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The barriers to green entrepreneurship in developing countries

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ABSTRACT

This study set out to investigate the barriers impeding the emergence and proliferation of green small and medium enterprises (SMEs) in South Africa. Despite much interest in the potential contribution of SMEs through exploiting emergent green entrepreneurship opportunities, local investors have not been as active in the green space. While the barriers to green entrepreneurship have been investigated in developed country contexts; as well as in transition economy contexts; very little is understood about what factors impede green entrepreneurs in developing country contexts. The challenges perceived by South African green entrepreneurs in terms of access to finance; government support programs and policies; as well as market demand for green products and services were explored.

A qualitative exploratory study was performed to gather new insights into the barriers impeding green entrepreneurs. Semi-structured in-depth interviews were conducted with 10 owner-managers of small green entrepreneurship ventures. Audio recordings of the interviews conducted with respondents were made and transcribed utilising coding and thematic analysis.

The key findings of the study were that that green SMEs face significant challenges in terms of access to finance and access to adequate government support. Challenges in terms of access to finance pertained to the accessing capital, high interest costs, collateral; and loan tenors. Challenges pertaining to the government were access to well-designed policies and programs; officials with poor knowledge about green technologies; and corruption in government departments and agencies. Parallels were drawn between the extant literature and the key findings; however, it was determined that there still are additional dimensions to the barriers to green entrepreneurship in developing countries that are yet to be fully explored in the literature.

Keywords: green; sustainable; entrepreneurship; developing countries; barriers;

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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CHAPTER 1: INTRODUCTION TO THE RESEARCH PROBLEM

1.1. INTRODUCTION

Silajdžić, Kurtagić, and Vučijak (2015) define green entrepreneurs as those entrepreneurs undertaking sustainable innovations primarily with the intention of promoting a low carbon or green economy. Promoting this specific type of entrepreneurship has been an area of particular interest to researchers and policy-makers in pursuing the goal of a transition to a more sustainable economy (Pacheco, Dean, & Payne, 2010). This is particularly because they recognise the potential of environmentally oriented entrepreneurship for driving the transformation towards socially and ecologically sustainable economic systems (Pacheco et al., 2010).

There is also much interest in the potential contribution of Small and Medium Enterprises (SMEs) through exploiting emergent green entrepreneurship opportunities (Belz & Binder, 2017; Marin, Marzucchi, & Zoboli, 2015). This is because green entrepreneurship, especially by SMEs, is considered to be one way of promoting diversified and competitive markets; all the time contributing to economic growth by creating jobs and facilitating a fairer distribution of income and wealth (Levinsohn & Brundin, 2011). In this regard, green entrepreneurship possesses the potential to contribute to rapid economic growth as well as to a transition to a more sustainable society (Belz & Binder, 2017).

The South African Government has been quite explicit about its perception of the role of SMEs in the Green Economy. In terms of current strategy, President Cyril Ramaphosa has articulated a New Deal for South Africa targeted at unlocking progress towards realisation of NDP Vision 2030 (Sithole, 2017). In this ten-point action plan there was an explicit articulation of the need to harness green entrepreneurship opportunities for instance by looking into how new renewable energy-based generation technologies could be utilised in small-scale decentralised energy generation (Sithole, 2017).

From this articulation of the Governments priorities, it is evident that greening of the economy through innovation and entrepreneurship, led particularly by SMEs, is an explicit policy goal for the Government that is well supported. However, according to the World Bank, in South Africa, “despite the pressing need for green investment and the business opportunities offered by the green economy, local investors have not been as active in the green [small and growing business] space” (White, 2018).

The barriers to the emergence of green enterprises thus reveal themselves as critical obstacles to realisation of priority Government policies and strategies; as well as to the imminent strategies of Green SMEs.

From a research and practical view, consequently, it is therefore a beneficial exercise to investigate the nature and dimensions of the barrier to green entrepreneurship in developing countries, with a view to understanding and resolving them. This chapter introduces the concept of green entrepreneurship; and introduces the discussion around the barriers facing green entrepreneurs and impeding their proliferation.

1.2. RESEARCH AIM AND PURPOSE

The purpose of the study is to understand the barriers and challenges preventing the establishment and scaling up of green small and growing businesses in the context of developing countries; as specific contextual factors tend to shape the green entrepreneurship ecosystem in specific countries. It sets out to contribute to the understanding of the challenges preventing the establishment of SME green ventures, with emphasis on South Africa.

The shortfall between government expectations for the proliferation of Green entrepreneurs and reality on the ground, in terms of the emergence of such entrepreneurs, is not a phenomenon specific to developing countries such as South Africa. Bergset (2018); Muñoz and Dimov (2015); and Pinget, Bocquet, and Mothe (2015) examined the barriers to green entrepreneurship in developed country contexts; and Kronenberg and Bergier (2012) and Silajdžić et al. (2015) considered transition economy contexts.

What has been established is that often-times, green SMEs are constrained by a lack of access to markets, access to finance; inadequate management capacity and a lack of adequate support from the government in those respective jurisdictions. However, because these critical factors preventing the emergence of Green Entrepreneurs tend to be context specific, an investigation of the factors as they relate to a developing country context is warranted.

This is supported by Tan (2001) as well as Kronenberg and Bergier (2012) who observed that, in general, examples of best practice in the field of sustainable development tend to be cited from developed countries; and SMEs from developing and transition

economies have not received adequate attention despite that in such economies their impact could be the greatest.

Exploration of the South African context may provide insights on the challenges preventing the establishment of green SMEs in developing countries, and in South Africa in particular. Directing attention to this real and pressing concern may point out how to unlock the significant opportunities that may exist, thus allowing for the establishment of more sustainable enterprises and the much-needed employment opportunities that come with that.

1.3. CONTRIBUTIONS TO RESEARCH

Previous research studies have mostly examined the barriers to green entrepreneurship in developed economy contexts (Bergset, 2018; Hockerts, Muñoz, Janssen, & Nicolopoulou, 2018; Levinsohn & Brundin, 2011; Pinget et al., 2015) as well as in transition economy contexts (Kronenberg & Bergier, 2012; Silajdžić et al., 2015).

Exploration of the South African context may provide insights on the barriers to green entrepreneurship in a developing economy context, particularly because from the previous studies, the factors impacting on Green Entrepreneurship seem to be very context specific. Such factors, for instance may include that the policy regime is inadequate due to problems such as the objectives of climate change and socio-economic development not being congruent; or the state not having sufficient capacity to match its stated policy objectives in implementation (Silajdžić et al., 2015). The level of development of key support mechanisms such as debt and capital markets is another example of a context specific factor that may impact on Green Entrepreneurship (Bergset, 2018).

Several research efforts have been undertaken into the area of sustainable entrepreneurship by researchers in South Africa recently. For instance, Tshikovhi (2014) examined how important sustainable entrepreneurship could be in relation to local economic development in the context of particularly impoverished communities in South Africa; Agster, Slalova and Heuer (2015) examined the factors impeding the achievement of triple-bottom line (i.e. Sustainable Entrepreneurship) impact in South African enterprises; and Nhemachena and Murimbika (2018), utilising a positivist quantitative approach examined “entrepreneurial motivations that drive sustainable entrepreneurship in Gauteng Province and estimated the relationships between these

motivations and enterprise performance” (p. i). This study contributes to the academic research in the field by focusing particularly on Green Entrepreneurship as a narrower concept than sustainable entrepreneurship. To the researcher’s knowledge, there is a clear gap in knowledge as a study has not yet been conducted in South Africa that examines the barriers that prevent small green enterprises from being established.

1.4. LAYOUT OF THE RESEARCH PAPER

This chapter briefly introduced the concept of green entrepreneurship as well as discussed why it is an interesting area of inquiry. The remainder of the document is organised as follows:

- Chapter 2 reviews seminal and recent literature relating to green entrepreneurship and its significance, including enabling factors and barriers to the establishment of green enterprises; and seeks to explain the background to the research objectives;
- Chapter 3 builds research propositions emerging from the research objectives outlined and developed upon in the second chapter;
- Chapter 4 outlines the methodology by which the research was conducted
- Chapter 5 is where the findings of the study are presented in detail;
- Chapter 6 presents an analysis of the findings detailed in Chapter 5; and finally
- Chapter 7 presents a summary of the discussion in the preceding chapter and concludes the study. It also sets the scene for future research to be conducted in relation to the concept of Green Entrepreneurship.

1.5. CONCLUSION

Successful green entrepreneurs are seen as critical to every economy as, often, they are the basis for invention, development and diffusion of new sustainability-oriented ideas, technologies, products and services (Hall, Daneke, & Lenox, 2010; Levinsohn & Brundin, 2011). However, in South Africa, the proliferation of green entrepreneurs has not met expectations, despite stated objectives by the government to support and promote green entrepreneurship (White, 2018).

Directing attention to this real and pressing concern may point out how to unlock the significant opportunities that may exist in the green economy; thus, allowing for the establishment of more sustainable enterprises and the much-needed employment opportunities that come with that. The possible mitigation measures identified to the

barriers preventing green entrepreneurship may be a useful platform for entrepreneurs and business to prioritise and lobby the government for intervention through appropriate policies and programs. The study seeks to determine the fundamental constraints of green entrepreneurship in the developing country context; and to clarify the implications of economic and institutional dimensions on the establishment of such new businesses.

CHAPTER 2: THEORY AND LITERATURE

2.1. INTRODUCTION

According to Boote and Beile (2005), a literature review serves as the foundation of any study. As such it should achieve multiple goals including setting the context of the study, outlining its scope, and justifying the choices made by the researcher (Boote & Beile, 2005). Furthermore, it assists in locating the study within the historical and scholarly context of the already existing body of knowledge (Boote & Beile, 2005).

The literature review presented below is based on academic articles of the topic of as well as related theories. Conducting a review of existing literature assisted to distil the research problem as well as subsequent research questions. While the preceding chapter briefly introduced the concept of green entrepreneurship as well as discussed why it is an interesting area of inquiry, this chapter reviews the relevant literature as it relates to green entrepreneurship and the barriers impeding its proliferation in South Africa. This includes a presentation on the concept of green entrepreneurship as distinct from-, and in perspective to-, other related forms of entrepreneurship such as sustainable entrepreneurship and social entrepreneurship. A theoretical framework for understanding green entrepreneurship and its relation to economic development as well as to the motivations of green entrepreneurs in pursuing this form of entrepreneurship is also provided. Finally, the extant literature to date regarding the barriers preventing green entrepreneurship is summarised. Gaps in the literature warranting further research attention are also highlighted.

2.2. CONCEPTUAL AND THEORETICAL FRAMEWORK ON GREEN ENTREPRENEURSHIP

2.2.1. Green Entrepreneurship, Innovation and Sustainable Development: Schumpeter's Creative Destruction Theory

According to Ahmad and Seymour (2008:6), entrepreneurship as a concept has been widely "discussed from multiple research perspectives" resulting in differentiated approaches to defining the term. Those multiple perspectives include those employed in the field of management (Drucker, 1985; Ghoshal & Bartlett, 1995); anthropology (de Montoya, 2000), social sciences (Swedberg, 1994) and economics (Kirzner, 1973, Schumpeter, 1934).

According to Dean and McMullen (2007), traditional theories of environmental economics tend to emphasize how market failures encourage entrepreneurial activity that is degrading to the environment; and hinder entrepreneurs from addressing environmental problems (Pigou, 1932). More specifically, the fundamental problem is seen as being the inability of markets to efficiently allocate some environmental resources, due to certain characteristics inherent and unique to them (Dean & McMullen, 2007). According to Dean & McMullen (2007: 52) such perspectives have led to a tendency to look towards “regulatory intervention as the primary solution to environmentally relevant market failures and has created a general lack of knowledge about the means by which entrepreneurs can help solve environmental challenges.” However, Dean and McMullen (2007) advocate for a greater focus on how entrepreneurship could be harnessed towards opportunities focused on resolving environmental challenges.

As a result, focus is particularly paid to Joseph Schumpeter’s approach to entrepreneurship as drawn from the field of economic development (Schumpeter, 1934). This is because, according to Schumpeter (1934), the entrepreneur is an economic change agent, resolving economic and social concerns and thus facilitating the process of economic development. Such economic and social concerns would include climate change; its causes and implications arising from anthropogenic activity and its impact on the environment (Dean and McMullen, 2007; Schaltegger and Wagner, 2011; York and Venkataraman, 2010).

In his theory of economic development, Schumpeter (1934) advocated a central role for the entrepreneur in the process of economic development. It is this centrality that warrants a focus on the green entrepreneur as we consider the requisite conditions to fostering a context under which green entrepreneurship can thrive (York & Venkataraman, 2010). According to Schumpeter (1934), economic development is a result of “spontaneous and discontinuous change in the channels of flow; disturbance of equilibrium which forever altered and displaced the equilibrium state previously existing” (p.64). Innovations are induced by entrepreneurs as they pursue different ways to realise profits and to reduce costs may include among others: introducing a new production method; introducing a new product; venturing into new markets; establishing new supply sources of raw materials or intermediate goods; and, or, industrial re-organisation, for instance by establishing a monopoly (Schumpeter, 1934).

