have huge amounts of trust from clients and people I've worked with all through the years. By knowing what I know, knowing what I'm talking about." - Respondent 1.

This also indicates the importance of ecological sustainable entrepreneurs being knowledgeable about existing technologies as well as future technologies for the green economy, and to be able to view this holistically whereby they can integrate all of the different aspects in order to gain their customers' trust. This was further illustrated by respondent 1, who mentioned that their work is all about making the linkages and showing them to the customers.

"So, my job is very much about joining the dots, you can only join the dots and show and really illustrate to people no matter who you're talking to." – Respondent 1

Secondly, the respondents explained that building a network, establishing a relationship within affected communities, using communication, creating awareness and leveraging social media is a further technique employed for generating the required trust needed for operating in the busines environment. This is also important as some of the solutions that ecological sustainable entrepreneurs offer are aimed at rural communities in remote areas or vulnerable groups. As these communities are very price sensitive and easily influenced by community leaders, gaining their trust is of the utmost importance in enabling a sustainable business model. The following respondents elaborated on these points:

"… [for rural communities] partner with a key relationship officer, that's what we call him, who has a foothold within the community…" – Respondent 5

"When we go into rural communities, we find out, are there community leaders that have influence or church leaders, or school principals or whatever and we make sure that they know…[about us]." – Respondent 4

"We build the relationship with the local community. So that, in these types of markets that we work in it's very important that you do that." – Respondent 4

As with most products and services in the market, trust is also built by living up to expectations and staying true and honest through your actions. This provides ecological sustainable entrepreneurs with an opportunity, as respondent 1 indicated that existing businesses create a gap in terms of being truthful.

"…but there's a hell of a lot of misalignment between what companies are saying and what companies are doing and just having that consciousness, you know."

The respondents indicated that ecological sustainable entrepreneurs create an advantage by being open and honest about their business, and by offering quality to the market to further build a trusting relationship while impacting people's lives.

"…the weight is kind of in that brand equity and getting repeat customers and that sort of thing, and I think just by delivering – by making sure that the product does what it says it does. By being quite candid." – Respondent 6

"And then you really aren't making a difference then you might as well just be another Chinese company…" – Respondent 5

"So, the quality product and how the product impacts, positively impacts, the life of the consumer is a big part of building the trust with the community." – Respondent 4

In terms of the emotional connectedness of the areas that they function in, the interviewees did not indicate that they only operate and generate trust in the specific areas where they operate, but rather linked it to a market opportunity that they can venture into and take advantage of, i.e. there is a gap in the market. However, there was a strong sense of pride for Africa and talking about opportunities in Africa and how they intend to roll out the value proposition to the rest of Africa, rather than just staying in an isolated regional area.

"The commitment for me is to Africa and South Africa." – Respondent 3

"And so, we're kind of slowly moving up the continent." – Respondent 2

"Yeah, we do it where the need is greatest, which is the rural areas in all these countries where we are focusing." – Respondent 4

Respondent 5 showed a strong passion for Africa and the need for developing green solutions for Africa in Africa, as the respondent is aware of, experience the challenges first-hand and understand the environment. Respondent 1 also confirmed that being in close proximity to where the problems are enables a better understanding of them, and therefore holds value in terms of addressing the problem. The rest of the respondents also agreed with this reaction. This assists with the action of building trust through understanding, as per the quotations below:

"We need to really focus on solutions from Africa for Africa. And that way we can really get empower ourselves." – Respondent 5

"…being closer to the problem is, for me much more enjoyable" - Respondent 1

"In fact, right now, I've got a group in the Netherlands, who are trying to get me to relocate… But I, I don't really know if I want to live in a bubble." – Respondent 1

Even with the offer that respondent 1 received to relocate and work in the Netherlands, they showed a reluctance due to the context that would change. This shows that they have an attachment to Africa and want to assist with the challenges in Africa by harnessing the green economy and not address it from afar. Having this faith and trust in Africa was one characteristic that came out very prominently from all of the respondents.

5.4 Results: Research question 2

RQ2: What values do ecological sustainable entrepreneurs ascribe to that drive them, and how are they intrinsically motivated?

5.4.1 Values of ecological sustainable entrepreneurs

Values play an important part in the green economy as they relate to the reason why ecological sustainable entrepreneurs pursue the career journeys that they have chosen and are embarking on. Some respondents even described instances where they feel so attached to the impact and purpose of their work, that they cannot separate themselves from it. This occurs on an emotional level and also forms part of the reason and motivation for why they continue with what they are doing. This creates a sense that their values are internally embedded into their thinking and how they approach different challenges and opportunities:

"But it does help me get up in the morning. I feel like my father is pleased." – Respondent 2

"…in a way I didn't chose it, it chose me." – Respondent 1

"…but it's impossible for me to, to do anything else other than that." – Respondent 1

It therefore seems as though they are self-fulfilling their own needs by working in a sustainable venture that functions in the green economy. This can be linked to a statement made by respondent 2, who compared the activities of the venture to an

ethical approach, i.e. it is the right thing to do what their business is doing.

> *"Like I mentioned before, it is an ethical approach to sustainability. So basically, it's the right thing to do." – Respondent 2*

This links to the model, as explained previously, that ecological sustainable entrepreneurs use, which tends to consider the environment to be more valuable than financial gains. This highlights that they want to create livelihoods through their products while addressing a problem. This respect for both the environment and livelihoods is identified as an internal value that is embedded in ecological sustainable entrepreneurs. There is also a sense of admiration for nature and what it provides.

As noted in the interviews, ecological sustainable entrepreneurs show respect for nature and livelihoods, a further value starts to emerge where empathy is shown and brought into the business. These entrepreneurs feel a connectedness with the environment that they operate in, which shows a high degree of empathy. Respondent 3 referred to connecting with society on a deeper level and setting his business objectives to align with it:

> *"So that put me at hearts with society. Now understand how to interact and how to set targets in terms of what we need to reach in the socio-economic upliftment of communities." – Respondent 3*

Respondent 4 also mentioned that their business values all of their workers as family, which is a culture that they have established and want to keep. It was even mentioned that one of the values in the organisation is love, which is rarely seen in a corporate environment. This shows a different approach and a deep care for the employees. The business is still small, which makes this approach easier, however it still illustrates a true sense of caring and understanding in the organisation.

> *"Yeah probably the most important thing to us is a culture of family... So, one of our values that you may not come across very often is love and other values in empowerment." – Respondent 4*

Respondent 1 took this further by mentioning empathy and stating that this is how people want to be treated in order to have meaningful impact. Empathy is also used as a method of connecting with the customer and creating an understanding of the

need that must be addressed. In a sense, the value of being empathetic allows one to better understand the market that they are operating in.

> *"And so being empathetic, you know, knowledge on its own is not enough, you need to have both sides of the coin." – Respondent 1*

However, being empathetic is not the only answer to the challenges that are faced by ecological sustainable entrepreneurs. An empathetic approach, together with knowledge of the industry, is used to integrate different aspects in order to have a product with a difference that not only drives profits, but is profitable.

> *"…you can't de-link you know, the green or the environmental from the social from the governance aspects. To me they too co-dependent to actually de-link them." – Respondent 1*

> *"And I think sustainability work particularly requires a very high degree of empathy and sensitivity to, to what is going on." – Respondent 1*

As such, the value of being empathetic is used as a technique by ecological sustainable entrepreneurs to add value to their sustainable approach.

A further value that was described by respondents is the desire to give back through their value proposition while being fair to the community without compromising the planet, and as such the value of fairness embedded in integrity emerged from the interviews conducted. This also places a sense of ownership and self-accountability on the ecological sustainable entrepreneur to give back as part of the business.

> *"I feel like with my education and my privilege, I have a responsibility to give back." – Respondent 2*

> *"I've always had a passion to do good to for the betterment of mankind and use the skills that I've acquired along the years." – Respondent 5*

> *"I don't believe that the world owes me something, I believe I owe the world something." – Respondent 1*

Through these beliefs, the entrepreneurs set their own goals to ensure profitability in the business as well as provide a sense of fairness to the community. This creates their own drive and their own reward structure, which helps with internal fulfilment and the desire to do more, as illustrated by respondent 1.

"It's important to go to sleep at night, and know that I'm actually doing something for someone, somewhere, as often as possible, as much as possible, whenever possible."

5.4.2 Motivation for the ecological sustainable entrepreneur

As previously explained, the products and services that ecological sustainable entrepreneurs offer are aimed at more than just generating profit, and rather run in parallel with creating an impact and value other than just the drive for profit. This then also forms part of one of the main motivators in their business models, which can be considered controversial compared to traditional business models. This was well summed up by respondent 1, who noted that their motivator is in part financial gains for themselves, but equally creating impact in people's lives through the product or service.

"…they are creating all kinds of other additional value, apart from the product itself, and creating financial value for themselves and for employment for people." – Respondent 1

During their interviews, the ecological sustainable entrepreneurs exhibited a passion and a goal-orientated commitment to do good for mankind, as well as a desire to give back and contribute to society. This links to their drive and motivation; they consider this to be their reason for getting up in the morning and carrying on. A clear vision forms part of the reason of what and how they approach their business activities and the outcomes they hope to generate. This vision incorporates a sustainable approach and a sustainable way of life, which is embedded in their passion which drives them. In order to further align and support their passion with the business objectives, they look at peer accountability to assist in keeping their motivation and drive.

"I've always had a passion to do good for the betterment of mankind and use the skills that I've acquired along the years." – Respondent 5

"I found my passion as I went in the industry." – Respondent 3

A further aspect that arose during the interviews, which is closely linked to the values of ecological sustainable entrepreneurs, is the fact that they are always curious and do not accept the status quo, but rather challenge it; they consciously seek out and

aspire to find new ways in which ecological sustainable solutions can contribute to society to add value. This motivates them to continue with their actions, drive towards sustainability, and not just accept the current norms. Respondent 8 even said that this is one of their core values in their company:

> *"…but one of our cores, the first company values that we have is to ask why, and see the secret, question the given and don't take things at face value just don't think that that's the way things have to be, ask why, why is it like that and can we improve it?" Respondent 8*

Respondent 3 explained his curiosity in terms of the value and motivation that allow him to see opportunities in the market:

> *"It's just the beauty and understanding of what was to come. I think I was curious enough to understand that." – Respondent 3*

This curiosity allows ecological sustainable entrepreneurs to accept and seek out challenges and sense opportunities in the market, as respondent 3 alluded to:

> *"Where there is a challenge, I look for an opportunity to make it better" – Respondent 3*

Based on the above, one can clearly see that the motivation of ecological sustainable entrepreneurs is based on their internal values and the passions that drive them. As such, external factors are not adequate to truly motivate their actions.