The innovation and creative destruction aspect discussed above is the justification for the enthusiasm by government officials and researchers who increasingly see entrepreneurship as a catalytic agent to solving sustainability challenges (York & Venkataraman, 2010) and a significant force for transitions to more environmentally sustainable economic arrangements (Muñoz & Dimov, 2015; Pacheco et al., 2017).

This view of the entrepreneur as an innovator, facilitating change, and thus economic development was endorsed by Drucker (1985) who saw entrepreneurship and innovation as “much needed in society” due to their contribution in facilitating continuous economic transformation (p. 254). According to Cohen and Winn (2007: 29), market imperfections such as “inefficient firms, flawed pricing mechanisms, externalities and incomplete information” have negative environmental implications but also present significant opportunities to green entrepreneurs to create innovative businesses. This also aligned with the views of York and Venkataraman (2010) who observed that entrepreneurship was more a solution than a problem in relation to the issues of environmental degradation.

However, according to Hall et al. (2010), the extent to which a positive relationship exists between entrepreneurship and sustainable development has not been adequately established in developing country settings. Dhahri and Omri (2018) pursued this line of inquiry and looking at 20 developing¹ countries from 2001 to 2012 investigated whether indeed entrepreneurship simultaneously contributed to economic growth, the improvement of social conditions, and the advancement of environmental objectives. Their findings were that while entrepreneurship contributed to the former two constructs, its relationship with environmental considerations was negative.

This finding fundamentally challenged the prevailing and growing view that resulting from environmental innovation, particularly by small firms, could be a significant contribution to economic growth (Dean and McMullen, 2007; Schaltegger and Wagner, 2011; York and Venkataraman, 2010). This is the view that currently pre-dominates academic research, policy and business discourse.

¹ Argentina, Brazil, China, Colombia, Egypt, India, Indonesia, Iran, Malaysia, Mexico, Morocco, Nigeria, Pakistan, Peru, Philippines, Romania, South Africa, Thailand, Tunisia and Turkey.

After reviewing the literature around the topic of entrepreneurship and the contribution and the contribution it can make to sustainable development, this paper aligns with the Schumpeterian view of the entrepreneurs as a change agent; introducing innovation and harnessing new entrepreneurial opportunities, ultimately introducing dynamic change into the economy leading to realisation of profits and economic development (Schumpeter, 1934).

2.2.2. Defining and Distinguishing Green Entrepreneurship

Leading off from a discussion of the contribution of entrepreneurship to economic development into green entrepreneurship, one of the immediate challenges is to define the concept; and justify why it warrants specific investigation - particularly as distinct from other forms of entrepreneurship that have been conceptualised as contributing to economic development, such as for instance sustainable entrepreneurship and social entrepreneurship.

As previously discussed, a more traditional conceptualisation of an entrepreneur is of an individual who conceives of an emergent business opportunity and accordingly assumes the associated risks in order to convert that opportunity into real profit-making opportunity (Schumpeter, 1934; Kirzner, 1973). In this regard, these individuals are able to incubate an idea, advocate for its adoption; coordinate the resources required to bring the idea to commercialisation (be they financial, human, and or technological); and finally launch the business venture and manage its growth and further development (Schumpeter, 1934). According to Venkataraman, 1997), entrepreneurship occurs when individuals identify and exploit an identified need or want that is deemed as going unmet; which they then venture to satisfy. In so doing, they transform what is the status quo to a new commercial reality. Bringing about this change is what Schumpeter's (1934:81) metaphor of "Creative Destruction" is all about. Where the status quo is disrupted; old ways of carrying out business are transformed. Entrepreneurs are responsible for introducing into the system new ideas for innovation and adaptation.

According to Kirkwood (2010), the bulk of research in the last century has been focused on how to create more entrepreneurs as well as understanding the motivational aspects of why people elect to become entrepreneurs (Reynolds et al., 2005; Juárez-Nájera, Rivera-Martínez, & Hafkamp, 2010). However, more recently there has been emerging interest to understand entrepreneurship, even beyond its contribution to economic growth (Schumpeter, 1934) but looking into its impacts on society and its priorities. Hence the emergence as new research fields of sustainable entrepreneurship (Parrish,

2010; Young & Tilley, 2006; Fowler, 2000) and environmental entrepreneurship (Linnanen, 2002); anchored by an understanding of the entrepreneur's motivations as extending beyond simply the profit realisation imperative; but also focusing on other "non-economic motivations and outcomes that exist in many entrepreneurial actions" (Thompson, Kiefer, & York, 2011: 206).

According to Thompson et al. (2010), green entrepreneurs are not significantly different from more traditional commercially focused entrepreneurs. The two types of entrepreneurship are essentially the same in that almost all of the laws of entrepreneurship apply to them; including the relationship between the assumption of risk and the realisation of profit; to need to correctly time the market when launching a venture; as well as the need to adequately resource the venture in terms of human and financial capital (Pacheco et al., 2010). While the different types of entrepreneurs are focused on extension of the concept of entrepreneurship self-interest beyond solely financial considerations, what remains is that the key mechanism for identifying opportunity, determining prices, and allocating resources is entrepreneurship and not the non-economic focus, be it the societal role, entrepreneurial motivation or approach employed (Thompson et al., 2011). What makes a green entrepreneurship venture distinct from a conventional entrepreneurship venture is that there are additional considerations pertaining to the environment and applicable to it which need to be addressed (Pacheco et al., 2010). Failure to address these additional considerations most likely will lead to the green venture being unsuccessful (Thompson et al., 2011).

Kirkwood and Walton (2010) observed that arriving at a definition of green entrepreneurship is not an easy task. As a concept it has received growing attention ever since it was initially mooted in the 1990s (Kirkwood & Walton, 2010). This increasing interest is reflected not only in the recent proliferation of research on the topic but also in the multiplicity of terms that are used to refer to what essentially may be the same concept (Kirkwood & Walton, 2010). Terms that have been used to describe green entrepreneurship include environmental entrepreneurship, ecological entrepreneurship, ecopreneurship and eco-entrepreneurship to name a few (Chell, Spence, Perrini, & Harris, 2016; Figge, Hahn, Schaltegger, & Wagner, 2002; Linnanen, 2002).

According to Thompson et al. (2011), further complicating matters has been the tendency to extend the terms sustainable entrepreneurship and social entrepreneurship to cover green entrepreneurship activities as well. It is often the case in the literature that these terms, are used interchangeably. This is attributable to the absence of consensus

as to the discrete definition of what each type of entrepreneur should be; and the extent to which a non-green entrepreneur, for instance, can be distinguished from a green entrepreneur (Thompson et al., 2011; Chell et al., 2016). Venkataraman (1997) observed that often-times researchers discuss these various forms of entrepreneurship without providing clear perspectives within the specific field of research of how the concept is to be operationalised.

So, it is often the case that when seeking to discuss green entrepreneurship an effort must be made to bring clarity and definition to what is actually being discussed. This is a difficult undertaking; further complicated by a lack of definition firstly as to what constitutes an entrepreneur; and then further on how to distinguish a green entrepreneur from other entrepreneurs whose intent may embody some aspect which also yields broader benefits to himself and society beyond just profitability (Chell et al., 2016).

In the literature, a definition put forward by Kirkwood and Walton (2010) seems to be the most widely employed and implies that green entrepreneurs are simply those entrepreneurs who establish businesses based on environmental principles. This is similar to a definition provided by Silajdžić et al. (2015) who sees green entrepreneurs as those entrepreneurs who focus on exploiting opportunities with strong underlying green values and who sell green products or services (p. 377). From these definitions, what particularly distinguishes green entrepreneurs is that their fundamental conviction about the importance of environmental concerns, specifically over just narrowly defined commercial success (Thompson et al., 2011).

Even with such a definition, this still leaves the question of the extent to which green entrepreneurship - which is the focus of this paper - is distinct or similar to these other types of entrepreneurship; and whether insights and learnings drawn from an analysis of the different forms are necessarily transferable.

This is a crucial question which warrants attention as the absence of clarity can lead to unnecessary duplication of research efforts, general confusion and slowing down of research progress in the field (Thompson et al., 2011). According to Venkataraman (1997), without clarity, there will be a tendency towards an overlap of research efforts both in terms of theory building as well as the conducting of empirical research resulting in a wasteful allocation of good research energy that would otherwise be directed at resolving more pressing research issues. An effort is made in this paper therefore to

distinguish green entrepreneurship from social entrepreneurship and from sustainable entrepreneurship.

Thompson et al., (2011) explored the question of the differences and similarities between green entrepreneurship, social entrepreneurship and sustainable entrepreneurship by reviewing research; and concluded that while essentially there were multiple areas of similarity, the three types of entrepreneurship could be clearly distinguished from each other and even from more traditional and commercial conceptualisations of entrepreneurship.

Summarised literature on social entrepreneurship focuses on the manner in which entrepreneur's harness opportunities that fall beyond the traditional commercial focus and instead are focused on social value creation (Dacin, Dacin & Tracey, 2011); and exploiting emergent opportunities altruistically (Bacq & Janssen, 2011). A unique characteristic of social entrepreneurship then is "how it shifts the focus from traditional commercial business to include other types of organisations e.g. NGO's, specialised public and private organisations and newly emerging organisations as its areas of research" (Thompson et al., 2011: 210-211). A significant unique and differentiating conceptual aspect of social entrepreneurship is the extent to which entrepreneurs are motivated beyond securing profitability; to the extent that often they will forego profitability in order to secure their social objectives (Thompson et al., 2011).

However, sustainable entrepreneurship is a different subdomain of entrepreneurship representing an interest in the application of entrepreneurial approaches to environmental and social problems (Muñoz & Cohen, 2018). According to Patzelt and Shepherd, (2011), the core idea that belies sustainable entrepreneurship is that the entrepreneurial activities conducted with the goal of harnessing business opportunities identified ought not to impact negatively on the society and the environments in which they are undertaken. Where possible, they should in fact foster and rehabilitate the environment such that ultimately a sustainable balance is achieved between the interests of nature, society and economic activity conducted (Parrish, 2010). Sustainable entrepreneurs explore entrepreneurship opportunities by combining objectives such that in the design of their venture they are able to realise simultaneously environmental, social and economic benefits. Elkington (2013) concurred and highlighted the focus by sustainable entrepreneurs on what is termed as the triple bottom line (3BL). With this focus on sustainability and entrepreneurship has been a growing maturity as a legitimate subfield within the broader domain of entrepreneurship (Muñoz & Cohen, 2018).

Table 1: Distinguishing Green, Social and Environmental Entrepreneurship

Entrepreneurship Type	Entrepreneurial Focus	Definitions
Green Entrepreneurship	Environmental/ Ecological	Green entrepreneurs are simply those entrepreneurs who establish businesses based on environmental principles (Kirkwood & Walton, 2010; Silajdžić et al., 2015)
Sustainable Entrepreneurship	Triple Bottom Line	Sustainable entrepreneurs conduct business with a view to achieving a sustainable equilibrium between the interests of nature, society and commercial activity - the triple bottom-line (Parrish, 2010; Elkington 2013)
Social Entrepreneurship	Creation of Value for Society	Social entrepreneurs pursue business for altruistic reasons to exploit opportunities that can create value for broader society (Dacin et al., 2011)

Having defined the different types of entrepreneurship, there is still a need to discuss why they should be conceived off as different; and as such highlight the differences between them. Dean and McMullen (2007) conceptualised green entrepreneurship as simply a subset of the broader field of sustainable development. They defined sustainable development as “the process of discovering, evaluating, and exploiting opportunities that are present in market failures which detract from sustainability” (Dean and McMullen, 2007:58). By their analysis, green entrepreneurship is simply a subset of sustainable entrepreneurship, focusing more instead on “environmentally relevant market failures” (Dean and McMullen, 2007:58).

Thompson et al., (2011) did not concur with the view that green entrepreneurship is a subset of sustainable entrepreneurship. They argued that while there are obvious similarities between sustainable, social and green entrepreneurship (the most obvious being their focus beyond the narrow profitability) there is still sufficient difference that they should be perceived as different (Thompson et al., 2011). They perceived Dean and McMullen's (2007) theory as divergent from prior work on sustainable entrepreneurship that had been done. That body of work tended to place emphasis on the triple bottom line (3BL) aspect as being the most important characteristic of sustainable entrepreneurship; and striking the balance between natural social and economic

concerns being the primary consideration. This was different from Dean and McMullen (2007) who in focusing on the market failure aspect and the resultant economic opportunity which the entrepreneur seeks to exploit, in fact elevated the economic aspect of sustainability above the considerations pertaining to nature and society and make it the sole focus of the concept (Thompson et al., 2011).

According to Thompson et al. (2011), in the same way that green entrepreneurship should be defined as distinct from sustainable entrepreneurship, so it should be understood to be distinct from the concept of social entrepreneurship. While social entrepreneurship scholars focus on the resolution of broad social concerns, green entrepreneurship scholars are focused on how opportunities are exploited to yield a combination of ecological and economic benefits (York & Venkataraman, 2010). When entrepreneurs who focus on environmental and ecological aspects are categorised as social - simply because these constructs can be defined within the broader category of social - this tends to prevent clarity and precision and detracts rather than enhances the richness that would otherwise be realised within what could be a distinct context of research (Thompson et al., 2011).

The distinction of the different types of sustainability-related entrepreneurship is an unsettled issue in the extant literature (Gast, Gundolf, & Cesinger, 2017; Figge et al., 2002; Thompson et al., 2011). While it is evident that there is a clear relationship between green entrepreneurship, social entrepreneurship and sustainable entrepreneurship; (Thompson et al., 2011) conclude that it is clearly possible and practical to differentiate these concepts from each other and hence worthwhile to study them separately.

This paper contributes by adding to the seminal knowledge on the specific area of green entrepreneurship, looking at it as a narrower concept than sustainable entrepreneurship or social entrepreneurship. Green entrepreneurs are defined as those entrepreneurs undertaking sustainable innovations primarily with the intention of promoting a low carbon or green economy.

2.3. BARRIERS TO GREEN ENTREPRENEURSHIP

Linnanen (2002) developed a framework for understanding the barriers to green entrepreneurship and defined them as:

- (i) the barrier of access to finance required to establish green ventures; and constrained around perceptions about the riskiness and potential profitability of such ventures;
- (ii) the barrier of access to markets, in that market demand for green products may be insufficient to generate sustainable returns; and
- (iii) the barrier of ethical justification in that because green entrepreneurs define their success criteria in a multidimensional way (including financial and ethical considerations). Such an approach presents challenges to potential enablers in the network, such as financing institutions, who may be more predominantly concerned solely about fact-based criteria (such as profitability) and not the additional value-based criteria.

However, Linnanen's (2002) framework emerged from reviewing multiple case studies in the developed country context of Finland and as such may not necessarily be generalised to a developing country context, particularly because key considerations such as state capacity to support green entrepreneurs are likely to differ widely from those prevailing in non-developed country contexts (Kronenberg & Bergier, 2012)

Silajdžić et al. (2015) considered the challenges facing green entrepreneurs in countries in transition from previously socialist regimes and presented a slightly modified framework. Transition economies are those countries undergoing a transformation from previously having a centrally planned economy to a capitalist-oriented economy. Significant structural transformations are undertaken to facilitate this transformation and establish the appropriate market-based institutions. This presents a unique set of framework conditions under which the barriers to green entrepreneurship were examined (Silajdžić et al., 2015).

Looking specifically into the cases of such as Bosnia and Herzegovina, (Silajdžić et al., 2015) emerged with results similar to those observed by Linnanen (2002) According to Silajdžić et al. (2015), predominantly, the challenges facing green entrepreneurship were related to: (i) the role and mode deployed by the government in promoting green entrepreneurship, particularly in designing appropriate public policies and programs conducive to this; (ii) the role of knowledge and awareness in fostering the ambitions of green entrepreneurs and in defining entrepreneurial values; as well as (iii) prevailing perceptions around the riskiness of green entrepreneurship by key enablers in the ecosystem such as venture capitalists and other financing institutions (Silajdžić et al., 2015).

Overlapping the analysis presented by Linnanen (2002) and Silajdžić et al. (2015) we consider whether the perceived barriers to green entrepreneurship in developing countries are related to challenges in accessing capital; and/or challenges in market awareness and demand; and/ or challenges in securing adequate government support measures to promote the green economy. Other researchers in the extant literature have considered the barriers according to the individual thematic areas, as is discussed in the ensuing sections.

2.3.1. Access to Finance

Like any other entrepreneurial venture, access to resources and particularly financial resources are a fundamental concern for businesses in the start-up phase (Schaper, 2002). The Global Entrepreneurship Monitor has each year cited this as one of the major constraints on entrepreneurial activity in South Africa since the inception of the study in 2001 (Herrington, Kew, & Mwanga, 2016).

According to Bergset and Fichter (2015) there are different types of financing required by an entrepreneurial venture at inception and this largely depends on the nature of investment to be taken, the amount of capital required for financing as well as the stage at which the entrepreneurial venture is, amongst other factors. In the same study, Bergset and Fichter (2015) found that in the case of green start-ups, increasingly there were financing institutions focusing specifically on them, beyond the typical financiers often found in the ecosystem focusing on entrepreneurship in general. These tended to include sustainability-oriented angel investors, philanthropic organisations and government-owned financing institutions working to promote public mandates such as development of the green economy (Bergset & Fichter, 2015).

Furthermore, Bergset (2018) observed that in countries with more developed financial systems, commercial institutions such as venture capitalists and banks are also taking an interest in the space and recent times have seen a proliferation of specialised instruments and funds targeting sustainable investments. Despite this, Bygrave and Quill (2006) found that a substantial amount of the capital required to establish green start-ups still tends to emanate from entrepreneurs themselves. Through the use of online platforms, alternative avenues for funding, such as crowdfunding, were emerging as established by Bocken (2015).

Prevailing economic thought postulates that under certain conditions, markets will not effectively allocate resources, particularly social and environmental resources (Pacheco et al., 2010; Pigou, 1932). It is within such conditions that some green entrepreneurs choose to operate focusing on challenges such as resolving externalities, information incompleteness and the challenges specific to public goods (Ahmad & Seymour, 2008). Engaging such challenges, however, creates additional problems for these green entrepreneurs, challenges beyond those experienced by traditional entrepreneurs (Di Domenico, Haugh, & Tracey, 2010; Shepherd, Patzelt & Baron, 2013; York & Venkataraman, 2010).

According to Bergset and Fichter (2015) new entrepreneurship ventures will often experience challenges in securing resources to finance their activities. Often-times, challenges arise due to the inability of funders to determine appropriate levels of risk that they are willing to assume in an innovation-based investment opportunity placed before them (Bergset & Fichter, 2015; Bergset, 2018). This finding was shared by Cosh, Cumming, and Hughes (2009) who observed that common issues that were raised by financiers were discomfort with financing emerging technologies or approaches against which they had no benchmark to measure the risk. This was confirmed in Bergset and Fichter's (2015) finding who established that the related issues of green entrepreneurs lacking credit-risk mitigating factors such as lacking some form of collateral or lacking an established credit history by the firms requiring financing was a deterrent to funding institutions (Bergset & Fichter, 2015).

However, for green entrepreneurs, trying to secure finance also becomes even more difficult as financiers were also concerned with issues such as 'mission creep/leakage' where the focus on a specific ecological or environmental issue drifts sideways (Bergset & Fichter, 2015). Financiers were also unable/unwilling to provide the 'patient' capital green investments may require, and this is often due to mismatches in investor and investment time horizons (Bergset & Fichter, 2015). Financiers may also be reluctant to provide financing for investments in areas where their perception is that markets do not function well (Patzelt & Shepherd, 2011; York & Venkataraman, 2010). Based on these constraints, Bergset and Fichter (2015) concluded that financing of green entrepreneurs must be significantly different from financing other types of ventures which do not necessarily have an environmental focus.

However, Bergset (2018) conducted a survey of start-ups in Finland, Germany and Sweden looking into the challenges experienced by green start-ups in trying to access

investment capital. The study showed that it could not be concluded that green entrepreneurs experienced challenges significantly different to other start-ups when trying to access capital. Rather it was issues such a high level of innovativeness in the projects to be financed; and the paucity in business management skills that were often a cause for funders to reject applications for financing by such entrepreneurs (Bergset, 2018).

In summary, there is ambiguity as to the nature of the ultimate challenges preventing green entrepreneurs from securing financing. From the extant literature it seems that constraints could be any of the following (or even a combination of them): perceived high levels of risk with the technologies and/or approaches associated with Green Entrepreneurship; high levels of capital required; perceived low prospects for acceptable returns; or, the need for “patient” capital which can tolerate long investment periods sometimes associated with investments of a green nature (Bergset & Fichter, 2015; Bergset, 2018).

Reviewing the literature, it is apparent that despite the significance of finance and the contentiousness about its impact as a barrier to green entrepreneurship, this particular area of entrepreneurship finance has not received adequate research attention (Bergset, 2015; Bergset & Fichter, 2015) and is still a nascent area of research (Bergset, 2018; Bocken, 2015). Specifically, on green entrepreneurship, much of the attention has been on the funding of clean-technology (Clean-tech) businesses which tend to be funded by venture capitalists and tend to require large amounts of capital (Bocken, 2015; Ghosh & Nanda, 2010; Hargadon & Kenney, 2012).

Looking into the extent to which venture capital financiers were well poised to support the emergent cleantech industry, Ghosh and Nanda (2010) concluded that there was need for syndication across financiers in order to meet the large capital requirements of US clean-tech developers. Furthermore, they identified the need for contract modalities customised to the specifics of the industry including longer funding time-frames to accommodate the emergent nature of the industry (Ghosh & Nanda, 2010). Support from the US government in terms of providing subsidies to the industry was also found to be a significant enabler (Ghosh & Nanda, 2010).

However, considering the same topic of venture-capital and cleantech firms, Hargadon and Kenney (2012) emerged doubtful of the suitability of venture-capital as a financing mechanism for clean-tech start-ups. Instead, their view was that it is more prudent for

entrepreneurs to rely on self-financing and investment from family and friends to start up their businesses. They had a similar sceptical view of the role of government subsidies to support clean-technology start-ups and advocated instead for a focus on removing subsidies and other barriers that lock-in existing dirty technologies (Hargadon & Kenney, 2012).

However, not all green enterprises are necessarily clean-technology start-ups requiring large amounts of capital to set up. Furthermore, the level of sophistication and size of capital markets will determine the ability to deliver complex and advanced financing instruments such as is the case with specialised venture-capital funds as is discussed by Ghosh and Nanda (2010) as well as Hargadon and Kenney (2012). This is particularly true of developing country contexts where capital markets tend to be less developed. Even in the case of South Africa, the most developed capital market in Africa, and one of the most developed amongst emerging economies, the availability of resources such as venture capital is a concern (Nicholls, Vermaak & Moola, 2016)

Furthermore, not all green enterprises are clean-technology focused. Green entrepreneurship implies a focus broader than clean-technology (Silajdžić et al., 2015). This is an important consideration, especially for developing countries, where the technology intensity of green initiatives pursued may be lower due to constraints such as capital scarcity as well as limited know-how and know why (Senyolo, Long, Blok, & Omta, 2018).

Calls have been made in the existing literature for more research to be conducted into the area of financing for green start-ups, particularly to create more insight into the gaps in funding as well as into the challenges facing green entrepreneurs, particularly when compared to non-green start-ups (Bocken, 2015; Patzelt & Shepherd, 2011). Much of the research to date is of a qualitative nature and (Bergset, 2018) advocates for a greater focus on quantitative empirical efforts paying attention to the demand side.

Still, much of the research conducted focuses on developed country markets, and as already demonstrated, the financial factors influencing levels of green entrepreneurship can be very context specific. Hence the particular line of inquiry in this study. Emerging from the above discussion we investigate the nature of how green entrepreneurship businesses are funded in South Africa and whether this is a fundamental constraint to the flourishing of green entrepreneurs in a developing country context such as South Africa. The proposition we present is that:

The ability to access financial resources is perceived as a significant barrier to establishing new businesses by green entrepreneurs.

2.3.2. Government Policy and Support

2.3.2.1. Institutional Theory and the Role of Government

The Resource Based View (Wernerfelt, 1984) has historically been one of the key theories in the field of entrepreneurship (Peteraf & Barney, 2007). This is because the ability of a firm to access resources (capital, human) is essential to the establishment and continued survival of a firm (Bergset, 2018; Bhide, 2000). While resources are indispensable, what has increasingly become evident is that issues pertaining to the institutional framework around an industry can also significantly impact on the success of business ventures within it (Baumol, Litan, & Schramm, 2007). Elements of the institutional framework include the legal and regulatory arrangements; culture, tradition and history; as well as economic incentives such as tax breaks and subsidies. According to Bruton, Ahlstrom, and Li (2010), researchers can use institutional theory as a lens to examine and explain how these issues impact on entrepreneurial success.

Institutional theory is fundamentally concerned with the manner in which organisations and groups in society attempt to secure better positions and improve their legitimacy through maintaining compliance with the norms and rules that are in place within that institutional environment (Fields, Dimaggio, & Powell, 1983). Institutions, as a term, may refer to formal rules, less formal engagements and even assumptions that are taken as a given and that individuals and organisations are expected to abide by (Garud, Hardy, & Maguire, 2007). These institutions emanate from laws, regulations, policies and other precedence in practice; all of which exert pressure on individuals and organisations to comply (Fields et al., 1983). What is objectively deemed an appropriate action is determined by expectations emanating from these institutions which define the boundaries for what is considered normal and abiding and what is considered deviant and thus unacceptable (Fields et al., 1983; Garud et al., 2007).

Consequently, the manner in which entrepreneurs perceive social and institutional norms can significantly impact their activities (Bruton et al., 2010; Pawan, Demirel, Cher Li, Rentocchini, & Pawan Tamvada, 2017). In order to gain legitimacy and to ensure survival and growth of their business ventures, entrepreneurs learn to identify and act on the influential societal and institutional norms (Bruton et al., 2010; Meek, Pacheco & York, 2010; Fields et al., 1983).