> *"So, I am not really externally driven, it is a very internally driven purpose" – Respondent 1*

> *"As far as the internals are concerned it all boils down to vision, shared vision." – Respondent 5*

Respondents however showed that they do utilise the techniques of peer accountability to ensure that they stay true to the course and guide their actions. This was then also well linked to the process that they follow to establish social and business networks which enables them to create peer accountability structures. Through the curiosity that respondents displayed, they fuelled their internal motivation to do good and provide an impact through their value propositions.

5.5 Results: Research question 3

RQ3: What external factors influence the behaviours and processes of ecological sustainable entrepreneurs, and are there also internal barriers?

5.5.1 External factors impacting ecological sustainable entrepreneurs

The respondents described the numerous challenges that ecological sustainable entrepreneurs face in the industry, which include some of the conventional challenges that a start-up company also faces. Some of these external factors impact the value proposition of the entrepreneurs directly, which causes them to shift and adapt in order to stay agile and relevant in a technology-driven industry. These external factors can be grouped into four main barrier groups, based on the origin and the influence that they present, i.e. barriers from customers, personal barriers, barriers in the business and industry, and political or regulatory barriers where the personal barrier rather shows a connection and a linkage to an internal barrier faced.

Customer barriers

The respondents were all unanimous that customers present a unique challenge to the green economy, as the products introduced by ecological sustainable entrepreneurs are new and have not proven themselves against the incumbent products in the market. Customers have also become accustomed to the way that non-sustainable products are used, and this routine has entrenched a certain behaviour in the customer that is difficult to change. The merits of the purchase are thus not necessarily focused on the product itself, but rather on the behaviour of the customer, as per respondent 1.

> *"…because don't forget, green products, social products, all of these things, planetary overshoot, these are all about behaviours. It's not about the product,* (it's) *all about behaviour." – Respondent 1*

This is also illustrated by customers' fear of a loss caused by purchasing a product that does not work as intended or does not compare to the unsustainable product in the market, as there is a current lack of confidence:

"…think the most difficult one has been the South African public. If I am honest. So, we love to talk about innovation, but when it's happening in our backyard, we get very scared." – Respondent 2

"And sometimes it's fear of, of making a different decision, or buying a product or whatever, that they're not, that they are uncertain about." - Respondent 1

This shows that there is still a lack of confidence in the green economy amongst customers. This uncertainty from customers is then seen by the ecological sustainable entrepreneur as an additional barrier to overcome in selling their value proposition to the market.

Customers are also still focused on short term outcomes and what will give an immediate benefit and short term gain. This erodes the value that sustainable products offer as it does provide additional value beyond the product as previously explained and this must be seen over the long term, which is one of the processes that ecological sustainable entrepreneurs use as a metric when evaluating value. One example was through considering energy efficiency as a metric as explained be respondent 7.

"People who take a short term view to energy efficiency and solar. I would like people, it even stretches to companies, that they should take a long term view." – Respondent 7

The respondents showed that ecological sustainable entrepreneurs understand that a lack of education is the cause for some of the negative perceptions and short term insights in the market. Some of the methods that ecological sustainable entrepreneurs then engage in is educating the market in an attempt to explain their value proposition, and ensuring that there is a clear understanding of what is on offer. The creation of understanding through knowledge and education is therefore an important process that ecological sustainable entrepreneurs use to create value for their product, which furthermore links up to the process that they use to establish a business venture. Some of these aspects are noticeable from the quotes below:

"…the challenges, the number one thing was that of education, to get people

to switch." – Respondent 6

"They don't know what to do with that information. They're not trained...they'll push back." – Respondent 1

"I think there's a huge opportunity or gap on education and awareness." – Respondent 7

Furthermore, as explained by respondent 3 below, education is seen as an important pillar to move forward to ensure the future of sustainability, and to use opportunities that present themselves to educate customers.

"So, being anywhere where I get an opportunity to talk about these things… [climate change]…, they give me that platform to inform and educate. That's why I think we added a lot of value... So, I think my focus is get a platform and educate. That's the one thing that I truly believe we should be doing." – Respondent 3

This further strengthens the value proposition of the ecological sustainable entrepreneur, but also indicates that they feel like they have a duty towards the general public to educate them in order to influence their behaviour while creating financial gains.

Barriers in the business and industry

In comparison to conventional business structures and practices, the green economy is a fairly new concept in the business world. Respondents explained that traditional business practices are not aligned with the intended values and different approaches that are employed by ecological sustainable entrepreneurs in their business structures. Respondents agreed that this creates barriers, such as going green being seen as an extra effort; the legacy systems in place not supporting the business activities of the green economy; investors only being driven by making money; and no holistic thinking in the industry with bad existing practices. These barriers prevent the ecological sustainable entrepreneurs from reaching their full potential in the market.

As previously explained, accessing finance is also a major challenge for the ecological sustainable entrepreneur, as financing for their particular business approach is not yet readily available. Respondent 5 even pointed to it as their biggest challenge:

> *"The biggest challenge, I think with any start-up is funding, getting money into do what we need to do." – Respondent 5*

However, as noted earlier, these entrepreneurs find ways around funding model challenges by employing different techniques to set up a self-funding model that ensures that the business can continue to grow.

In spite of these challenges, ecological sustainable entrepreneurs described how they keep on anticipating change, sensing the market and challenges how the existing system works. This ranges from finance models to existing perceptions and business models in the industry. Respondent 8 clearly indicated the intent to change and challenge the system:

> *"All the sudden you can still start affording more energy, with your per unit currency into the future so the whole economics invert. We go from a world of finite energy and infinite money into a world of finite money and infinite energy, because there's still no floor to the price we can get solar energy." – Respondent 8*

Respondent 2, however, described a more integrated and less radical approach to be taken:

> *"So, I think it's making us understand how to link to this existing system and strengthen it." – Respondent 2*

Although they have different levels of aggressiveness, both indicated that they are striving to change the current system of what is considered 'normal' business practices.

In the study it was clear that the business models and the company structures are kept flat, and communication is encouraged across different segments of the market. The focus is on fairness and collaboration, with everyone making a contribution to the company and challenging how existing systems work and what has been

accepted as the norm.

> *"And it's about it's about fairness, and it's about fairness really and creating a level playing field. And so, and our company itself is quite a flat structure... And we, we encourage communication between one another, to create good relationships." – Respondent 8*

The entrepreneurs aim to stay agile in a fast-changing world in order to react to changes in the market conditions and any opportunities that might come their way. This is a further characteristic of ecological sustainable entrepreneurs that develops as to become comfortable with changes in the industry and what new improvements can be reached through green innovation.

Political or regulatory barriers

Respondents agreed that political and regulatory challenges play an important role in terms of what ecological sustainable entrepreneurs are allowed to do. It is evident that there are two unique groups, one of which is strictly regulated in terms of their offerings, and the other which is supported by regulatory practices. Depending on the group the outcomes are different but both has an impact on the behaviour of the ecological sustainable entrepreneur This is shown by the two distinct statements received from respondents 3 and 4:

> *"The challenges are totally different in society mainly because government is also the breeding ground for such things, because they don't know better." – Respondent 3*

> *"So that's a tremendous advantage and with us operating the rest of SADC they all follow the same tariff regime. So, the regulatory environment is friendly and we would obviously hope that it remains the same." – Respondent 4*

The particular involvement and influence of political agendas and regulatory frameworks thus greatly depends on what market segment the ecological sustainable entrepreneur plans to address, as well as what the value proposition of the company is.

In some areas of the green economy there is a lot of political influence, and ecological

sustainable entrepreneurs described from the interviews how they need to get involved in these specific market segments in these agendas in order to compete in the market. This is considered frustrating according to respondents 3 and 8.

> *"You know, so for me, there is just no support for a real black developer there is support for smokescreens." – Respondent 3*

> *"I was working on the RIPPP projects, and I saw how slow these things were happening and how grounds kept being delayed. There're always some dodgy characters involved in some of the tendering process, you know, always questioning, as we're working with such big money at stake." – Respondent 8*

In spite of this, ecological sustainable entrepreneurs responded positively about the opportunities that are available during the interview, and rather look for alternatives to change or pivot their value offering to the market. They use alternative methods and practices to get around barriers in terms of regulation or governmental in order to, as an example, generate private ownership in the market or deploy to a different sector. It was clear from the respondents that they do not just accept the outcomes but rather adapt to what the situation requires. Respondent 8 explained how their business model was adjusted in order to be able to deploy the product into a different sector where the regulatory policies are different.

> *"So, they're [our business model and value proposition through our product] much faster to deploy, and you don't have to deal with bureaucracy, you don't have to deal with government delays or turnaround." – Respondent 8*

This does, however, mean that certain opportunities are left unexplored in some of the more heavily regulated sectors, where the green economy can still play a major role in driving behaviour changes for the good. Respondents expect that Government involvement in these sectors should thus be considered, and policies and regulations must be adopted to ensure that value from the green economy is extracted. Respondent 1 referred to this as policy that is the ultimate driver of behavioural changes for the green economy, adding that regulations and policies are important for future sustainable actions:

> *"…through policy change, because it's the ultimate kind of driver, let's put it that way." – Respondent 1*

Interviewees reported that, operating in the green economy involves some form of

political or regulatory involvement, as the transition from current practices to the green economy is still taking place.

5.5.2 Internal barriers impacting ecological sustainable entrepreneurs

Internal barriers were also investigated to evaluate if there are any barriers that are created by ecological sustainable entrepreneurs themselves. These barriers are considered not to be market driven and in the control of the ecological sustainable entrepreneur, therefore having a direct influence on how they can add value.

Personal barriers

As some of the solutions offered by ecological sustainable entrepreneurs are not conventional in nature and have some unique key features, it is important that these are communicated to the target market. As explained earlier, there is also a challenge with the target market that does need to be educated as well and trained in order to understand the value that the green economy and products have. Respondent 5 noted that:

> *"Now the challenge that we face is communicating, the cornerstone features, or the value of our innovation to non-engineers. It's a very difficult thing you know." – Respondent 5*

This indicates that communication is a challenge for them from a personal point of view as they need to connect with, and sell their value proposition to, the target market, as there may be technical aspects that need to be explained to educate the target market. This links to the need for knowledge and understanding that is required by customers.