In addition to their own values and beliefs that drive the motivational aspect of green entrepreneurs, these entrepreneurs also have to comply with the expectations of various key actors as part of the process to establish legitimacy for their new business ventures (O'Neil & Ucbasaran, 2016). The positive orientation towards environmental concerns is seen by Pawan et al. (2017) as possibly being part of an effort to gain legitimacy by green entrepreneurs. Hörisch, Johnson, & Schaltegger (2015) agreed with this view and saw this as part of the way in which value is communicated to key stakeholders within society by these organisations. From this it can be seen that understanding the institutional arrangements is absolutely essential to understanding what causes green entrepreneurs to (O'Neil & Ucbasaran, 2016).

North (1990) observed that well-functioning institutions are key enablers of entrepreneurship, particularly because they regulate as well as reduce the costs of transacting. According to Silajdžić et al. (2015), as one formal institution establishing legal and regulatory arrangements, governing economic activity, and creating regulatory pressures for compliance; the role that is played by the government is therefore essential for the promotion of green entrepreneurship. Environmental laws and regulations established, as well as the enforcement regime put in place create incentives and disincentives for choosing whether or not to be green.

Cohen and Winn (2007:29) observed that market imperfections such as “inefficient firms, flawed pricing mechanisms, externalities and incomplete information” have negative environmental implications but also present significant opportunities for green entrepreneurs to create innovative businesses. This aligns with the views of York and Venkataraman (2010) who observed that entrepreneurship was more a solution than a problem in relation to the issues of environmental degradation.

Schaltegger and Hörisch (2017) established that in instances where there is a higher level of government support for green enterprises, the tendency is for entrepreneurs to have a higher positive orientation towards environmental initiatives. Through specific procurement mechanisms, such as the contracting for independently generated electricity, the government often has the power to even bring into existence new industries (Eberhard, Kolker, & Leigland, 2014).

Pawan et al. (2017) advocated for the need to look into how the institutional environment, and particularly powerful regulatory institutions, influence the emergence of and scaling

up of green ventures (Pawan et al., 2017). There is a need for research and new insights into the impact of such institutions on the performance and survival of green entrepreneurs (Pawan et al., 2017).

2.3.2.2. Government Support as a Barrier to Green Entrepreneurship

Previous studies have examined policy and regulatory barriers to green entrepreneurship in developed (Ball, 2016; Levinsohn & Brundin, 2011; Marin et al., 2015; Ball, 2017) and transition country contexts (Silajdžić et al., 2015; Von & Pachaly, 2012)

Ball (2016) observed that even where government support is present, questions of its suitability arise. This author reviewed the role played by government policy support instruments to promote green ventures in the energy markets of the United Kingdom, Germany and France; and concluded that the mechanisms were deemed helpful by entrepreneurs, although they were also seen as more suitable to support large-scale producers and not necessarily scaling up of smaller ventures (Ball, 2016). Hence the policy arrangements tended to favour large incumbents and it was not clear that the policies were facilitating scaling-up SME green energy firms (Ball, 2016).

Reviewing government support to green entrepreneurship in transition economies, Silajdžić et al. (2015) established that in terms of government actions, enterprises were also impeded by issues such as dispersed action; particularly where no single platform was available to access requisite information and support thus significantly raising the costs of engaging in innovative solutions. Poor availability of practical information such as that on financial support mechanisms for different technologies and approaches and the benefits to be derived from them was another example of how policy and regulatory action can be impediment to action (Silajdžić et al., 2015).

In their seminal work on the relationship between the government and the environment Porter and van der Linde (1995) concurred with the findings of Ball (2016) and Silajdžić et al. (2015) and placed significant emphasis on the role that can be played by well-designed environmental regulations in unlocking environmental innovation and competitiveness. In line with this 'Porter Hypothesis', the role of environmental regulation and support goes beyond simply compensating for externalities like pollution and extends to inducing firms to adopt innovative solutions which ultimately can drive competitiveness gains (Porter & van der Linde, 1995). More specifically, this can be

achieved through the role of regulations in assisting firms to deal with uncertainty and other organisational constraints which impede them from realising and fully exploiting the opportunities presented by environmental practices with profit-making potential (Ambec, Cohen, Elgie, & Lanoie, 2013)

However, according to (Hall et al., 2010), the extent to which a positive relationship exists between entrepreneurship and sustainable development had not been adequately established in developing country settings. Dhahri and Omri (2018) pursued this line of inquiry and looking at 20 developing countries from 2001 to 2012 investigated whether indeed entrepreneurship simultaneously contributed to economic growth, the improvement of social conditions and the advancement of environmental objectives. Their findings were that while entrepreneurship contributed to the former two constructs, its relationship with environmental considerations was negative.

According to Bartelmus (2013) this disconnect as established by Dhahri and Omri (2018) may explain the ambiguity of some policy-makers in developing countries when it comes to supporting green enterprises. While significant enthusiasm is often expressed in developing countries about green entrepreneurship (National Planning Commission, 2012) due to its perceived potential contribution to economic growth and development, it is not always the case that it receives adequate support (Bartelmus, 2013).

There are numerous reasons for this. Williams (2013) observed that often governments do not possess the capacity or even the political will to support the green economy (Williams, 2013). Some governments still view attending to some environmental concerns as potentially hindering their development ambitions (Bartelmus, 2013). The argument put forward is that resolving poverty is the priority concern and a green economy is a luxury they cannot afford (Bartelmus, 2013). This is often because, due to high costs that need to be incurred upfront or challenges regarding market viability, as bringing green products to market often requires substantial subsidies or other forms of government intervention such as the introduction of protective tariffs or the removal of harmful subsidies (Bartelmus, 2013).

As Shane (2009:146) observed, yet another way in which government action could impede green entrepreneurs could lie in the manner in which ineffective government policies encourage people to establish “marginal businesses that create few jobs and have high failure rates”. Ultimately, the absence of adequate and appropriate

government support can be a significant barrier to green enterprises (Silajdžić et al., 2015).

According to Pinkse and Groot (2015), green start-ups tend to be more dependent on assistance from the government particularly in the form of subsidies. A significant challenge is that these often require significant paper-work in terms of submitting applications to access these benefits. Transparency about how applications are adjudicated is also a challenge as are the burdensome monitoring and reporting requirements that arise as a result of more complex and varied relationships with these stakeholders (Rizos et al., 2016). Engaging the administrative procedures implied by efforts to access government support imposes additional start-up costs on green entrepreneurs and serves as a disincentive to establishing a business venture.

Drawing from the discussion of the different barriers presented as related to government action, we arrive at a proposition about government support as a barrier to green entrepreneurship in developing countries which is:

Prevailing government policy and regulatory arrangements are insufficiently supportive to promote the establishment and scaling Green Enterprises?

2.3.3. Entrepreneurial Knowledge and Market Considerations

2.3.3.1 Green Entrepreneurship and Market Opportunities

Green entrepreneurship is the identification and harnessing of entrepreneurial opportunities focusing on ecological or environmental concerns (Kirkwood & Walton, 2010). Through new environmentally focused technologies, processes and products, green entrepreneurs contribute to society by addressing issues pertaining to environmental degradation which impacts negatively on quality of life for its (Figge et al., 2002; Patzelt & Shepherd, 2011).

Pacheco et al. (2010) observed that the fundamental problem in terms of markets for green products and services arises from the fact that an entrepreneurial venture with a green or sustainable orientation, despite the benefits to society, almost always operates at a disadvantage compared its counterpart that does not have such an orientation (Pigou, 1932). Disadvantage arises out of the additional costs imposed on the firm by

incorporating a social or environmental mission, and this is despite the overall benefit to society arising out of its activities (Pacheco et al., 2010).

Consequently, legitimate questions are raised about the viability of green entrepreneurship when a vast amount of literature suggests that its goods and products are not amenable to allocation through market mechanisms (Pacheco et al., 2010). Specifically, 5 different kinds of market failures are identified in theory that result in environmental problems and a misallocation of benefits: public goods; monopolies; externalities; inappropriate government intervention and imperfect information (Pigou 1932; Sigala, 2016). Such market failures impose additional challenges over green entrepreneurs at inception of their businesses and when they need to scale up.

And yet, according to (Cohen & Winn, 2007), while market imperfections such as inefficient firms, flawed pricing mechanisms, externalities and incomplete information have negative environmental implications; they also present significant opportunities to green entrepreneurs to create innovative businesses. Consequently, green entrepreneurship may be seen as a way to address negative externalities (Pigou, 1932) or market failures (Coase, 1974; Cohen & Winn, 2007). York and Venkataraman (2010) endorsed this view and observed that entrepreneurship oftentimes was more a solution than a problem in relation to the issues of environmental degradation.

2.3.3.2. Entrepreneurial Knowledge and the Diffusion of Information

“Green ventures thrive in contexts where entrepreneur interests and institutional arrangements are appropriately aligned under the existing system of economic institutions” (Pacheco et al., 2010: 465). Pacheco et al (2010) observed that getting past the fundamental disadvantages involves not only being alert to the opportunities existing within the system but also modifying the ‘rules-of-the-game’ by markedly changing the market and institutional context (Pinkse & Groot, 2015) as well as economic incentives and norms (Dean & McMullen, 2007; Pacheco et al., 2010).

According to Linnanen (2002), the diffusion of information has implications on the market demand side because it influences the extent of demand for green products and services from customers. Linnanen, (2002) defined this challenge as that of market creation; and Silajdžić et al. (2015) observed that the diffusion of information through awareness-creation efforts helps to ameliorate this. It is often the case that green products and services are based on emergent technologies and processes such that a market does

not exist for a business idea and there is a need to essentially create one (Bergset, 2018).

Haldar (2018) observed that overcoming the challenge of establishing sufficient demand from customers is a significant one that most green start-ups particularly have to overcome. Related constraints include brand and product preference by customers including stiff competition from imported products; and the domination of industries by large incumbents (Haldar, 2018). How quickly the dispersal of awareness about ecological and environmental concerns occurs in society leading to a change in consumer behaviour throughout a society is an important consideration (Silajdžić et al., 2015).

The Schumpeterian (Schumpeter, 1934) conceptualisation of the entrepreneur as an innovator and a disruptor has particular bearing in terms of the creation of markets for green products and services (Haldar, 2018). The ability to assume a risky venture; combining resources to market green products is a vital characteristic of the green entrepreneur (Schumpeter, 1934). Successfully navigating markets and institutions requires knowledge of the prevailing environment by the entrepreneur. The greater the tacit knowledge of the environment by an entrepreneur, the more likely they are to harness opportunities for business establishment (Silajdžić et al., 2015). This is particularly important because green entrepreneurs are required to operate under conditions of market imperfections (Pacheco et al., 2010). Consequently, they are required to invest their own resources in acquiring external information and creating internal knowledge (Marin et al., 2015). Altogether, the ability to interpret market conditions so as to determine demand; the ability to engage the institutional context; and the ability to engage the external environment and establish complex stakeholder relations so as to build up tacit knowledge are important considerations as they impose additional start-up requirements on green entrepreneurs.

Reviewing the context of economies in transition, (Silajdžić et al., 2015) established that the importance of information diffusion was an impediment and that often governments in that context did not recognise their own important role in promoting green entrepreneurship by focusing on this constraint. Education and awareness creation efforts implemented by the government had an important role to play in fostering green entrepreneurship (Silajdžić et al., 2015). On the supply side, the government could stimulate entrepreneurial ambition to establish green business, particularly through

improving knowledge and resolving skills gaps about green technologies, models and approaches (Lourenço, Jones, & Jayawarna, 2013; Silajdžić et al., 2015).

On the question of opportunity identification by entrepreneurs, contrasting theories are presented in the literature as to how entrepreneurship opportunities are matched to entrepreneurs. According to Pacheco et al. (2010), the different views by authors may be grouped under creation and discovery. The creation view of opportunity discovery sees opportunities as only coming into existence through the perceptions and direct actions of the entrepreneur (Chiles, Bluedorn, & Gupta, 2007; Peteraf & Barney, 2007; Sarason, Dean, & Dollard, 2006). The entrepreneur arrives at these opportunities through the process of effectuation where through a continuous and iterative process of engagement with the established economic structures the entrepreneur gains the ability to influence those structures (Pacheco, 2010; Sarason et al., 2006).

Discovery on the other hand implies a situation where opportunities are already in existence in the economic system and are simply discovered by the most attentive entrepreneurs who benefit from the fact that others are not paying attention to the facts on the ground (Shane & Venkataraman, 2000). It is the potential profit to be realised upon unlocking of as yet undiscovered opportunities that functions as an incentive to spur entrepreneurial action (Schumpeter, 1934). Whilst the creation view is inclined to a subjective and reflective outlook; the discovery view is oriented towards a positivist outlook wherein the entrepreneur is deemed to function in a deterministic scenario where opportunities are created outside the realm of his influence (Pacheco et al., 2010; Shane & Venkataraman, 2000).

Regardless of whether an entrepreneur is classified under the creation view or the discovery view, the reality is that as a green entrepreneur they still have to engage the additional burden of securing information about start-up opportunities in a way that traditional entrepreneurs do not have to. If green entrepreneurs perceive that they lack adequate information about an opportunity, they are less likely to pursue establishing a venture. This proposition is supported by Block, Sandner and Spiegel (2015) who observed that entrepreneurs establishing a business venture because they perceive an opportunity tend to be more willing to take risks than those doing so out necessity.