Furthermore, each ecological sustainable entrepreneur has different personal preferences in terms of the terminology they use to describe what they do and what they offer. The respondents could not agree on a common term to use, that collectively describes their gaol and value proposition to the market. A few examples of this were:

> *"First, I don't actually like the term green…. Green, thus far, has got*

connotations of Yoga waving sandal wearing you know, that that kind of stuff." – Respondent 8

"I think that's [terminology] the biggest problem with the movement in general, is that we don't have a definition that everyone agrees on." – Respondent 2

"So, I think terminology, what I'm really saying is terminology is still a huge issue, actually, in this area." – Respondent 1

This creates a divide and conflicting outlooks among the ecological sustainable entrepreneurs, and they are not forming a united front. This creates a challenge when attempting to educate customers, as different sources try to sell similar value propositions but confuse customers through the use of different terms. One alternative offered by respondent 1 is to talk the language that you see resonates with the target group. Although this can be a very effective strategy to use, it still carries the risk of confusing the customer through the use of different terms. It is interesting to note that this barrier is created by the ecological sustainable entrepreneurs themselves, i.e. it is a personal barrier.

The respondents reported that certain entrepreneurs pretend to be ecological sustainable entrepreneurs, who do not truly share a passion for the products and only have a short term, money-making outlook. Respondent 1 noted that:

"I see some people or entrepreneurs, or businesses saying that they are green because they happen to have fitted a solar panel on their product. Okay, all of a sudden, they're a green entrepreneur. So that, to me, is quite a narrow interpretation."

These entrepreneurs come into the market and devalue the products on offer by the ecological sustainable entrepreneurs, which leads to an intentional disruption of the normal processes that the ecological sustainable entrepreneur follows. This in turn leads to frustration in the sector due to the true value and impact on the industry not materialising. This concern was shared by all of the respondents and voiced by respondent 3:

"…and now they say industry is changing you see a lot of people coming, those participating are not people who are passionate about it. They're in it

for the money… his reality is not about the planet and the people in terms of socio economic." – Respondent 3

As a result, on a personal level, the ecological sustainable entrepreneur has to compete with other entrepreneurs who are not passionate about creating a sustainable product.

5.6 Summary

As illustrated, the ecological sustainable entrepreneurs have a different perspective in light of the emerging green economy and adapts to a process where they seek market opportunities to have an impact on society, create value and focus on stakeholders. While focussed on the market opportunity they structure their funding model in a different way with a long term outlook to the business opportunity and payback periods. Furthermore, they leverage the ability to building trust through knowledge sharing to customers to build on their value proposition.

The previously mentioned process is underpinned by the values that the ecological sustainable entrepreneur ascribes to which is trustworthiness, relationship building through empathy and respect along with fairness integrated with integrity. These values also form part of their motivation that is intrinsically embedded through their passion of having an impact on society. They also furthermore use peer accountability and leverage their curiosity in order to stay motivated in the dynamic environment.

It is clear that there are numerous external factors that influence the actions that ecological sustainable entrepreneurs use to either stay competitive or to just adapt to the market conditions and stay relevant. These factors can be grouped into customer, business and industry as well as political and regulatory barriers that ecological sustainable entrepreneurs have to navigate around. The presence of an internal barrier in the form of personal barriers that ecological sustainable entrepreneurs create was also noted from the respondents, where terminology and short-sighted entrepreneurs hinders progress in the market.

It is evident, however, that when one is involved in the green economy, one does have to deal with behavioural aspects in the market, as this to a great extent still determines some critical outcomes that can have major influences on the business and marketplace. Nevertheless, staying agile and being willing to adapt in an ever-changing marketplace does add great value to the business at large.

6. CHAPTER 6: DISCUSSION

6.1 Chapter description

This section will be used to discuss the results obtained from the semi-structured interviews from Chapter 5 and compare the findings from this study to what is available in the literature. The chapter is organised to complement Chapter 5 and the document flow is similar to facilitate the discussion of the results which links to the research questions and findings in Chapter 5.

6.2 Introduction

In order to understand how ecological sustainable entrepreneurs establish internal processes, one needs to take note that this kind of entrepreneurship is a subgroup of entrepreneurship at large, and therefore some similar behaviours and actions are expected. It is, however, important to identify some of the key focus areas of the underpinning values and assumptions that ecological sustainable entrepreneurs employ to reach their desired result.

Furthermore, one should also acknowledge the starting point of sustainability described by the Brundtland report, which defined sustainability as "development that meets the needs of the present generations without compromising the ability of the future generations to meet their own needs" (Brundtland, 1987, p. 43). Based on this, ecological sustainable entrepreneurs have a foundation of entrepreneurial thinking which is grounded in sustainable actions in order to reach their desired outcome.

6.3 Research question 1 discussion - Processes for ecological sustainable entrepreneurs

Jiang, Chai, Shao and Feng (2018) showed that ecological sustainable entrepreneurs exhibit specific orientations within the actions that they take, including green innovativeness, proactiveness and openness to risk. From the findings of this study, the specific orientations were noted in terms of some of the processes that ecological sustainable entrepreneurs follow in order to get meaningful results from their business venture. This process plays an important role in what they value and how their value proposition stays central to their focused strategy.

6.3.1 Market opportunities and adding value for impact

From the findings of this study, it is evident that ecological sustainable entrepreneurs do indeed focus on a market opportunity as they are profit-orientated, but this is not the only aspect that they consider when establishing the business' vision, mission and goals. This is in line with the one-pillar model (Gast, Gundolf, & Cesinger, 2017), which has gained popularity in the literature and is a major consideration for businesses. Yet Bıçakcıoğlu-Peynirci and Tanyeri (2020) showed that having a shared vision for a business in the green economy is not necessarily linked to the strategy and financial success of the business, which differs with the results that were obtained from this study. A possible explanation could be that the study of Bıçakcıoğlu-Peynirci and Tanyeri primarily focused on the export of products from developing to developed countries, whereas the current study only focused on the South African market and the impact that the entrepreneurs intend to make in Africa. Furthermore, the concept of the triple bottom line approach is also well aligned with the approach where the focus is simultaneously on the economic, social and environmental outlook (Alhaddi, 2015) through which businesses are oriented to add value to society. This also leads, as suggested by Gast, Gundolf and Cesinger (2017), to some unconventional approaches being taken by ecological sustainable entrepreneurs to enhance and develop their business venture.

One thought process, that respondents mentioned in this study, that aligns with the one-pillar approach is that ecological sustainable entrepreneurs want to be associated with products and services that can make an impact and add value to the environment and society. As such, it is not necessarily a drive to 'go green', but rather an intention to solve a problem in the marketplace and add value where livelihoods are created for communities. The case can therefore be made that the tendency to only minimise a firm's impact on the natural environment and create benefits to society (Gast, Gundolf, & Cesinger, 2017), can be refined to suggest that they would aim to solve a problem and create livelihoods through innovative products, which would as a result create additional value to society.

This would support the growing importance being placed on stakeholder focus in

business, as opposed to shareholder focus as mentioned in the literature (Buchholtz & Carroll, 2018; Bıçakcıoğlu-Peynirci & Tanyeri, 2020) and demonstrated in this study by respondents. Whereas shareholders are normally only concerned about the direct profit that can be generated and maximising their returns, stakeholders are more inclusive and have multiple interests in the performance of a business. Having a successful strategy has become just as important in modern business as being moral and ethical through shareholder management (Buchholtz & Carroll, 2018). The triple bottom line model also attempts to include society and the environment as stakeholders, instead of focusing on the economic gain for the shareholders (Alhaddi, 2015). Although ecological sustainable entrepreneurs from this study showed that they want to create value other than just profit, it is important to note that the generation of profit is still vital for ecological sustainable entrepreneurs, as this ensures that they will remain relevant and sustain themselves. The respondents in the study unanimously agreed the generating profit is therefore important, but not so important that it can negatively impact the environment or come at a cost to society.

Therefore, the findings of this study support the one pillar and triple bottom line model but contradicts the view that a shared vision is not linked to financial success. This shows that having a shared vision does not necessarily guarantee success but assists in obtaining alignment to the one pillar model. This implies that success for ecological sustainable entrepreneurs can be aided through a shared vision but is not a prerequisite for success.

6.3.2 Alternative financial approaches

Due to the fact that ecological sustainable entrepreneurs pose a unique risk to financial institutions as they require a large front-end capital investment, have little collateral, and are perceived to have higher political risks and longer pay-back periods (Migendt, Polzin, Schock, Täube, & von Flotow, 2017; Demirel, Li, Rentocchini, & Tamvada, 2019), these entrepreneurs constantly look for alternative funding methods to make ends meet, as confirmed by respondents is this study, and must evaluate what resources are at their disposal. This is in accordance with the principle of effectuation and bricolage (Fisher, 2012), where entrepreneurs start through experimentation and consider what resources are at their disposal to make

a success of their business venture. This was noted by the respondents of this study as they described the process of sourcing and securing funds. Using unconventional funding models is a key aspect that was picked up in the study, with the respondents employing techniques that range from peer-to-peer funding through the use of platforms and modern crypto currency models, to setting up their own self-funding models.

As ecological sustainable entrepreneurs are competing for funding against large and established firms that have sufficient collateral for accepting risk (Demirel, Li, Rentocchini, & Tamvada, 2019), they are at a disadvantage when looking at the conventional methods of funding, hence the search for alternative models can be expected as was noticed from this study. Demirel, Li, Rentocchini and Tamvada (2019) confirmed that venture capitalists would rather focus on narrow streams in the green economy, while traditional lenders remain hesitant to back green ventures. This is as per what the respondents expressed in terms of their own efforts to obtain finance for their green ventures.

Demirel, Li, Rentocchini and Tamvada (2019) indicated that ecological sustainable entrepreneurs are poor at communicating their value proposition to potential funders, and therefore struggle to secure the necessary financing. This contradicts with the feedback from the participants in this study, however, who showed that they are tenacious in their approach to securing funding, with some even pivoting to set up their own capital funds out of frustration. This could be due to the fact that ecological sustainable entrepreneurs are technical in nature (Mamabolo & Myres, 2019) and have a sense of self confidence in their own venture and product (Slavova, 2019), but lack the necessary business acumen to communicate their value proposition to potential investors. In contrast, the ecological sustainable entrepreneurs from the study showed great interest and engagement towards the customer side of the business, which suggests that they should have the capabilities to persuade and build confidence amongst potential investors.

As a result of the unique challenges that green enterprises face, ecological sustainable entrepreneurs from the study showed that they do not just limit

themselves to the normal business capital model of dept and equity, but also seek to expand possible funding by using peer-to-peer funding structures, rolling out micro franchises, and consumer-funded lease agreements. Melay, O'Dwyer, Kraus and Gast (2017) found that ecological sustainable entrepreneurs are reluctant to accept any external funding, so they tend to self-fund or bootstrap a large part of the business (Demirel, Li, Rentocchini, & Tamvada, 2019). The ecological sustainable entrepreneurs in this study tended to do this aggressively and purposefully by setting up capital structures on their own side, which once again reinforces their goal-driven orientation and the effectuation process that they go through. The challenges that they face in terms of obtaining financing is also linked to some of the business models that they adopt. An example of this would be adapting a business model of a micro franchise to address the heavy up-front investment and scalability of the business (Migendt, Polzin, Schock, Täube, & von Flotow, 2017), thereby increasing the business' attractiveness for VCs, which was also well demonstrated by the respondents in this study. This demonstrates how ecological sustainable entrepreneurs play an active role in adapting to the market's perceptions and boundaries in order to improve their position.

Therefore, the findings in this study confirms the struggle that ecological sustainable entrepreneurs have to secure funding as indicted in the literature on the unique risks that they present to financial institutions. The study also confirms the alternative methods that the entrepreneurs seek out to fund their business and expands on different techniques that are used for the funding. The study does however point to a contradiction that the ecological sustainable entrepreneur does not communicate their value offering well to investors as this study showed their tenacity with securing funds and that they do communicate well will customers but not with investors. This could be due to the ecological sustainable entrepreneurs that use the incorrect terminology and lack the required business acumen to communicate their value proposition to investors.

6.3.3 Outlook focus

As noted in the findings, it is evident that ecological sustainable entrepreneurs do not focus on short term gains, but rather focus on the long term impact and value creation that their product or service can make. This does present them with a unique

challenge in obtaining conventional finance as explained in the previous section. Migendt, Polzin, Schock, Täube and von Flotow (2017) also agrees with this study, as patient capital is required with a long term outlook from investors.

The profit model outlook, shown from this study, also supports this approach, as profits are obtained over a longer period than typical businesses. Their market volatility is therefore high, which acts as a deterrent for investors and the market as also shown by Mrkajic, Murtinu and Scalera (2019). Although the potential gains of going green in different industries have been documented (Ambec & Lanoie, 2008), it appears that the ultimate driver for going green, as mentioned by respondents, has not yet been encountered through policy and behaviour changes.

Eccles, Perkins and Serafeim (2012) have shown that the general public is trending towards the need for companies to have a broader long term outlook when considering human needs. However, this study shows that there are still doubts among the general public in terms of trusting and having faith in the ecological sustainable entrepreneur over the long term. Although the ecological sustainable entrepreneurs do pursue this in their decision making and the actions that they take, this study shows that the general public is not always in agreement, and that other market indicators such as price still dominate consumers' decision making. One reason for this is due to the different contexts that the two studies were conducted in, i.e. there are differences between the developed and the developing world, where climate change might not yet be receiving such a high degree of focus in the latter.

6.3.4 The process of building trust

According to de Lange (2016), trust must be built within a community to increase the chances for ecological sustainable entrepreneurs to succeed with their value offering. This was confirmed by the research, but can in some cases be considered as an order qualifier rather than an order winner. Some respondents mentioned cases of sabotage if key influential personnel are not first approached and their blessing and co-operation given to the product. As such, the building of a relationship and the establishment of a network that involves community leaders is of utmost important to the success of such ventures, as not all parties will just agree with the

initial value proposition. This confirms the findings of Gast, Gundolf and Cesinger (2017), who concluded that the work and area in which ecological sustainable entrepreneurs operate is very sensitive towards stakeholder engagement, and is one of the critical points that determines the success or failure of a green business venture. Furthermore, it has been shown that green firms tend to collaborate a lot more (Demirel, Li, Rentocchini, & Tamvada, 2019; Bıçakcıoğlu-Peynirci & Tanyeri, 2020), which confirms the network and relationship approaches seen in their values and business propositions.

It can therefore be considered that due to the ecological sustainable entrepreneurs' involvement with the environment and triple bottom line approach, it is of utmost importance to have a stakeholder approach when entering into a green venture. As some aspects might be sensitive as well, different stakeholders can very easily cause the failure of the green venture. This then agrees with the findings of Gast, Gundolf and Cesinger (2017).

Pacheco, Dean and Payne (2010) also described the importance of establishing relationships in order to ensure that there are opportunities for escaping the 'green prison'. These relationships allow for collective actions between different parties, which can result in a collective gain being realised within the operating boundaries of the green business. This should, however, not only be limited to entrepreneurs; incumbent firms with dominant positions in different market segments can also use this collaborative process to transition into the green economy. As argued by Pacheco, Dean, & Payne (2010), participation in the green economy through a cooperation strategy generally leads to mutual gains for the environment, economy and society. This in turn links to the triple bottom line framework, which in the long-run is beneficial to all parties involved as observed from the interviews from this study. As such, the building of relationships and collaborative actions and activities is a primary process in order to generate trust and credibility for sustainable actions.

The need for knowledge

From the results of the study it is clear that ecological sustainable entrepreneurs ensure that they are very knowledgeable in their field, as well as adjacent fields, and

constantly strive to better equip themselves to deal with any challenges. This is important, according to Slavova (2019), as technology-driven solutions go through constant changes where one needs to keep up with the changes in technology and trends. Jiang, Chai, Shao, & Feng (2018) indicated that ecological sustainable entrepreneurs have a proactive orientation, which aligns well with an outlook of constantly updating one's knowledge base. This knowledge building approach also helps them to build confidence and credibility by being open and honest about the value proposition that they offer to the market, as they are also focused on delivering additional value and create impact where their products are deployed.

Kardooni, Yusoff and Kari (2016) showed that a knowledge about renewable energy systems affects the perceived usefulness of the technology, and thus the tendency to accept it. It is evident from the research that ecological sustainable entrepreneurs use this knowledge as an entry point in order to improve the perceived usefulness of their product offering, i.e. they share their knowledge and as a result build trust in their relationships with clients and within their product or services. As the value proposition is novel to the market, the building of trust is an important aspect. This was supported by Gast, Gundolf and Cesinger (2017), who pointed out that the general public is not yet convinced that sustainable business practices are the way forward, and that there is still a challenge to get into the market. As such, the process of being knowledgeable and sharing that knowledge is used by ecological sustainable entrepreneur to build trust in the market.

The process and relationship between trust and knowledge seem to differ in terms of predecessor from that described in the literature. According to Cheng, Yeh and Tu (2008), the relationship between trust and knowledge sharing is normally reversed where the level of trust would determine the extent to which knowledge sharing would be done. From the study, ecological sustainable entrepreneurs would rather use their knowledge to educate and create confidence, which then translates into trust between them and the client. This could be due to the fact that most green ventures require large capital investments for a relatively new technological base, therefore a trusting relationship has to be created through the sharing of knowledge.

Area attachment

From this study, no evidence was found that ecological sustainable entrepreneurs limit themselves to the local areas they function in (de Lange, 2016) to improve their chances of creating trust through an emotional connection (Kibler, Fink, Lang, & Muñoz, 2015). The study however indicated that ecological sustainable entrepreneurs would rather go where the market opportunity presents itself best. However, there is a tendency among all of the respondents to be committed and have an emotional connection to Africa as a whole, and to create solutions that will work for Africa and not be made to fit from the rest of the world to Africa.

Corradini (2019) also indicated that the geographical area where green technology and innovation takes place is dependent on incumbent firms in the area, and is spatially not evenly distributed. Corradini (2019) also showed that regional innovation in an area determines where these activities are stimulated or generated due to knowledge spill over. This links to knowledge that was shown in the study to generate trust for ecological sustainable entrepreneurs in the areas where they operate.

The TAM (Venkatesh & Davis, 2000) explains why trust building through networks and relationship building in the green economy is of such importance. The two factors of the TAM, perceived usefulness and perceived ease of use, are both directly linked and promoted through engagement and the need for relationships in a technology-dominated world. This supports the findings of the study.

Making an impact and integration

Gast, Gundolf and Cesinger (2017) indicated that ecological sustainable entrepreneurs are often seen as role models in their communities due to the fact that they do not just drive profits, although they do attempt to remain profitable and earn a living from their business. This links particularly well with the study, which indicates that ecological sustainable entrepreneurs are focused on making an impact in the community. They also tend to seek additional opportunities to create further value and impact where they have any business ventures as a way to expand and grow their business.

This new outlook on business, as explained by respondents, shows that there is a fundamental shift in these entrepreneurs' business models, as well as in the way they approach opportunities. This is as per Stoughton and Ludema (2012), who indicated that sustainability in organisations is not an incremental action, but rather a totally new approach where there is a notable shift. Adopting a triple bottom line approach does not lead to sustainability alone; a fundamental shift through the integration of the approach into the core is required to make the shift. This is in line with the approach that ecological sustainable entrepreneurs, from this study, take by solving a problem and not just selling a green product.

By taking a holistic view of the different aspects in the environment and integrating them into a solution, one is be able to address challenges that have previously been avoided by companies. Allowing this thought process to spill over into companies where middle management can often be the driving force for initiating sustainability (Stoughton & Ludema, 2012) offers great potential for companies to be part of the green economy through an integrated approach. It is, however, important to note that for sustainability to take effect, senior leaders should take an integrated perspective of sustainability, allowing for a culture of sustainability to be embedded into the organisation and ensuring that their vision and mission is also integrated into the approach of making a difference.

The need for trust

This study and the literature agree in terms of the need for trust, but shows different techniques and constructs emerging as to how trust develops and leveraged in the business world. This could be due to the different context that the studies are based in and offer an opportunity for ecological sustainable entrepreneurs to further increase their value proposition. One notable difference is that some of the respondents in this study work in vulnerable communities at the BoP, and therefore the same connotation in terms of trust would be difficult to replicate in developed countries.

6.4 Research question 2 discussion – Values of ecological sustainable entrepreneurs and motivation

One would expect that there is an interconnectedness between the personal, strategic, environmental and structural outlooks at the core of a green business venture (Melay, O'Dwyer, Kraus, & Gast, 2017), where the ecological sustainable entrepreneur has a direct impact on the company's strategic and structural outlook due to their personal values and beliefs. These values underpin the culture of the business and how it is conducted. This is as per the research conducted, which shows how the ecological sustainable entrepreneur directs the value proposition of the business through their own beliefs and values.