Entrepreneurship by its nature involves the willingness to engage uncertainty. However, pursuing green entrepreneurship involves an additional burden of uncertainty that may fall outside the risk-tolerance of the entrepreneur. The diffusion of information about

green technologies, solutions and products ameliorates this and creates the conditions for green entrepreneurship to flourish. From the discussion presented above we emerge with our proposition which is that:

Perceptions about the extent to which information and knowledge about green technologies, models and approaches is sufficiently developed and diffused in developing-country markets so as to ensure sustainable market demand by consumers for green products and services are an impediment to green entrepreneurship?

2.4. CONCLUSION

From the literature review it emerges that the evidence is still inconclusive as to whether the core values of resolving environmental concerns, resolving societal concerns, maximising profits; or a combination of any of those are the primary dimensions driving green entrepreneurship in developing countries. The delineation between green entrepreneurship and the other types of entrepreneurship that also focus on making the world a better place is not an easy task. It is not clear as well what the conditions are under which green entrepreneurs are established and how their activities evolve as they transition through different phases of technology and organisational life cycles (Pawan et al., 2017). The notable studies that have been undertaken on the subject of green entrepreneurship all point to a complex reality for green entrepreneurs, where they have to constantly manoeuvre the constant tension between being green and entrepreneurial while also finding the right balance between the competing pressures of ecological, commercial and societal concerns (Hall et al., 2010; O'Neil & Ucbasaran, 2016; Pawan et al., 2017).

A lot of the discussion around green entrepreneurship has been around the conceptual aspects. According to Kirkwood and Walton (2010) more empirical research presenting data-based evidence is necessary. Where empirical research has been conducted, it has focused on larger, more established firms and has neglected SMEs. The focus has also been in more developed markets and focusing on specific sectors. This has left significant gaps in understanding the nature of green entrepreneurship firms and the challenges they face. From a financing perspective it is clear that there is ambiguity as to the ultimate challenges preventing green entrepreneurs from securing financing. There is a need to focus on SMEs, particularly in developing country contexts, because of their potential to make a significant contribution to economic development by

exploiting emergent green business opportunities (Belz & Binder, 2017; Marin et al., 2015; Silajdžić et al., 2015).

CHAPTER 3: RESEARCH QUESTIONS

3.1. PURPOSE OF THE RESEARCH

The purpose of this research is to establish the nature of the barriers impeding the establishment and scaling up of Green SMEs. The focus is on gaining deeper understanding of the key factors that act as impediments to green entrepreneurs as they attempt to establish and scale up their firms. What are the forces and arrangements that would allow green entrepreneurship to flourish? How do individuals and firms scan for, distil and ultimately select specific opportunities on which they ultimately embark upon? What is the influence of the extant environment upon their choices and activities? Establishing a better understanding of the practical issues concerned in the formation of green entrepreneurship ventures can allow for the establishment of appropriate measures to foster their emergence and sustainability.

In pursuing this main question, research questions were formulated based on the literature review conducted in the preceding chapter. These aim to understand whether the nature of the barriers in South Africa differ from those that are currently known and have been identified in other jurisdictions.

The purpose was also to understand the barriers based on the actual experience of those who have engaged the processes and the conditions on the ground. The focus was to bring out their experiences, reflections and perspectives, a store of knowledge with rich potential research information, but which is often overlooked despite that it is “first-hand and accumulated at the expense of much personal effort” (Schaper, 2010:10).

3.2. RESEARCH QUESTIONS

The primary research question that the study attempts to explore is:

What are the barriers impeding the establishment of small and medium green ventures?

To explore and gain an understanding of the barriers to Green Entrepreneurship in developing country contexts, the study is focused on answering the following three research sub-questions emanating from the main research question, which are:

- 1.1. From a financial perspective, what are the characteristics of green enterprises' that influence their ability to access capital?*

- 1.2. *From an institutional perspective, are adequate government policies and programs in place to promote green entrepreneurship?*

- 1.3. *Is information and awareness about technologies, models and processes sufficiently diffused to positively influence opportunity recognition and exploitation by green entrepreneurs?*

CHAPTER 4: RESEARCH METHODOLOGY

4.1. INTRODUCTION

This chapter discusses the research methodology undertaken in conducting the study. A review of the literature in Chapter 2 established that the barriers to green entrepreneurship; particularly as they relate to developing country contexts, had not been fully explored. As such it was deemed appropriate that the study be exploratory in its approach. Hence, the research was conducted based on qualitative research approach. This approach was deemed appropriate to gain further insight into the nature of the challenges green entrepreneurs were encountering as they pursued establishment of their ventures.

The research methodology employed, as well as the sampling and data collection methods supported the qualitative approach adopted in undertaking the study. Data was collected through semi-structured interviews with owner-managers of the firms in the study sample. The data collected was analysed and categorised to determine emergent themes, as well as concurrence with the themes emerging from a review of the literature as detailed in the chapter covering the literature review. In conducting the study, the researcher took into consideration concerns pertaining to issues of bias, validity, ethical considerations as well as limitations of the study; issues which are discussed towards the end of this chapter.

4.2. RESEARCH DESIGN

The interpretivist philosophy requires of the researcher that they delve into the social world of their subjects with a view towards establishing an understanding of the world from their perspective (Saunders, Lewis, & Thornhill, 2016). Such an approach is appropriate in business and management research because business situations are the outcome of a set of complex dynamics including the set of circumstances under which people come together (Saunders et al., 2016). The interpretivist approach emphasizes the interaction of multiple actors, factors and contexts; and observations are manifested from complex relationships between these elements (Ang, 2014). For investigating the multiple and complex interactions between the barriers to establishing green business this is the appropriate approach (Saunders et al., 2016).

A qualitative cross-sectional approach was utilized to execute the study. Qualitative research is an interpretive research approach that relies on multiple types of subjective

data and investigates people in particular situations in their natural environment (Christensen, Johnson, & Turner, 2015). The justification for such an approach is the theoretical ambiguity that exists about the topic of barriers to green entrepreneurship in settings outside developed country contexts (Kronenberg & Bergier, 2012; Silajdžić et al., 2015). According to Bloomberg and Volpe (2008) utilising qualitative research is a suitable approach where the researcher seeks to gain a deeper understanding of a phenomenon because of its emphasis on exploration and discovery.

To the authors knowledge, the barriers to green entrepreneurship in the South African context were being studied for the first time. Previous research has been conducted in developed country contexts regarding the barriers to green entrepreneurship. As such, whilst the important variables and relationships between them are as yet unclear in the South African context, an exploratory approach was deemed appropriate to the study (Creswell, 2013; Saunders et al., 2016). Drawing from the literature reviewed in Chapter 2 to determine the approach towards data collection and the formulation of the research instrument, a deductive approach was employed.

Semi-structured interviews were utilized as they afforded the interviewer the opportunity to direct the interview in a deliberate manner so as to elicit useful views on specific themes and topics (Ahmad & Yekta, 2010). This is an approach that is often employed when undertaking research into business model studies. According to Saunders et al. (2016), semi-structured interviews are best employed when the area of study is not well understood, and responses received from interviewees can open up inquiry into areas not previously taken into consideration. Green entrepreneurship is still a relatively nascent area of inquiry as observed by Gast et al. (2017). As a consequence, the use of semi-structured interviews was deemed the most appropriate approach.

4.3. POPULATION

The population for the study consisted of owner-managers of established and yet-to-be fully established Green Enterprises. These were owners or managers of small and medium green business ventures that had been in existence for at least 48 months. The assumption was that 48 months would have been sufficient time for an enterprise to have navigated the various aspects associated with enterprise establishment (including incorporating, capital raising and marketing of products and services) to be in a position to reflect on the experiences encountered. This period of 48 months is consistent with

that employed by the Global Entrepreneurship Monitor when considering factors constraining new enterprises (Herrington et al., 2016).

Owner-managers were selected under the assumption that they would have an intimate understanding of the business as initially conceptualised as well as the process undertaken to the point of establishment of the business, as well as any challenges that may have been experienced in the intervening period. The focus was to bring out their experiences, reflections and perspectives; a store of knowledge with rich potential research information, but which is often overlooked despite that it is “first-hand and accumulated at the expense of much personal effort” (Schaper, 2010:10). Small and medium-sized businesses were selected because they are perceived as having the greatest potential for innovation that could significantly contribute to economic growth and a fairer distribution of wealth (Belz & Binder, 2017).

4.4. SAMPLING

The sampling frame is a complete listing of all the cases from which the researcher intends to draw a sample from (Christensen et al., 2015; Saunders et al., 2016). In terms of identifying SMEs for this study, establishing the entire population of green enterprises proved to be challenging as the researcher was not aware of a reliable listing of all green enterprises in South Africa. Consequently, non-probability sampling techniques were deployed in conducting the research.

Specifically, judgemental and convenience sampling were the sampling techniques that was deployed. According to Saunders et al. (2016), Judgemental sampling affords the researcher the leeway to utilise their judgement when determining and selecting a sample such that the research objectives could best be met, and the research questions answered. In this regard, the researcher selected green entrepreneurs in line with the definition sourced from the literature review where Silajdžić, Kurtagić, and Vučijak (2015) define green entrepreneurs as those entrepreneurs undertaking sustainable innovations primarily with the intention of promoting a low carbon or green economy.

In terms of convenience sampling, the researcher utilised his own network and simply asked people who were most available and were most easily selected to participate in the research study (Christensen et al., 2015). As a practitioner in the field, the researcher utilised personal informal networks to identify business ventures to be studied. In this regard opportunistic sampling was employed where identification and selection of cases

occurred during the study, as the opportunity presented itself (Christensen et al., 2015). Respondents were also invited to suggest further green entrepreneurs that could be invited to participate in the study. This snowball sampling technique allowed the researcher to identify other respondents that could discuss their experiences in establishing green enterprises.

A total of 10 interviews were conducted with respondents who were owner-managers of green entrepreneurship ventures. Despite only 10 respondents being interviewed, it was noted by the researcher that by the 10th respondent, no new substantial insights could be gained from further analysis. As such it was deemed that the data had reached the point of saturation (Saunders et al., 2016; Corbin and Strauss, 2017).

4.5. UNIT OF ANALYSIS

To evaluate the barriers to establishing green businesses the unit of analysis was the entrepreneur who had made an effort to establish a green venture. In this regard, the researcher was interested in the perceptions and personal experiences of entrepreneurs who had undertaken to establish such business ventures. Green ventures are defined as those business ventures with strong underlying green values or those marketing green services or products (Belz & Binder, 2017; Silajdžić et al., 2015). The choice in unit of analysis aligned with Yin's (2014) recommendation that the unit of analysis should be reconcilable with the phenomena being examined.

4.6. DATA COLLECTION AND MEASURING INSTRUMENT

According to Creswell (2013), the interview guideline in a qualitative study is an indispensable tool for the researcher. Most importantly, it provides the scope and direction in which the interview must go, but it also allows the interviewer to pose the same questions to each respondent and prompt a discussion with them (McCracken, 1988). The interview schedule also assists in the logistics of the interview in that the researcher is relieved of the burden of having to remember each question in their order as well as tracking that each question has been posed to each respondent. In this regard, the researcher is able to focus on the responses and other information received from the respondent (Creswell, 2013).

In line with the recommendations of McCracken (1988), the interview schedule was formulated subsequent to conducting the literature review. This provided guidance to the

researcher in terms of the scope, objectives and themes of the interview as well as the factors that might inform answers received from respondents. To ensure consistency between the literature, the research objectives, research questions and the actual questions posed in the interview to respondents; the questions in the interview schedule were mapped against the literature reviewed.

Table 2: Mapping of Research Questions and Interview Schedule

Research Questions		Questions in Interview Guideline	
Res. Q1.	From a financial perspective, what are the characteristics of green enterprises' that influence their ability to access capital?	Int. Q1	<ul style="list-style-type: none"> a) Did you experience any challenges in securing financing to establish and scale up your business; and if so, what was the nature of the challenges?
Res. Q2.	From an institutional perspective, are adequate government policies and programs in place to promote and support green entrepreneurship?	Int. Q2	<ul style="list-style-type: none"> a) Are you aware of and have you ever applied to access any government support schemes to support Green Entrepreneurship? What challenges did you experience in this regard? b) Are the current programmes in place adequate to support green entrepreneurship? How, in your opinion, could the government better support green businesses?
Res. Q3.	Is information and awareness about technologies, models and processes sufficiently diffused to positively influence opportunity recognition and exploitation by green entrepreneurs?	Int. Q3	<ul style="list-style-type: none"> a) Can you share with us the factors that influenced your choice of business? / How did you identify the opportunity for this business? b) Would you generally say your product/service is well accepted in the market and is the green/environmental dimension in the value proposition of your product/service a key consideration in the level of acceptance?

Data was collected by deploying the survey instrument in the form of a semi-structured questionnaire to green entrepreneurs to establish the challenges faced in establishing green enterprises. To protect confidentiality no names are reported in discussing the data collected and where appropriate, data is reported in aggregate format. The surveys were supplemented with a review of the available literature and data on the entrepreneurship conditions that obtain in the country.

4.7. DATA ANALYSIS APPROACH

4.7.1. Data Analysis Tool

Research data collected through the process of administering the interview guide were analysed utilising the digital software qualitative research analysis tool, ATLAS.ti. ATLAS.ti is a widely used data analysis tool for the purposes of conducting qualitative research as it assists the researcher to organise the research data as well as identify and code themes emerging from the responses provided by respondents (Creswell, 2013). It also assists the researcher to conceptualise the nature of the complex relationships between phenomena (Saunders et al., 2016).

4.7.2. Preparation of Interview Transcripts

The interviews were transcribed such that they could be used with the software analysis software ATLAS.ti. All interview transcripts were transcribed using the digital transcription software Sonix AI. Over and above that the researcher listened through the audio recordings and corrected the Sonix AI outputs where deemed necessary in order to ensure accuracy.

4.7.3. Method of Analysis

Analysis of the data was conducted utilising thematic analysis (Braun & Clarke, 2006). This entailed the generation of codes, construction of themes; identification of trends and mapping of relationships as an approach to establishing information that was useful to answering the research questions and meeting the objectives of the study (Braun & Clarke, 2006; Vaughn & Turner, 2016).

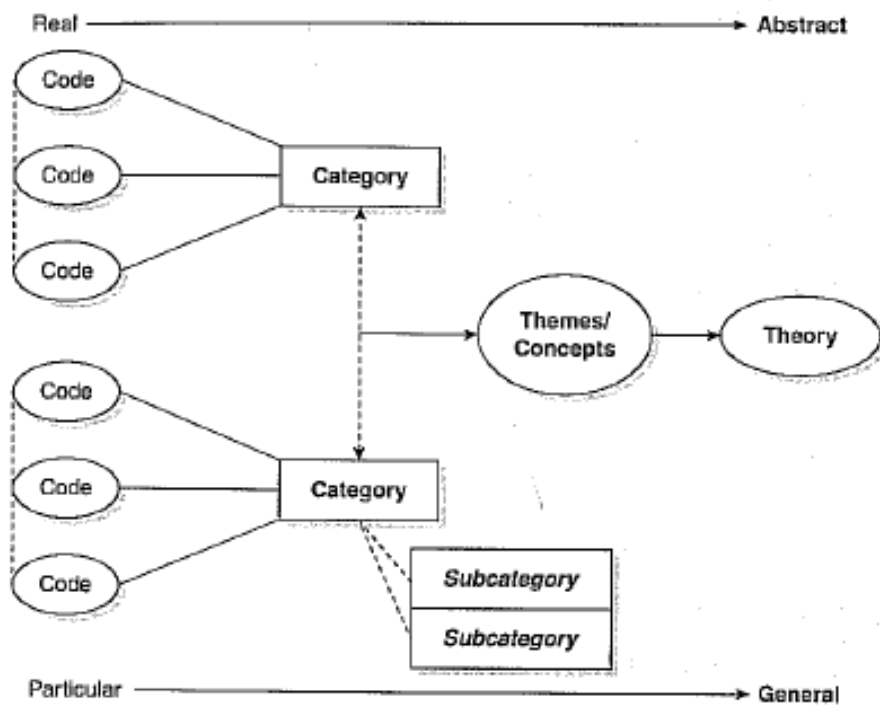


Figure 1 Saldaña (2012) Codes-to-Theory Model (p12)

Utilising coding allowed the researcher to organise the data into categories, which in turn informed the emergent themes and determination of relationships providing insight into the theory around the barriers to green entrepreneurship (Saldaña, 2012). Figure 1 portrays the process as laid out by Saldaña (2012:12) in his Codes-to-Theory model.

Development of the codes, categories and themes was based on the literature review conducted and detailed in Chapter 2. This aligns with the recommendations of Christensen et al. (2015) who recommends utilising the literature review when designing your study such that you are ultimately able to answer your research question.

Coding and analysis of questionnaires was conducted utilising ATLAS.ti, and each questionnaire was analysed as soon as possible after the interview was conducted. This allowed for early identification of emergent themes that could inform the interviewing of subsequent interviewees. This aligns with the process of constant coding which is recommended by Saunders et, al (2016) as a suitable way to conduct qualitative research because it promotes consistency when conducting research and assists in the process of analysis (p.194). This also assisted with validity as it allowed the researcher to track data saturation. Data saturation is defined as that stage in the data collection

process where no new insights are provided by additional data collected (Saunders et al., 2016).

4.8. TRUSTWORTHINESS

Quality assurance of the research presented in an exploratory study such as this one is a concern. Hence the need to consider issues of trustworthiness when considering the extent to which the findings should be considered reliable. Lincoln and Guba (1985) defined criteria by which issues of trustworthiness in qualitative research can be addressed: credibility; transferability; dependability; and confirmability.

4.8.1. Credibility

According to Korstjens & Moser (2017) credibility in qualitative research pertains to confidence that the research findings plausibly represent the information drawn from participants and correctly reflects their views. Sound measurement in research must meet the test of validity. Validity reveals the extent to which the instrument deployed in fact measures that which it is intended to measure (Saunders et al., 2016). To the degree that a descriptive system of a measure can be said to appropriately represent the most relevant and important parts of the topic under investigation, then we can conclude that validity has been achieved (Cooper & Schindler, 2014).

Validity is important because in order for research results to be considered reliable, it should be reasonably possible that when other researchers undertake a similar study using similar methods, the outcome, the conclusions arrived at would be similar (Saunders et al., 2016). Validity in the research study was ensured by formulating the measurement instrument in line with the extensive literature reviewed on the barriers to green entrepreneurship. Another method deployed in the study to ensure validity was triangulation. To accomplish this, the problem was investigated from multiple perspectives (Cooper & Schindler, 2014). Expert opinion was sought from individuals recognised as subject-matter experts in the green economy. These respondents were interviewed because of their expertise on green and sustainability related topics such as renewable energy, energy efficiency, the circular economy, sustainable agriculture to name a few as well as their knowledge on the prevailing framework conditions for green entrepreneurship in South Africa, particularly issues such as the policies and regulatory instruments affecting entrepreneurs as well as the enabling implements for promoting green business. The expert interviews assisted in triangulation of the responses received

and thus enhance validity of the data collected (Saunders et al., 2016). Furthermore, documentary evidence in the form of documentation pertaining to the mission of the business was a way to establish validity and to triangulate the research (Saunders et al, 2016). Such documentation consisted of background information on the enterprises that were sourced from publicly available websites about the businesses as well as publicly available radio interviews that had been conducted by some respondents

4.8.2. Transferability

A limitation of qualitative research is that it makes it difficult to generalise because the data tend to be local and particularistic (Christensen et al., 2015). However, the objective when conducting qualitative research is not to be able to generalise the results. What is intended instead is to arrive at a general theory such that others may be able to determine how the knowledge generated may be applicable to similar contexts and settings (Korstjens & Moser, 2017). To allow for analytical and theoretical generalisation, the methods deployed for data collection and analysis are detailed by the researcher. These were executed under the supervision of an academic supervisor charged with monitoring the process and reviewing the data.

4.8.3. Dependability and Conformability

Dependability pertains to ensuring that all findings, interpretations and recommendations emerging from the study are supported by the data collected from the respondents of the study (Korstjens & Moser, 2017) Conformability pertains to the extent to which other researchers can confirm the findings of the study (Korstjens & Moser, 2017). Both pertain to ensuring the availability of an audit trail for the study. This is to ensure that any other researcher utilising the same data and processed would arrive at a similar conclusion. The research steps and procedures deployed in executing the study are transparently detailed by the researcher. Furthermore, interviews with respondents and all other relevant records of the research path have been retained.

4.8.4. Reflexivity

Reflexivity pertains to critical self-reflection to ensure that one's preconceptions, assumptions, biases and preferences do not affect the research decisions in any of the phases of the study (Korstjens & Moser, 2017). This is a possible limitation as the exploratory nature of the research has various elements of subjectivity, for instance in

sampling techniques deployed and questions posed to respondents. At all junctures of the research, the researcher made a conscious effort to be self-aware about the researcher's role in the process of executing the study.

4.9. RESEARCH LIMITATIONS

This study examines the perceptions of owner-managers of green entrepreneurship firms about the barriers to establishment of such ventures. There are various limitations pertaining to the research methodology that may impede the theoretical and analytical generalisability of the results. Some of these include:

- The interviewer was not a trained expert interviewer with familiarity of the proper techniques to be deployed in interviews. In this regard, there may have been some bias introduced particularly in question formulation, selection and the style employed in posing of questions to respondents. This may have affected the quality of the data collected.
- The use of purposive and snowball sampling techniques raises concerns about the representativity of the study. The researcher was not able to establish any full listing of green entrepreneurship ventures such that the universe could be determined, and more representative sampling techniques could be deployed.
- The exploratory nature of the study entails some subjectivity in selection of some key elements of the study. Examples here include sample selection as well as questions posed to respondents through the semi-structured approach. This presents opportunities for the introduction of bias on the part of the researcher.

CHAPTER 5: RESEARCH FINDINGS

5.1. INTRODUCTION

This chapter presents the findings based on the research interviews conducted with respondents in the field. These findings are tied in together with the research questions introduced in Chapter 3 of this research paper. The findings represent the perceptions, experiences and insights of the respondents and provide insight into the challenges faced by green entrepreneurs as they venture into business. This introductory section will be followed by a summary description of the respondents and their businesses; as well as presentation of the findings in line with the research questions posed.

5.2. SUMMARY OF RESPONDENTS

Table 3: Summary of Interviewed Respondent Entrepreneurs and their Business Ventures

Green Entrepreneur	Green Business / Technology Focus	Classification	Marketing Focus	Phase	Location
GE 1.	Renewable Energy (Biomass)	Micro	Customers	Start-up	Free State
GE 2.	Business Services (Business Planning and Training)	Small	Business	Established	Gauteng
GE 3.	Renewable Energy (Solar PV; Biogas Digesters)	Micro	Customers	Established	Free State
GE 4.	Waste Management (Recycling)	Small (Cooperative)	Business	Established	Gauteng
GE 5.	Waste Management (Recycling)	Small	Business	Established	Gauteng
GE 6.	Renewable Energy (Solar PV)	Small	Business	Established	Western Cape
GE 7.	Energy Efficiency (Household); Media and Publishing	Medium	Customers/ Business	Established	Gauteng
GE 8.	Renewable Energy (Bio-Mass)	Small	Business	Start-up	Western Cape
GE 9.	Renewable Energy (Bio-Mass)	Small	Customers	Start-up	Western Cape
GE 10.	Business Services (Business Planning and Training)	Small	Business	Start-up	Western Cape

5.3. FACTS ABOUT THE BUSINESSES OF THE RESPONDENTS

The respondents were asked to provide factual information about the nature of their business, customers, location and the stage of business establishment. These questions posed were utilised to establish background information about the businesses. The businesses were engaged in a wide range of activities related to green business. 6 of the 10 companies were directly engaged in the renewable energy business, with 5 of them focused on generating electricity from renewable energy sources and one focused on household and business energy efficiency.

2 of the companies were focused on the provision of green business consulting and training services, whereas one entrepreneur had even ventured into establishing a magazine, the content of which was focused on green products and services. In terms of geographic location, the entrepreneurs were located across three South African provinces, namely Gauteng, the Free State and the Western Cape.

Respondents were also asked to detail their primary focus in terms of customers, whether theirs was business-to-business or business-to-customer oriented business. 6 of the customers were pursuing a business-to-business marketing approach; 3 a business-to-customer; and only one was focused on both across its product range.

The business also varied in size and level of maturity. The majority of the businesses were already established whereas 4 were still in the start-up phase; where the entrepreneur was still trying to establish the business. The length of time involved in trying to establish or operating the business ranged from 4 years to almost 8 years. In terms of size, the businesses ranged from micro to medium enterprises. 3 of the businesses were micro-enterprises in which case the entrepreneur was a sole operator.