Rauter, Jonker and Baumgartner (2017), together with Kibler, Fink, Lang and Muñoz (2015), indicated that ecological sustainable entrepreneurs need to rely on their personal values and emotional connectedness to stay true to their aspirations and drive, in order not to give into the 'green prison' that can be created in the business environment. This study shows that these personal values are deeply rooted in trust, relationships, respect, empathy, fairness within integrity, self-accountability and self-fulfilling actions.

6.4.1 Trust

Eccles, Perkins and Serafeim (2012) argued that in order to be a sustainable company and have a differentiating factor, the culture of the company must be based on innovation and trust. This is in line with the study, where ecological sustainable entrepreneurs noted that they place great emphasis on developing trust and being considered trustworthy. As the industry is still in the growth stages, it also explains why this would be a treasured value to have when trying to effect real changes in the market and market segments that have previously been unexplored. Knowing what the non-consumption economic segments of the market would react to and be interested in would also require that ecological sustainable entrepreneurs have, and can establish, trust in the market.

Furthermore, having trust enables one to take the required risks in order to innovate in the green economy (Eccles, Perkins, & Serafeim, 2012; Rauter, Jonker, &

Baumgartner, 2017). As ecological sustainable entrepreneurs explained in the study, they have to face risks in their day to day, start-up and operating models, as such they are required to be able to generate trust in the market. As noted, this is effectively done through a sense of being knowledgeable and sharing that knowledge in the market.

6.4.2 Relationships

The findings from this study clearly show how important relationships are in the activities that ecological sustainable entrepreneurs engage in on a day-to-day basis. They use these relationships in order to build the required trust and create awareness of their value offering in the market. This is important due to the fact that they want to create further impact and create livelihoods in the process as well. This agrees with the literature, where social networks, networking skills and collaboration are seen as important skills and leverage points for ecological sustainable entrepreneurs to have (Gast, Gundolf, & Cesinger, 2017; Dickel, Hörisch, & Ritter, 2018; Kibler, Fink, Lang, & Muñoz, 2015).

The study also agrees with Dickel, Hörisch and Ritter (2018), who commented that networks are used to limit the risks of the market, such as the liability to newness and the small size of the new business venture. The respondents explained that they try to limit the uncertainty and instability of the market by putting actions in place to work around systems where they do not receive support. These alternative ways of ensuring that the work is executed are leveraged through applicable networks, and if they do not exist, the entrepreneurs seek to establish them.

6.4.3 Empathy and respect

From the study it was noted that ecological sustainable entrepreneurs show great respect for the environment and people. Gast, Gundolf, & Cesinger (2017) suggested that this occurs on an internal level and is part of an intrinsic motivation, which ties to the findings of the study, i.e. that ecological sustainable entrepreneurs feels attached to their work where they are unable to separate themselves from it. Furthermore, Kibler, Fink, Lang, and Muñoz (2015) mentioned that there is an emotional connectedness between ecological sustainable entrepreneurs and their

work. This also aligns with the findings in the study that ecological sustainable entrepreneurs feel a great deal of connectedness and show empathy through actions such as caring, collaborating and consideration for their employees and customers.

This empathy and respect can be expected, as Kibler, Fink, Lang and Muñoz (2015) found the presence of emotional connections and a drive by ecological sustainable entrepreneurs to create an impact with their products. This would not necessarily have been the case if the only focus was on making profit and providing a return to shareholders. Having empathy also confirms the focus that is seen by moving from satisfying shareholders and generating maximum value for them, to including stakeholders and creating shared value. Within some of the findings, the use of the words such as 'family' and 'love' to describe the values and relationships between the employees and within the company shows the extent to which the ecological sustainable entrepreneur connects through empathy. Having empathy links up to a great extent to the building of relationships and social networks, as described earlier, and to an extent can also describe the strategy that they would use in a community in order to gain acceptance.

Respondents indicated that sustainable actions are closely linked to the behaviour of consumers, and therefor ecological sustainable entrepreneurs have to appeal to consumers on an emotional level in order for them to make a shift, as this could entail a personal sacrifice on the side of the consumer, where only a fundamental shift would be able to create a lasting change. Through respect for livelihoods and the environment, the inspiration to create livelihoods through a product/service can be realised, while at the same time addressing a real problem.

6.4.4 Fairness within integrity

As discussed from the interviews, ecological sustainable entrepreneurs use an underpinning value of fairness, which is seen in their acts of integrity, in order to compete in the competitive market, where they are often faced with competition from unsustainable solutions or product offerings. Being in this position and being tempted to participate in such unsustainable actions in order to stay competitive, is what Pacheco, Dean and Payne (2010) referred to as the green prison. In order not

to give into such temptations, the research shows that ecological sustainable entrepreneurs stand on the principles of fairness with their integrity as the basis. Leadership support and the culture that the ecological sustainable entrepreneur creates in the organisation is important to ensure that such actions are taken on an ongoing basis and therefore responsible leadership is required (Maak & Pless, 2006). This makes the system vulnerable to lapses or a lack of judgement, however, which could be experienced by certain players in the marker, downgrading the value proposition of the firm.

The research shows that ecological sustainable entrepreneurs or green companies should therefore use this information to ensure that their recruitment systems are structured in order to attract these desired individuals and avoid any potential employee that does not hold their values true. Furthermore, Rauter, Jonker and Baumgartner (2017) confirmed that for entrepreneurs to act correctly in a specific environment, the desired outcome must fit their own values and emotions. Therefore, businesses need to ensure that their employees' values are aligned with the business, as their attitudes and behaviours are a predictor of their sustainable actions (Hamann, Smith, Tashman, & Marshall, 2017).

The study showed that ecological sustainable entrepreneurs see policy as the ultimate driver to influence and move the economy towards a sustainable future, although some new technologies are currently challenging existing ones. This causes these entrepreneurs to play a more active role in collective actions and groups to attempt to influence political and regulatory frameworks. This is in line with the findings of Pinkse and Groot (2015), who found that they become more politically involved. It is thus expected that a value of fairness through integrity would be expected and a prerequisite in order to play and engage collectively and effectively in this operating environment. Nevertheless, it should be noted from the study that this is not applicable to the same extent to all ecological sustainable entrepreneurs operating in the environment, as a few see an opportunity and indeed leverage the existing policies to their own advantage. This requires the value of fairness through integrity to be strived for, as these opportunities generally exist within vulnerable communities that can easily be abused.

6.4.5 Intrinsic motivation

The study shows that ecological sustainable entrepreneurs are indeed intrinsically motivated by their actions, as suggested by Gast, Gundolf and Cesinger (2017). This motivation originates from the ecological sustainable entrepreneurs' desire to do good and create value above and beyond what their product offers, in what they referred to as products with an impact. This clearly shows that the triple bottom line approach is used by the ecological sustainable entrepreneurs, in this study, to arrive at their reasoning and motivation for their actions.

Intrinsic motivation of respondents, links up with all of the values of the ecological sustainable entrepreneur, but in particular the value of empathy that ecological sustainable entrepreneurs show in the marketplace. This tends to motivate them into a directional leadership model, where they lead by example as noted in the study. Eccles, Perkins and Serafeim (2012) agreed with this approach, arguing that leaders of sustainable companies have to show that they agree and care about the initiative or product, and uses motivation through directional leadership by believing and living the principles themselves.

Furthermore, the sense of curiosity that motivates ecological sustainable entrepreneurs in this study, assists them to question the current accepted practices and actively look towards challenging the market. This motivation seems to be a strong driver for some of the ecological sustainable entrepreneurs and adds a level of fun to their companies and the approach that they take. This is similar to entrepreneurs, who have shown that there is an entrepreneurial curiosity associated with their actions and that ecological sustainable entrepreneurs act in similar ways (Arikan, Arikan, & Koparan, 2020).

6.4.6 Values and intrinsic motivation summary

As most of the respondents came from small entrepreneurial businesses, it was easy to ascertain the impact that their own thought processes have on their businesses. This would be expected from an organisational culture point of view, as the culture is normally set by the founder where they have an immediate direct impact on the organisational culture. The culture and values of the entrepreneur, as well at the commitment and attention that the business receives, is evident from living the values

throughout, showing real care and engagement (Eccles, Perkins, & Serafeim, 2012).

The European Union (EU) has also shown, through its actions, how directional leadership is required to drive sustainable action on a much wider scale (Parker & Karlsson, 2010). This is mainly characterised by a sense of leading by example, which supports the study, through the integrity and empathy of ecological sustainable entrepreneurs identified, as they tend to accept and use their own value proposition and gain trustworthiness through their product offerings.

The study further agrees with the arguments posed in the literature regarding the set of values that the ecological sustainable entrepreneur upholds and expands by grouping the values as trustworthiness, relationships-building through empathy and respect, upholding fairness, maintaining integrity and driving self-accountability. The study also highlights the role and presence that empathy and respect play in the actions of ecological sustainable entrepreneurs. Furthermore, there is a link that emerged between the process that ecological sustainable entrepreneurs use in order to build their venture and their values, as can be seen through the value of trustworthiness that is used through knowledge sharing to gain credibility in the market. The study agrees with Gast, Gundolf and Cesinger (2017) that ecological sustainable entrepreneurs are intrinsically motivated but expands on this notion that the underlying drivers are their desire to have an impact on society through their products, their sense of empathy and their curiosity that enables them to continuously search for alternatives. This would enable SMEs and large businesses to understand what criteria is required from personnel in order to become a prominent player in the green economy.

6.5 Research question 3 discussion – External and internal barriers influencing ecological sustainable entrepreneurs

As mentioned by respondents, the environment in which ecological sustainable entrepreneurs operate has an influence in terms of how they behave and operate. These external factors are seen as barriers for ecological sustainable entrepreneurs, who tend to seek ways to work around them or incorporate them into their strategy, i.e. to adapt their value proposition to work within the framework.