5.4. MOTIVATIONS FOR GREEN ENTREPRENEURSHIP

The respondents were questioned on their motivations for establishing green businesses. This questioned was posed to assess the extent to which respondents were primarily driven by environmental/ecological considerations; or social enterprise considerations; or sustainable business. From the data collected it clearly emerged that despite the businesses having a clear environmental focus at its core, the social considerations played the most significant part in terms of the motivation for the entrepreneurs establishing the business. While respondents had responded to opportunities identified in establishing their business, the desire to have a positive impact

on their communities was predominantly the most significant reason for going into business:

“The social dimension of this type of business is probably what we're more on about. You know, if we if we had this type of opportunity doing something which isn't green let's say its retail, we probably would do it as well. But our business and our skills are very technical. So, we are essentially a technical business, you know, with very good technical...deep technical capabilities and we are leveraging that deep technical capability to build a product which we know is groundbreaking and the first in the world and you know so it's the technical part which we are leveraging... but the socio-economic benefit of utilizing a machine like this to create jobs is probably our highest consideration.” (GE 8)

Most respondents expressed a significant concern about the prevailing socio-economic conditions in their communities. Of particular concern to most entrepreneurs was the dearth of income generating opportunities for community members; particularly the lack of jobs. Consequently, making a positive impact on such local communities was a primary consideration for most of the respondents:

“Okay, the business is a renewable energy social business. We try to use the power of renewable energy to give the power of tomorrow basically to those who don't have any power to them. We also focus on enterprise development as opposed to the charity model. That we need to like make sure it's sustainable. So instead of giving solar panels away we start small little solar businesses; create a circular economy in communities, where community members can buy electricity from these units, which is operated by local community members meaning their funds that's generated stays in the community. So, we work on the hybrid business model. So, we have a for-profit side and NGO side. But since we're socially motivated most of the profits go towards community development.” (GE 6)

5.5. INSTITUTIONAL ENTREPRENEURSHIP

8 of the respondents noted the need to actively engage the contextual factors in order to secure the required resources to establish their business. Upon identification of an opportunity presented by an environmental concern, they had made conscious efforts to

engage established institutions and economic structures in order to garner the resources to setup their business:

“What happened is we when we walked around our area we realised how dirty our place is. Especially the open spaces where people were trashing. Every open space you'd find that people were littering. And then we thought about what could be done with this particular problem? And then we thought no let's talk to the community just to sensitize them that listen not everything that you throw away is waste. You could make you could make some money from this trash. Then that is when we then started to contact the municipality to get them to assist us to clean up those open spaces.” (GE 5)

Engaging the economic structures was not a once-off affair for the respondents. In fact, most of them attested to submitting numerous applications for support to different government departments and agencies; as well as engaging multiple corporate entities requesting support for their businesses. They often attended government training and capacity building sessions; and also, actively pursued for opportunities where they could influence the government policy-making process as it pertained to their industries. This included joining industry-associations and business chambers as a measure towards joining the conversation:

“Right now, I can tell you we are a member of the Institute of Waste Management South Africa, we pay a membership fee.” (GE 4)

5.6. FINANCIAL BARRIERS TO GREEN ENTREPRENEURSHIP

5.6.1. Sources of Capital

The respondents were asked about the different sources of financing that they had utilised in establishing their businesses. A range of financial sources were utilised to source capital to fund the businesses.

Most of the respondents had relied on personal resources to raise funds to establish the business. Personal resources typically included salaries and personal savings, as well as sourcing loans and investment capital from family and friends:

“I used it from my own savings that I had, from some of the jobs that I did from building, then I used that money to go buy my products”. (GE 3)

Some of the respondents had already established other business ventures prior to venturing into the green business venture. Consequently, resources were redirected from those business ventures to be used as start-up capital from these other business ventures into the particular green business venture.

A prominent source of start-up capital was government agencies which were intent on promoting a range of governmental mandates; ranging from technological innovation, to rural development to environmental protection. For instance, the Technology Innovation Agency (TIA), an agency of the Department of Science and Technology, featured prominently as one agency providing grant financing to entrepreneurs through a variety of initiatives and schemes targeting technological innovation. Such funding was particularly relevant to entrepreneurs whose green business had some type of technological innovation at its core. For these type of businesses, research institutions and academic institutions, such as the University of Stellenbosch and CSIR, also featured prominently as a source of funding, often-times in combination with other sources of funding. As one respondent described it:

“This was a grant from government. Stellenbosch University also put some money towards it and TIA, Technology Innovation Agency, also put some money. So that pool, we did two projects: one was proof of concept of a solar battery charging station at school closer to Cofimvaba in the Eastern Cape; And then we did the full blown [...] like we call it of the container with the manual fold open system in a community close to Coffee Bay in the Transkei.”
(GE 6)

Specific national and provincial government departments were also a prominent source of start-up funding for the green entrepreneurs as they ventured into business. The government-department funding institutions were both of a provincial and national nature and the funding support came both in the form of grants, loans as well as in-kind support, particularly in the form of machinery and technology:

“That was two years down the line when we got hold of Gauteng Department of Agriculture and Rural Development. Then they came on board and then they sponsored us with the machinery that you see. So, every piece of

machinery that you see...the trailer that you see outside is from the Gauteng Department of Agriculture and Rural Development.” (GE 5)

Another prominent source of funding was through the Private Sector. Through their Corporate Social Responsibility (CSR) departments, different South African businesses were making funding available to small green entrepreneurs to start-up their business. This finance was made available to entrepreneurs on both a grant and loan basis. Oftentimes, the funding was complemented by a capacity-building/technical assistance intervention in the form of training, marketing or business management support.

The funding received from government agencies, government departments and the corporate social responsibility departments of companies tended to be relatively small amounts when compared to the funding needs of the businesses. Most of it was targeted towards the start-up phase of the business where the entrepreneur was particularly concerned about establishing proof-of-concept for their green innovation. In some instances, funding was earmarked towards specific capacity-building measures in the form of company-specific technologies or upgrading of entrepreneurial and management skills for the staff of the company.

Bank loans did not feature prominently as a source of funding for the green business ventures. Some of the respondents expressed reluctance to approaching financial institutions, both in the form of development finance institutions and commercial banks, for loans to implement their businesses.

In some instances, strong cases were made for the alternative of organically growing and scaling up of the business with resources other than external bank loans, for instance as articulated by one entrepreneur:

“Look, my own experience is that whenever you talk to an entrepreneur or a person with an idea to startup a business the very first thing they will tell you about is startup capital. you know. And then when you start interrogating what does it mean. What do they exactly mean when they talk about start-up capital and what do they need to start-up capital for. And you realize that they don't really need a start-up capital, you know. Someone needs to just do something about the idea...when we started we didn't even have a single cent... that is how the business was started. And that was a start-up fund for

us. So, we never borrowed any money from anyone. We never paid anything to start up the business". (GE 5)

Respondents also raised concerns about the suitability of existing loan instruments. High interest costs, poor matching of loan tenors, and the lack of collateral were cited as some of the reasons they were reluctant or unable to secure loans as a form of financing their businesses.

In the case of Development Finance Institutions (DFIs), in addition to the above-mentioned issues, concerns were also raised about the technical acumen of DFI staff to appraise the loan applications of green entrepreneurs. Respondents expressed a view that often-times DFI staff were not familiar enough with green innovations, approaches and products to be in a position to evaluate the proposals before them. When asked whether this concern was also applicable to the staff of commercial banks, the response was that this mainly pertained to DFIs.

5.6.2. Loans as a Source of Finance

Concerns were raised about the implications of loan finance on the start-up business venture, particularly in terms of interest costs for loans offered to green entrepreneurs. The impact the high interest rates had on the economics of the investment was cited as one reason why green entrepreneurs were reluctant in sourcing loan financing for their entrepreneurship ventures. The impact of the interest rate on the business model - which was already constrained by having to address the implications of the environmental and social dimensions of the venture - was significant enough to push the venture into the territory of not being viable in the eyes of the entrepreneur:

"You know, we try not to go the loan route...I mean the interest rate in South Africa is quite high. I've looked at the model and it becomes quite difficult to make the thing viable especially when you were looking at the community entrepreneurship model because if you add that extra 21 percent on top of the franchisers and so forth then immediately you know then they have to pay triple the amount for the electricity and then their payback periods are ridiculously long. The community doesn't make enough money, we don't make money off it and then the whole model falls flat." (GE 6).

Another major concern in terms of business loans was with regards to the requirement that they put up collateral against the resources advanced to the business, in order to cover the financial institution. For some of the entrepreneurs, this was viewed as a significant and insurmountable hurdle which for them immediately eliminated business loans as a source of funding for their activities. Those respondents who had succeeded in securing loans to finance their business cited examples of having to put up their houses as collateral; or in instances where they had established prior businesses, they were able to put up assets from those businesses up as security. What was clear was that this was a very difficult hurdle to overcome for those individuals without such assets, particularly those from disadvantaged backgrounds.

Respondents also raised concerns about the loan tenors made available to them by the banks; in that these were often unsuitable as they did not match the financing requirements for the investment projects. Respondents

5.6.3. Green Technologies and Approaches as a Constraint to Securing Finance

When asked about their views on whether the environmental focus of their businesses served as an impediment to banks providing them with finance, the perception of most of the green entrepreneurs was that this was the case. Most respondents were of the view that, generally in the banks there was a receptiveness and a willingness to listen to proposals from green entrepreneurs. The banks did not have an unfair bias towards green projects and in fact had a favourable view of such initiatives:

“My general view, I think there are. I think now more than ever before the day the financiers are more receptive and more willing to help the green businesses. You know, I think they are getting on the bandwagon. I mean for whatever reason that they are embarking on this. I mean it's working in our favour you know. So, we should be very grateful for that. So, I think there are a lot of funding opportunities out there.” (GE 5)

However, respondents felt that various green technology approaches were still not relatively well understood by the officials in the different institutions providing finance, including commercially based financing institutions such as banks:

Some noted the need for additional awareness creation measures, starting with frontline staff who received applications:

“You will be going to a bank and trying to tell him it's a green business, the teller you're speaking to does not understand the green business. As I said before, it's like talking to a stone. You have to sit him down and give him a lecture, but it seems to be impossible. Unless that someone has seen it before. Otherwise if he or she has not been exposed, they don't even have a clue” (GE 3)

In terms of actual appraisal of proposals, some respondents felt that banks were still not settled in terms of accommodating the risk profiles of some of the green approaches and technologies within their risk parameters because of the novelty of some of the approaches:

So, the banks are a little bit behind. So, until we have a few dozen of these little kiosks running and making profit and showing that they are actually viable it's going to be very hard to convince banks let alone VCs to give the funding. (GE 6)

However, respondents were clear that from their perspective and experiences, financial institutions did not consider them a special category of applicant for financing, thus warranting specialised attention because of their green focus.

One entrepreneur raised the issue of capital intensity as a constraint to green entrepreneurship, particularly because a number of green entrepreneurship ventures tended to be based on technological innovation which in itself implies that a significant amount of capital would be required to get the business established:

“So, the capital intensity of any idea I've now realised is a very important factor. So, if the capital intensity is fairly low but there is enough margin that might be a step in the right direction. ... As you go up the value chain your capital intensity is going to be a lot higher. So that's one of the biggest problems in identifying things; is people come and say I've got this great idea it's going to make a 45 percent margin, but I need 5 million dollars. But you are still in start-up phase. But the chance that you're going to get 5 million dollars is nil. I mean you can stand up there, you can pitch. You can look good, your slides can be sexy, but the chance that you get 5 million dollars...and a lot of the accelerators and

lot of the incubators, I think, fail, in that they think that somewhere in some pitch some investor is going to walk in with a wad of cash. And I think that creates false impressions for people. So, you know if you going to look at a business you have to look at capital intensity and what is that ability for capital intensity". (GE 9)

One respondent suggested that one of the ways in which the issue of capital intensity could be mitigated would be to pursue strategic partnerships that allowed green entrepreneurs to mitigate some of the challenges they encounter:

So, I will give you an example what I've done now is when I looked at the plant and know that that there are two parts: the first is I'm going to build plants, pellet plants. I don't have money to build a factory, so I've found a South African manufacturer who makes components. I've gone to him. We have signed off on a design together. He is going to allow me to make a 15 percent margin on on-selling it. But all of the capital equipment, the lathes, the welding and that all of that stuff, the steel fabrication is outside of me. So, what I've now done is I bought a pilot plant, it cost me R800 000 a pilot plant and I'm now able to go to customers and demonstrate that plant and I'm able to take orders and sell it to those people. But I haven't had to invest 20 million rand in a fabrication plant. I've partnered with somebody so partnerships are important and one way to mitigate the challenges. (GE 9)

5.6.4. Business Acumen

The respondents were asked whether based on their experiences they had found business acumen to be one of the key constraints in terms of accessing finance, particularly from banks and in terms of accessing loans. The response was to the affirmative, with the predominant view being that some green entrepreneurs had approached financial institutions for loans and had been denied. Reflecting on the experience, it was quite evident to the entrepreneur that the denial had been due to the perceived lack of ability of the entrepreneur to manage the business successfully such that the loan would be repaid in due course:

"Yeah, it's something that we've actually went through when we started looking for funding. There were a couple of institutions. SEFA and IDC. They felt that we don't have the necessary understanding and knowledge of the

space. They said well we think that you can still try and learn and then you can come back.” (GE 4)

Most of the entrepreneurs however did not feel that they were being appraised unfairly by the lending institutions in this regard, and having taken some time to reflect on the decision, they in fact felt that the position taken by the potential financier at the time was actually in their best interests as entrepreneurs as well:

“Actually, it's now that I see that if I had got funded, it would never have been worthwhile. Because now I've got a lot of experience, it would be better if I got funded now, because before I never would have made it.” (GE 3)

“Yes, I remember I was very angry when they told me that. I thought that the government doesn't understand us business. Because I was in love with what I was doing, and I believe that I know what I'm doing, and all these people do not understand. But a little bit later I learnt that they were assisting me to say well if we put you into this thing now. If we give you loans without you making sure that you understand what you are in, then we'll be putting you into debt.” (GE 4).