6.5.1 Customer barriers

In order for any product or service to sell, a target market segment is required, where the market's needs are satisfied and the product or service assists the customer to get the job done (Christensen, Hall, Dillon, & Duncan, 2016). If customers perceive that something cannot be done by a specific product, they will not adopt it. As the research suggests, with the green economy still being in the developing stage, there is a perception that some of the products on offer are not as effective, or that a previous non-sustainable product is still performing the required task as desired. This limits the incentive for a consumer to switch to a sustainable product. This also confirms the adoption of technology through the TAM, as consumers do not perceive the product as being useful or their perceived ease of use for the product is low, translating into a low intention to buy (Venkatesh & Davis, 2000). This limits sales and people's exposure to the products. Kardooni, Yusoff and Kari (2016) had similar findings, where knowledge played a big role in the adoption of renewable energy, as did cost. This clearly supports the findings in this research that show that a lack of knowledge sharing or education is one of the real challenges that effects the adoption of the green economy due to embedded unsustainable behaviour.

In order to address and work around this challenge, ecological sustainable entrepreneurs from the study, start to engage with potential customers through knowledge sharing, which enables them to understand their customers' needs further and to empathise with them. This is linked to their values where applicable. Although Gast, Gundolf and Cesinger (2017) have shown that business schools will need to change and adapt in order to provide entrepreneurs with the required skills and knowledge for the green economy, the knowledge gap will also need to be addressed on the consumers' side, which is a constant focus, as indicated by the ecological sustainable entrepreneurs in this study. One could also argue that entering the 'green prison' is due to a lack of knowledge on the part of the relevant parties, which could be addressed through knowledge-based initiatives. This would support the findings in the study with the challenges mentioned by Pacheco, Dean and Payne (2010).

Education would therefore have to be addressed to get the mass market to buy into some of the sustainable products, as they are currently seen as belonging to a niche

market in the sense of consumer goods (Jolink & Niesten, 2015). In contrast the study showed that some renewable power is already focusing on the bottom of the pyramid market segment, which is clearly having a dramatic impact on their livelihoods, indicating that the green economy is not just applicable to dedicated market segments. Education is thus a vital aspect that will need to be addressed in order to ensure that the mass market is informed and aware of the market's movements and the options that are available. Further, Hamann, Smith, Tashman and Marshall (2017) suggested that self-education is a growing need in business, and that businesses should take a long term outlook to further enhance their strategies while addressing a business need.

One could also argue, as seen from respondents, that due to the fact that the green economy is still developing and is new to customers, who have a lack of knowledge about the sector, there is a general lack of confidence in products/services. This supports the idea that ecological sustainable entrepreneurs continuously work on sharing knowledge and gain confidence in the market. This links to the process of generating trust, which shows that ecological sustainable entrepreneurs' processes are linked to addressing some of the barriers they encounter.

6.5.2 Business and industry barriers

The current business practices and existing funding models of ecological sustainable entrepreneurs' business ventures are shown form the study, to challenge the current market accepted business practices system. that business has put in place and to regulate certain industries. This ranges from how things are done, to obtaining finance and getting traction to execute the desired actions, where they constantly drive to reach new and exciting goals.

Bansal and Roth (2000) indicated that companies go green due to competitiveness, legitimacy and ecological responsibility, where it was indicated the main reason for going green was primarily for compliance. This indicates that from inception, the term 'going green' had a compliance orientation to it, and was seen as just an extra effort by business to ensure that the authorities were satisfied with how business in general is progressing towards stricter pollution limits. The industry and the thinking

of ecological sustainable entrepreneurs have changed drastically from compliance to opportunity driven, however, and from this study it seems as though the ecological responsibility has started to receive more attention. The ecological sustainable entrepreneurs in this study agreed with Bansal and Roth (2000) in that they view their businesses as an obligation and see it as their responsibility to move away from an inward-oriented outlook to outward-oriented outlook. This motivates them to act responsibly and challenge any unsustainable or non-value adding action from an environmental point of view.

As the set-up of green ventures offers a unique risk to investors due to heavy front-end capital investment, low collateral to offer, perceived higher political risks and longer pay back periods (Migendt, Polzin, Schock, Täube, & von Flotow, 2017; Demirel, Li, Rentocchini, & Tamvada, 2019), obtaining funding is one of the primary challenges that ecological sustainable entrepreneurs have to deal with as confirmed in this study. As explained earlier, they do, however, adapt and constantly seek new and innovative ways to obtain the required funding. This demonstrates the tenacity that ecological sustainable entrepreneurs have as they consistently pursue actions to make their vision a reality.

Williams and Schaefer (2013) suggested that the reasons for why a business takes a sustainable approach should be focused on the values and contributions of the managers, rather than purely arguing from a business case point of view. This point of view is supported by this study, which found that entrepreneurs take action on what they deem to be correct and acceptable approaches when it comes to addressing both opportunities and challenges. This often leads to a lack of a clear-cut business case, which is one of the reasons why financing a green business venture is a challenge. In order to support this approach, the ecological sustainable entrepreneur creates a flat business structure where they are able to encourage collaboration between different parties and stay agile for when they need to adapt and change their approach.

6.5.3 Political and regulatory barriers

There are numerous indications in the literature that ecological sustainable

entrepreneurs need to get much more involved in politics and the formation of policies and regulations (Griggs, et al., 2013; Pinkse & Groot, 2015; Ball & Kittler, 2019). Although the research confirmed this finding for one group of ecological sustainable entrepreneurs, another group indicated that the political and regulatory environment is very advantageous and supports them in their value propositions. Some even use policies, such as the basic electricity right in South Africa, to generate a profit. This indicates that there is still an element of this that is unexplored in terms of how policies can be used to add value to the green entrepreneurs' value proposition. Some ecological sustainable entrepreneurs from this study, indicated that they make active attempts to change their business models and regulatory environments so that they do not have to deal with any of the bureaucracy of the regulatory system. This reinforces the agile mindset that some ecological sustainable entrepreneurs exhibit. Demirel, Li, Rentocchini, and Tamvada (2019) supported the fact that ecological sustainable entrepreneurs need to be set up for agility so that they can adapt into a market when needed.

An interesting point that emerged from the literature (Demirel, Li, Rentocchini, & Tamvada, 2019) and the study is that favourable regulations and policies are in place for small scale products and services, which assists small scale ecological sustainable entrepreneurs with their business ventures. However, for larger scale businesses which may compete with incumbent firms, the regulations and policies are not as favourable. This could be why certain ecological sustainable entrepreneurs in this study mentioned regulations as a barrier and others described them as an enabler, as it could differ based on the market segment.

Regulations and the formation of impactful policies can assist in eliminating the green prison phenomenon as explained by respondents, where ecological sustainable entrepreneurs are forced to deal with the increased sustainability whereas incumbents might not have such a disadvantage to deal with (Pacheco, Dean, & Payne, 2010). However, it can be seen that this is not always the case, as sustainable options are currently challenging incumbents as they are more efficient or have a more advantageous operating mandate as some respondents mentioned in the study.

Pacheco, Dean and Payne (2010, p. 469) referred to the establishment of regulations and policies as “changing the rules of the game”, thus it is important for ecological sustainable entrepreneurs to keep pursuing their missions through sustainable actions and not limiting or degrading their value propositions. Therefore, the findings of the research confirm that policies and regulations moderate the behaviour of ecological sustainable entrepreneurs, which sets the playing field for them and the industry factors that have to be contended with. Demirel, Li, Rentocchini and Tamvada (2019) also supported the idea that government has a very big impact on the sector and its policies, which is as per the respondents to this study, referring to policy as the ultimate driver. This confirms the importance of setting good policies and regulations for the field, which ecological sustainable entrepreneurs should have a say in.

6.5.4 Personal barriers

The study showed that although relationship building and engaging is a technique that ecological sustainable entrepreneurs use in establishing their value proposition, effectively communicating these aspects can be a challenge. One possible explanation for this could be that ecological sustainable entrepreneurs are normally technical by nature and start with a lot of self-confidence (Mamabolo & Myres, 2019). This presents a challenge when it comes to initially directly communicating their value proposition to the potential customers and in particular investors, as it is evident that there is a lack of education from customers and business acumen to the investors.

Furthermore, different preferences in the terminology used, that is evident from the study, degrades the value proposition, as no agreed term exists that everyone can agree on (Gast, Gundolf, & Cesinger, 2017; Demirel, Li, Rentocchini, & Tamvada, 2019). The literature described this as a barrier that has to be closed off by creating a unifying term that signals a sense of unity in the market. Customers are exposed to different terminology which can confuse them about the value offering, which exacerbates their lack of knowledge. This could reinforce old behaviours due to a lack of a clear vision and value proposition from the entrepreneurs.

Entrepreneurs who pretend to be ecological sustainable entrepreneurs and enter the

business only for legislative compliance (Hamann, Smith, Tashman, & Marshall, 2017) and marketing/publicity create a further challenge for the true ecological sustainable entrepreneurs. The ecological sustainable entrepreneurs enter the area known as the 'green prison' (Pacheco, Dean, & Payne, 2010), where they are forced to compete with competitors who are unprincipled. According to game theory, this places them in a prisoner's dilemma situation where there is no easy outcome, as one option leads them to also behave unsustainably, while the alternative is missed sales due to the appearance that the unsustainable product offers more value. This was also noted in the study through the frustration of most of the respondents. Despite legislation in South Africa generally being good, there is a lack of enforcement and governance when it comes to these actors, therefore some individuals do get away with such behaviours (Hamann, Smith, Tashman, & Marshall, 2017). The ecological sustainable entrepreneurs are held on course by their underlying values, but they face a personal challenge to stay true to their vision and goal. Through industry associations and governance enforcement, such an internal conflicting barrier can be eliminated for the ecological sustainable entrepreneur.

6.5.5 Summary of barriers faced by ecological sustainable entrepreneurs

As indicated, there are indications that barriers play a decisive role in how ecological sustainable entrepreneurs formulate their value proposition in the marketplace. By active engagement and acknowledging ownership of the specific outcomes, ecological sustainable entrepreneurs are able to find ways to adapt and use these barriers to their advantage. This links to the idea that ecological sustainable entrepreneurs are innovative and proactive, and have an openness to confront and deal with risk (Jiang, Chai, Shao, & Feng, 2018).

Therefore, the findings of this study support the literature in terms of the importance of knowledge sharing in the green economy, the adoption of a one pillar model for businesses and the influence that policy has on the green economy. This confirms the active role that ecological sustainable entrepreneurs have to play in the green economy. The need for ecological sustainable entrepreneurs to unite is also evident from the study to agree on terminology and policy that would serve as a catalyst for their value proposition.

Although the study agrees with the literature on the barrier that the regulatory environment presents, a group was uncovered that uses policy already to their advantage for their business venture. This was mostly aimed at BoP or low-income households and further investigation is required for a full understanding of the favourable conditions and how they can further be elaborated on, for SMEs and large businesses to also use. This could also become a benchmark for policy makers for future regulations to come.

7. CHAPTER 7: CONCLUSION AND RECOMMENDATIONS

7.1 Introduction

This study set out to better understand the process that ecological sustainable entrepreneurs go through in order to promote and persist with their value proposition. The study also aimed to better understand the barriers that these entrepreneurs face and how they overcome these. Although ecological sustainable entrepreneurs face great challenges, they also face great opportunities in their quest to be part of the green economy. Similar to Gast, Gundolf and Cesinger (2017), this study examined the values that ecological sustainable entrepreneurs ascribe to in order to further comprehend some of the approaches that they take. This will add value to academia and business by broadening the entrepreneurship focus and indicating how businesses can transition and be part of the green economy.

This chapter is organised to summarise the findings of this study in the principal conclusion sections based on the three research questions which forms the main headings, and further elaborate on what implications these conclusions would have for stakeholders. Certain limitations were also picked up in the study which would also be presented with interesting follow up topics for future research that could further add value to the topic.

7.2 Principle conclusions

7.2.1 Process and drivers used by ecological sustainable entrepreneurs for trust and financial returns.

The research found that ecological sustainable entrepreneurs focus on both making a profit and creating an impact in the areas where they work. This is closely aligned with the triple bottom line framework for businesses, which has a clear stakeholder approach that is required for businesses to participate in the green economy. Ecological sustainable entrepreneurs understand that market opportunities do not just emerge from ‘going green’, but they use the green economy as a vehicle to generate profits, to add value to shareholders, and to impact the areas they operate in.

Ecological sustainable entrepreneurs constantly seek alternatives to see how they can adapt and change to offer value to the market, where they maintain a long term outlook to see the future benefits that they can offer to society.

In order to establish trust, ecological sustainable entrepreneurs ensure that they stay knowledgeable in the industry and ensures that knowledge sharing takes place within the environment that they function in. They also build networks with suppliers and customers and establishes relationships with key personnel within the communities that they work in. Furthermore, by being honest and delivery on the expectations, they build trust and enhance their value proposition.

7.2.2 Values of ecological sustainable entrepreneurs and intrinsic motivation

The ecological sustainable entrepreneurs' focus is underpinned by their values of trustworthiness, value relationship-building through empathy and respect, fairness and integrity. They use trust and establish relationships to navigate their way through the external environment, and moderates their behaviour while they constantly seek alternatives to overcome the barriers in the external environment. The characteristics of generating trust and establishing relationships are key, as sustainability is often a behavioural shift for consumers; ecological sustainable entrepreneurs add value to consumers through knowledge sharing and educating the market which also furthers their trustworthiness. The fact that ecological sustainable entrepreneurs are empathetic in their business approaches allows them to understand consumers' true needs, which they incorporate into their value propositions.

Ecological sustainable entrepreneurs are intrinsically motivated which originates from their passion to do good and make an impact in society through their products. Their intrinsic motivation is also fuelled by their curiosity and always questioning the status quo. By using peer accountability structures, they are enabled to stay true to their internal drive and stay true to their values.

7.2.3 External and internal barriers faced by ecological sustainable entrepreneurs

The research found four primary barrier groups that ecological sustainable entrepreneurs face, i.e. customer, business/industry, regulatory and personal barriers, however the entrepreneurs are agile and adapt to these barriers. The study also confirmed there are internal barrier named personal barriers that is internal and created by the ecological sustainable entrepreneur themselves.

These barriers tend to modify the behaviour of the ecological sustainable entrepreneur as they tend to constantly find alternatives around the barriers. With regards to policies, it is important to acknowledge the important role that the regulatory framework has on the ecological sustainable entrepreneurs' actions. Careful consideration is needed from policymakers with the inclusion of multiple stakeholders required, when setting up and evaluating policies.

7.3 Implications for stakeholders

The findings have clear implications for business, in the sense that any venture that plans to be part of the green economy will need to take a stakeholder approach with their value proposition and understand where they add value to society and the environment. Incumbent firms wishing to partake in the green economy can also use the findings to determine which individuals exhibit the values and characteristics of an ecological sustainable entrepreneur, and use this as part of their recruitment or leadership pipeline criteria in order to stay relevant in the market. By understanding the outlook, market conditions, mindset and behaviour modifiers required, they can also create a strategy to ensure that they remain relevant within the boundaries of the green economy.

Entrepreneurs wishing to enter the green economy can gain value from this study by understanding the barriers that they will face upon entry. This will enable them to formulate a strategy and create a controlled environment to establish their affordable loss criteria.

Policymakers should also be aware of the considerable impact that they have on the

feasibility of ecological sustainable entrepreneurs, and should consider playing a more active role in shaping the environment. Furthermore, government should develop more sustainable policies that will guide companies and enable them to grow in the green economy. Clear policies help companies to understand the rules of engagement and the boundaries that they need to operate in, which further assists with sustainable actions. Due to the relationship building and empathetic nature of ecological sustainable entrepreneurs, a peer accountability structure could be implemented among companies or entrepreneurs to hold each other accountable. This will avoid the green prison scenario, where one member implements unsustainable actions (Pacheco, Dean, & Payne, 2010). This would relieve governing bodies from having to enforce policies, and free up their resources to focus on other pressing matters.

This research also supports the findings and the suggestions from Gast, Gundolf and Cesinger (2017) that business schools need to adapt and offer education that assists ecological sustainable entrepreneurs to secure funding and prosper in their business ventures. It furthermore shows how important educating consumers is if they are to engage with green products and ultimately obtain the full value that these products and technologies could offer to the market.

7.4 Limitations of research

As the study was exploratory in nature and was conducted in a limited cross-sectional timeframe, some limitations were identified. These include:

- Generalisability of the study is limited, as although saturation of the keywords was observed, the study was only done with a limited number of participants from the Gauteng and Cape Town regions.
- As the study followed a narrative approach, interviewer bias could have played a role, particularly in terms of guiding the respondents into certain areas through probing further on interesting topics.
- There seems to be some overlap between ecological sustainable entrepreneurship and social entrepreneurship. This relationship was not interrogated, however, so could be seen as future research.
- Although the additional value add that ecological sustainable entrepreneurs

aim to achieve was discussed, the detailed value chain value add of the circular economy and ecological sustainable entrepreneurs' outlook towards the circular economy were not investigated.

7.5 Suggestions for further research

This study confirmed that differences in terminology in the green economy have a defining impact in terms of how the entrepreneurship sector is classified, which creates confusion among customers and consumers. Future studies could explore these differences and assess how coming to an agreement on terminology could affect the entrepreneurial space and ultimately play a role in terms of the social cohesion of the field. Future research can investigate how the ecological sustainable entrepreneurs could use terminology to form a united front to influence and shape policies that are required in the green economy.

Future studies could also investigate and explore the linkages between ecological sustainable entrepreneurship and social entrepreneurship, as the study picked up that there are linkages and cross overs between the two. The extent and impact that the two fields have on each other were not explored.

As ecological sustainable entrepreneurs aim to add value to the value chain of products, together with having an impact, it is proposed that the linkage and the effect of this value could play a key role within the circular economy as well. Therefore, the impact that ecological sustainable entrepreneurs have on the circular economy, through their value base, could be investigated further in future research. The effect that different policies would have on stimulating and promoting the effective roll out of the circular and green economy could also be investigated more deeply, as the study shows the importance and the role that effective policies play.

7.6 Conclusions

Ecological sustainable entrepreneurs have a prominent role to play in transitioning the world from the fossil fuelled economy to the green economy. Therefore, it is important to understand the process that they use in their business ventures.

Demirel, Li, Rentocchini and Tamvada (2019) showed that mature renewable energy companies have a high instance of entrepreneurial activities in the market, which could possibly be extrapolated to traditional energy companies to still remain relevant in the industry as the market is adapting and evolving. It is therefore justified that incumbent firms should also focus on adopting an entrepreneurial mindset and understand the shift of business to a one pillar model. Businesses should therefore understand how their products and services can make an impact on society in order to generate financial returns as well.

Ecological sustainable entrepreneurs find alternatives in order to address challenges that they face and a clear point of pivoting shows how they find different ways to make it work. Furthermore, the use of knowledge through knowledge sharing and education is of vital importance in the green economy due to behaviours that are entrenched from the consumers side, where education and knowledge sharing is part of the process that ecological sustainable entrepreneurs use to add value and have an impact. Gast, Gundolf, & Cesinger (2017) have proposed that business schools need to change their role in terms of enabling ecological sustainable entrepreneurs to flourish in the green economy. Although this is true, the impact of education and knowledge sharing spans much wider and the enablement of green firms also depends on the knowledge and education of the consumers, which would further support other SDGs.

Grinevich, Huber, Karataş-Özkan and Yavuz (2019) have shown that ecological sustainable entrepreneurs can enhance the value of businesses in the green economy, and with understanding of the value set of ecological sustainable entrepreneurs from this study, value can be better understood and extracted from the businesses by aligning strategies and employee recruitment practices. Given the importance placed on trust, empathy and relationships by ecological sustainable entrepreneurs, it is evident that these values would become critical for future business.

Furthermore, it is critical that one continues to break down the barriers that hinders progress in the green economy. Through understanding these barriers faced, they

can effectively be minimised and reduced to facilitate the shift to a green economy. Policymakers must understand the critical role that they play in the shaping of the green economy and ecological sustainable entrepreneurs must understand their role in also developing institutions for effective policies.

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9. Appendix A – Consistency matrix

Understanding the value processes and barriers that ecological sustainable entrepreneurs face

Table 2: Consistency matrix

RESEARCH QUESTION	LITERATURE REVIEW	DATA COLLECTION TOOLS	ANALYSIS
Research Question 1: What are the process and drivers used by ecological sustainable entrepreneurs to build trust and generate financial returns?	Section 2.2 and 2.3	Interview (Questions 1, 2, 3, 4, 5 and 7)	Qualitative content analysis
Research Question 2: What values do ecological sustainable entrepreneurs ascribe to that drive them, and how are they intrinsically motivated?	Section 2.4	Interview (Questions 1, 2, 3, 4 and 5)	Qualitative content analysis
Research Question 3: What external factors influence the behaviours and processes of ecological sustainable entrepreneurs, and are there also internal barriers?	Section 2.5	Interview (Questions 3, 6, 8 and 9)	Qualitative content analysis

10. Appendix B – Interview guide

Some questions in the interview guide were adapted from Rauter, Jonker and Baumgartner (2017).

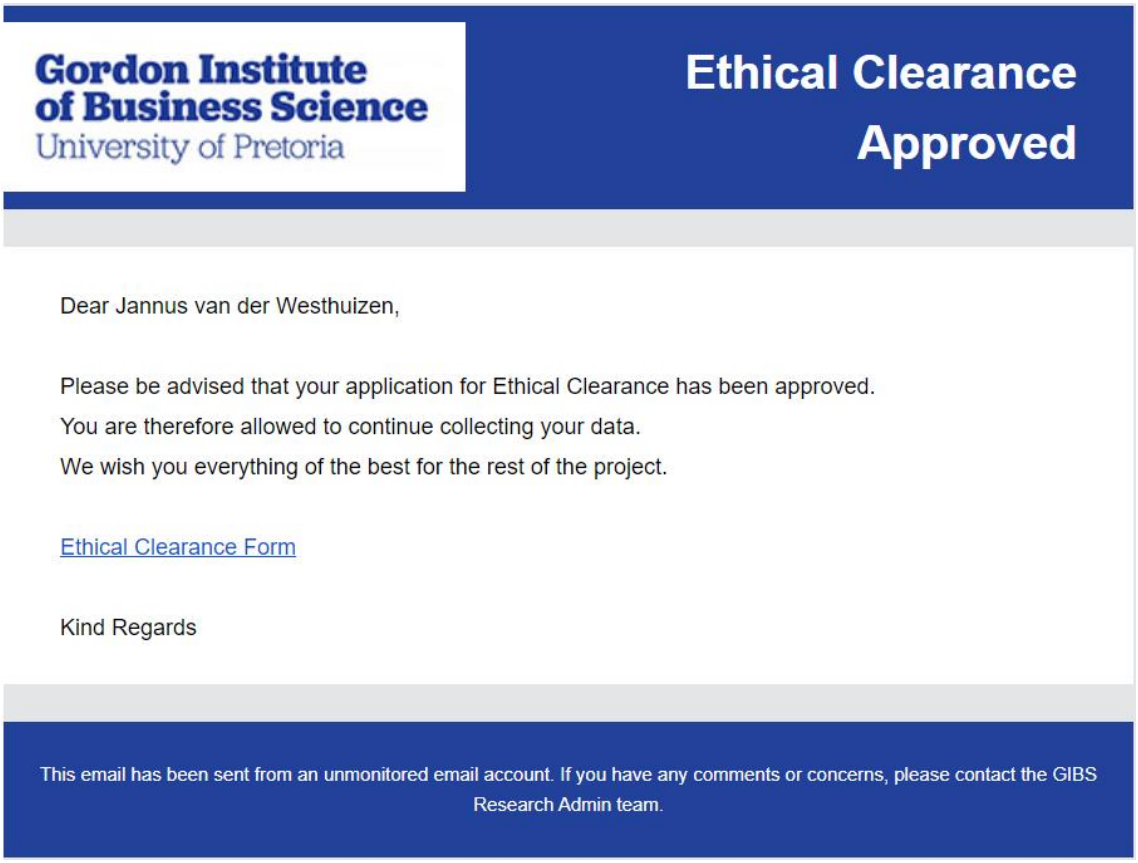
The interview would start with introduction, confirmation of confidentiality and general categorical questions which would include:

1. What is the green product or service that your organisation offers?
2. In which geographical areas do you function in?
3. What is your value proposition to the customer?

This would ensure that the subject is in the correct field and that the interview is started from a common understanding. This would then lead into the semi-structured interview guide as below.

1. Can you describe your perception and understanding of green entrepreneurship and sustainability? Does this resonate with you or is it a market opportunity?
2. Why did you decide to enter a green entrepreneurial business?
3. Tell me about jour journey of stating a green entrepreneurial business?
4. Have you always been in the green entrepreneurial business or how did your business start in the green entrepreneurship area?
5. To what extent is the company's sustainable activities related to your own beliefs, leadership and initiatives?
    a. How do you build trust in your organisation?
    b. What are the values that you hold true and centre to your business activities?
6. Tell me about the challenges that you face during the start-up process and day to day activities. What resistance did you face?
7. Describe your attachment to the area where you operate in.
8. Tell me about what approaches would you consider as being important in your future sustainability actions.
9. Tell me about what market conditions you would like to change in the foreseeable future to accommodate business activities.

11. Appendix C – Ethical clearance



Gordon Institute of Business Science
University of Pretoria

Ethical Clearance Approved

Dear Jannus van der Westhuizen,

Please be advised that your application for Ethical Clearance has been approved.
You are therefore allowed to continue collecting your data.
We wish you everything of the best for the rest of the project.

Ethical Clearance Form

Kind Regards

This email has been sent from an unmonitored email account. If you have any comments or concerns, please contact the GIBS Research Admin team.

12. Appendix D – Atlas TI keywords and groups

Individual codes

Affordability for the target market

Agile principles

Aims to add value in the BoP market through green entrepreneurship

Allow opportunities for incubation of other ventures

Alternative funding models

Alternative outlook of benefits that can be generated

Alternatives products for a difference

Balance feelgood factor with quality

Banning of products through policy change

Barrier - attitude/behaviour

Barrier - fear (uncertain/loss)

Barrier - green economy is extra effort

Barrier - investors just wanting to make money

Barrier - legacy system does not support green economy

Barrier - no holistic thinking

Barrier - overwhelming demands in business

Barrier - people with divergent thinking of sustainability

Barrier - short term focus

Barrier -only do for compliance (tick box exercise)

Barrier-bad standard practices in the industry

Barrier-communicating VP

Barrier-creating confidence in the market to get an opportunity

Barrier-green entrepreneur entering only for the money and not passion

Barrier-lack of complementary products

Barrier-lack of support from government

Barrier-Obtaining finance for a green project

Barrier-political influence

Barrier-smoke screen from government

Being close to the problem and making a change

Big risk taken on for green entrepreneur

Build relationships in communities and with customers

Building customer relationships as a challenge for the business

Business must have a sustainable model to be relevant

Choose your battles

Circular economy outlook

Commitment

Company value on all levels RRR

Competition is tough in the sector

Connect with people on what they identify with

Constant market innovation

Consumers are price driven

Create additional impact beyond the green product

Create livelihoods around solving a problem and not just green

Create ripples in your efforts

Create value other than just profit

Culture of family in business and team orientation

Curiosity in what is to come and seek out eco alternatives

Customers in the market segment know what they are looking for

Customers still want quality from eco products

Cycles of products in green economy

Desire for more involvement from corporates

Did not enter into green entrepreneurship by intention-it just happened

Divestment movement with renewables

Driver - forward thinking people with proactiveness

Driver of the green business

Driver-purpose driven

Driver-technology for energy management

Ecosystem thinking (the world as organism)

Education + training

Effectuation

Energy sector focus on green entrepreneurship

Environment as the centre

Environmental risk focus

Extensive research

Family history of entrepreneurship - also a desire for own business

Feasibility studies of projects

Fit for purpose to optimise the return

Flat organisational structure which encourages collaboration through communication

Flexibility in product thinking

Focus on quality for the BoP market

Funding of green ventures

Funding with VC

Funding-self funding a product in green entrepreneurship

Governance risk focus

Green businesses are generally small-medium

Green changes happen through top down

Green economy is linked to behaviour

Green initiative not launched as too early for market.

Green is about full life cycle cost

Green is not just pure economics

Green product starts at the design

Green products as niche market

Green products for social benefit/impact + making a difference

Green washing as barrier

Green/sustainability is a way of life

Greener, nicer, better alternative at equivalent price

Growing geographical base to Africa

Having a clear vision

High level of maturity

Impact driven business

Influence and persuade

Integration

Interconnectedness ESD

Interference from foreign companies

Investment opportunities in green ventures

It's not about the product, all about behaviour

Knowledge sharing

Lack of knowledge of green economy

Leadership as important driver in green economy shift

Learn from nature and history to solve problems

Link on green products and sustainable products

Long term focus

Look for opportunities in the challenges-pivot

Market opportunity link to product

Market sentiment positive and growing

Misalignment between what companies say and do

Narrow focus mindset as barrier

Need cultural change through green economy for sustainability

Need government active support

Need momentum for sustainability

Not a particular attachment to the environment but sees as opportunity

Not making assumption about target market

Once in green entrepreneurship, does not want to get out

Ownership through accountability and commitment

Passion to enter the business (dream)

Peers to keep each other accountable for sustainability

Policy change as driver

Policy change as ultimate driver

Price sensitive

Problem - terminology

Product as a framework

Product must address the entire value chain

Profit is required for the goal to be sustainable

Profit will follow afterwards

Racial disparity within green entrepreneurship

Regulation/Legislation negative effect

Regulation/Legislation-positive effect

Requires inclusivity in approaches

Resource constraints to deal with

Respond to ethics in business

Rewarding to make a difference

Sales nationally but social impact regional attachment

Security of supply as value proposition

See the bigger impact

Seeks low environmental impact compared to existing

Sell green products at a premium

Sensing alternatives to how the current system works

Separate green and social entrepreneurship

Shared value and vision

Skills are required in the industry

Slow changes through consumer behaviour

Social risk focus

Stimulates job creation

Strengthen/build the existing system and not destroying it

Support for profit redistribution for social impact

Think modular and then scale and expand

Transport as a challenge for fulfilment

Triple p-bottom line

Trust - speak the language people understand

Trust through 2-way communication

Trust through knowledge

Trust-by being truthful in your value proposition

Unconventional business model approach

Understanding integration

Unexpected customer segment from value proposition

Use alternative methods for sustainability

Use leverage points to express

Use of TAM for products

Use social media for awareness-communication

Value - Desire to give back to the world

Value - empathy

Value - Green outlook from upbringing

Value - Integrity

Value - Intrinsically embedded

Value - Intrinsically embedded through ethical behaviour

Value - Intrinsically embedded-gives purpose

Value - Intrinsically embedded-takes ownership of actions

Value - stand up and fighting for what is right

Value-challenges the status quo

Value-personal belief to look after the environment

Value-Solution from Africa for Africa

View self as a specialist in field of social economic benefit

Code groups

Barrier – customer

Barrier – business and industry

Barrier – personal

Barrier – political/regulatory

Funding

Isolated concerns

RQ1 – Process/drivers financial returns

RQ1 – Process/drivers – trust

RQ2 – Values ascribe to

RQ3 – External factors

Techniques used