5.6.5. Suitability of Instruments

Entrepreneurs were asked to reflect on whether in their view, the suite of available financing instruments were suitable to address the different types of financing needs by their green businesses at different stages of developing the business. Most entrepreneurs identified the availability of suitable financing instruments as a particular constraint. Investment capital to address the needs of the business in the start-up phase was particularly identified as a significant constraint. As one entrepreneur put it when discussing raising capital to start a business:

“It is hard, hard! You know they always talk about how hard it is? It's harder.” (GE 6)

Another entrepreneur was even more articulate in terms of identifying the funding constraints as they relate to securing start-up capital.

“...You've probably in your other research been quite well aware that startup finance is virtually impossible. Scale-up finance is possible with a track record and with a certain amount of criteria but start-up finance is not finance-able by a bank in any structural way. So, you have to find risk capital and that risk capital, yes, is a double-edged sword. The first is that risk capital in industrials stuff in South Africa is very difficult. If you speak to anybody, people will fund an application or fund an app or something in the cyber-space or anything like that; but funding anything in the industrial sector where I'm going to build a machine and there's engineering and costs, it's very difficult.” (GE 9).

According to respondents, what was very clearly missing in the market were venture-capitalist firms that were willing to provide risk-finance to green start-ups based on an assessment of the prospects of the green business venture to realise significant returns. Most financial institutions were too risk-averse and were only willing to fund green start-ups in instances where they already had significant and established track records. The scarcity of venture-capital as a financing resource was also perceived to be a lost opportunity for establishing more robust companies as a result of the influence of venture-capitalists in directing the company and its management towards choices that would improve the prospects of the business venture:

“If you can find some sort of VC funding type of thing, then definitely go that route etc. It streamlines your business and accelerates your start-up because then you have to report less, and you can be more flexible in your business approach”. (GE 6)

Transitioning from the start-up phase into established sustainable businesses was proving to be the particular challenge for businesses as a result of the lack of suitable financing instruments to address the funding needs in this phase. According to the entrepreneurs, the initial phases of the business tended to have minimal/low investment needs such that these could be addressed through the available resources such as personal resources in the form of salaries and savings; or even through the provision of small grants from research or academic institutions or even government departments, incubators and corporate social responsibility programs. These resources were often sufficient to support the development of a prototype and establish “proof of concept”. However, beyond this point, the company was required to establish commercial viability or what one entrepreneur (GE 6) termed as “proof of business”. It was often the experience of the entrepreneurs that the resources required for this phase of the

business were more significant; and that there was no institution willing to consider making this available to entrepreneurs:

“It's like there is this gap after you've been through of course with Sarebi [a renewable energy business incubator]. And you've built your prototype in sort of that environment and they are funding you and are going to get their money back. But you're sort of a one man-band type of thing. I think they've had a case or two that have taken off. If you leave Sarebi, until the IDC will talk to you, then you're in trouble. You're in serious trouble. My perspective in this country you are in serious trouble. You just can't get there”. (GE 9)

When entrepreneurs were asked to reflect on whether there should be specific financial instruments established to support green business ventures focusing particularly on their environmental or ecological focus, most respondents responded in the negative. This was because they felt that most of the challenges experienced in matching existing financial instruments to the needs of green business ventures, did not particularly pertain to the environmental/ecological dimension of the business, but more to other dimensions of the business ventures, particularly their nature as SMEs.

5.6.6. Loan Security, Financing Costs and Tenor

The respondents highlighted various other factors related to terms and conditions of accessing finance, particularly loan products, as being a constraint funding their businesses.

One particular challenge mentioned by the respondents as being a significant constraint was the need to provide some form of security to a financing institution as a means to establishing credit-worthiness and thus accessing a loan:

“Access to finance. I think its security. Collateral. That's a big one for us. Even with Anglo, we had to put up our house for security. That's a big one” (GE 4).

This was particularly a constraint for entrepreneurs who could be classified as previously-disadvantaged (i.e. black entrepreneurs), who tended to be asset poor and not in a position to put up assets such as houses as collateral on loans requested.

High interest costs were also cited as a constraint to accessing loan financing for the businesses. Of particular concern was that the interest charges ranging from about 10% to 31% were particularly high. Because of the social orientation of the businesses in some instances (and hence a tendency towards lower profitability margins); the businesses could not always accommodate the high interest charges and the possibilities of passing these on to end-customers were limited.

The issue of tenor was also raised as a particular concern pertaining to the terms and conditions for accessing loans to fund the business. Entrepreneurs felt that the loan periods made available to them by financial institutions tended to be too short to accommodate the investment needs of their business initiatives. In some instances, longer payback periods were required in order to establish the viability of some of the newer technological approaches. As a result, when modeling the interest payment implications into the financial analysis, it was often the case that the project economics would suggest that loan financing within the interest costs and payback period parameters offered, was simply not viable. One entrepreneur articulated this point as follows:

“You know, we try not to go the loan route...I mean the interest rates in South Africa is quite high. I've looked at the model and it becomes quite difficult to make the thing viable especially when you were looking at the community entrepreneurship model because if you add that extra 21 percent on top of the franchisers and so forth then immediately you know then they have to pay triple the amount for the electricity and then their payback periods are ridiculously long. The community doesn't make enough money, we don't make money off it and then the whole model falls flat.” (GE 6).

5.6.7. Summarised Findings of Financial Barriers to Green Entrepreneurship

Respondents were asked about their perceptions and experiences around the barriers to access financing to establish and to scale-up their green business ventures. In line with their responses, challenges in terms of access to finance pertained to the availability of capital, high costs, the availability of collateral as security for loans; as well as loan tenors among others. A summary of the perceived barriers is presented in the following table:

Table 4: Summary of Perceived Barriers in Accessing Finance

Perceived Financing barriers by Green Entrepreneurs	Representative Respondent Quote
1. The range of financing instruments is not sufficient to cover investment requirements	<i>"...You've probably in your other research been quite well aware that start-up finance is virtually impossible. Scale-up finance is possible with a track record and with a certain amount of criteria but start-up finance is not finance-able by a bank in any structural way". (GE 9)</i>
2. Loan interest costs are high	<i>"You know, we try not to go the loan route...I mean the interest rate in South Africa is quite high." (GE 6)</i>
3. Loan instrument tenors do not match investment period requirements	<i>"...21 percent on top of the franchisers and so forth then immediately you know then they have to pay triple the amount for the electricity and then their payback periods are ridiculously long: - GE 6</i>
4. Loan Instruments require collateral / security	<i>"Access to finance. I think its security. Collateral. That's a big one for us. Even with Anglo, we had to put up our house for security. That's a big one" (GE 4).</i>
5. The capital amount required is too significant	<i>"So, the capital intensity of any idea I've now realised is a very important factor." (GE 9)</i>
6. Financial institution officials are not sufficiently knowledgeable about Green Technologies/Approaches	<i>"You will be going to a bank and trying to tell him it's a green business, the teller you're speaking to does not understand the green business...you have to sit him down and give him a lecture" (GE 3)</i>
7. The risks associated with specific Green Technologies are not well understood by financing institutions	<i>"So, the banks are a little bit behind...it's going to be very hard to convince banks let alone VCs to give the funding". (GE 6)</i>
8. Green Entrepreneur Business Acumen is a constraint	<i>"But a little bit later I learnt that they were assisting me to say well if we put you into this thing now. If we give you loans without you making sure that you understand what you are in, then we'll be putting you into debt." (GE 4).</i>

5.7. GOVERNMENT BARRIERS TO GREEN ENTREPRENEURSHIP

5.7.1. Sources of Government Support

The respondents were asked about their awareness of any government initiatives that were available to support green entrepreneurship business ventures. Most of the entrepreneurs were able to name one or more such government support mechanism. This was particularly the case as almost all of the entrepreneurs had been able to successfully apply and gain access to some form of government support, whether in the form of funding, plant and machinery or capacity building measures such as training. The

government support received was provided by a range of government related institutions including provincial and national government departments and specialised government agencies such as research and innovation agencies (e.g. Centre for Scientific and Industrial Research; Technology Innovation Agency) as well as business incubators (e.g. South African Renewable Energy Business Incubator).

The respondents were also asked about their perspectives as to whether the nature and level of support provided by the government could possibly be a barrier; impeding the emergence of new green business ventures. Most of the entrepreneurs agreed that the government was a significant constraint to the establishment of viable green business ventures. Multiple issues were raised including the suitability of government support; corruption; as well as low levels of knowledge, skills and capability of government officials.

5.7.2. Suitability of Government Support Instruments

The respondents were asked to articulate their perspectives regarding whether or not the support provided by the government to green entrepreneurs was suitable to promote the emergence of new green business ventures. The entrepreneurs expressed a view that the efforts made by the government were indeed visible and where they were well functioning, they indeed made a significant difference. One entrepreneur was particularly enthusiastic about the efforts of one provincial government and its entities:

“My experience is Sarebi [a renewable energy business incubator] and I was very positively encouraged. I mean it was it was actually amazing. You know they really are doing a good job. I didn't know. I came from the private sector I suppose or whatever; and we were a consulting business and software company and whatever. And I didn't think there was this type of stuff around I didn't know. And I've been in the industry in sort of the software consulting environment for 20 years. I didn't know that you could...there were places like this that taught you this stuff. You know it was like... they really really do a good job. I mean it was really well done.” (GE 8)

The general view, however, espoused by most of the entrepreneurs was that the government support provided left a lot to be desired. In most cases, it was inappropriate or inadequate.

One sentiment expressed was that it was not always the case that the support provided was directed to the needs of the green entrepreneurs. The provision of business development and support services was raised by one entrepreneur as one particular area where government support was inappropriate to support the needs of green business ventures:

“The second part of the business consulting services that I've been concerned about is the outcome. So, my outcome in terms of my ticking my box is: am I going to get finance? Am I going to get access to market? Am I going to get the raw material that I need? These are these are business issues that I need, Am I going to find the right partners that are going to partner to me? These are real things that I'm on my checklist. On their side it's, does the entrepreneur understand his environment. Has he got a better understanding of the market? So, they will say well we made progress with him. We made progress. He came into the program. He was he was a little bit green. He's less green! But have we achieved success? Is he now investment ready? Is he able to start his business tomorrow? I don't know whether those... there's adequate focus by our government people on those aspects that actually matter to entrepreneurs”. (GE 9).

Entrepreneurs also expressed views that the type and level of support provided by the government was oftentimes not sufficient to support the emergence of green business ventures. In some instances, coverage of the needs of green entrepreneurs were not always sufficiently addressed. Indeed, coverage by government programs could be patchy, with extensive attention being given to certain areas; and inadequate attention being directed to other areas; some of which were possibly as important. One entrepreneur, for instance, expressed an opinion that while it could be argued that adequate attention was being given by the government through its programs to technology innovation and adaptation; almost no attention was paid to business process innovation, and yet there also lies significant green business opportunities:

“The second part of it is what I call applied engineering or applied business where you don't necessarily innovate around the technology; you innovate around the supply chain. So, I'll use Tshepo's example again. He's saying where can I find this waste? Can I take it to market? Can I connect the dots? Can I go and buy a machine? I don't want to own the technology. I just want to do it. I don't know if there's enough support for that. So, either it's called

business innovation or not technology. So, I don't know how much support there is around business innovation in South Africa. Rather than technology innovation. And I think that more focus needs to be on...around business innovation. And let's take a famous example. Henry Ford wasn't a technologist. He didn't invent the car. He was a business innovation specialist. And do we need technology innovation, or do we need business innovation? Okay I'll leave that question. And I don't know how much support it is for business innovation” (GE 9).

5.7.3. Excessive Government Support

While views were expressed that the existing government programs were not sufficient to support the emergence of green entrepreneurship, some entrepreneurs also expressed views that in some instances there was an overreliance on government for support and the outcome of this was that some business ventures that were otherwise not sustainable were made viable through excessive government intervention; but also that perhaps small businesses were too quick to seek out government support programs when in some instances that type of support was not even required:

“... I would think in my own personal experience is that there is a willingness from government to help small businesses. But what I've found is that not all small businesses are willing to walk the journey on their own first before they could even go in to approach government. (GE 5)”

5.7.4. Lobbying and Influence on Government Policy and Program Design

The ability of SMEs to influence the design of policies, legislation, regulations, instruments and programs was also raised by a number the respondents as a constraint to their green businesses. As currently formulated, they were of the view that current public policy arrangements were not particularly suitable to their businesses. A large part of this was a result of the significant influence of larger business and corporate interests regarding how green business is conducted in South Africa. The respondents felt that the engagement between the State and the Private Sector around how the government ought to support green business were dominated by large firms who tended to only advocate for those positions that would further their interests. According to more than one respondent, the poor levels of knowledge and understanding about the green economy and green entrepreneurship only served to exacerbate the problem of large

corporate interests having outsized influence on the government's policy choices. One respondent went to the extent of suggesting that actually policy documents were formulated by private sector entities to suit their needs and interests and then simply endorsed unquestioningly by the government:

“My observation, I saw that they are actually the people who are [...] dictating to the government to say that this is how this thing is done. And for us as black entrepreneurs, they don't understand our side; our environment; you know, where we come from; how we do things. So, they go to the government and say we will show you, we will assist you. But how it's done is that they protect their own. They protect the big companies. [...] So that is where I see that this system is designed to somehow keep on pushing us outside even though the government thinks that it's on top of the game; a success; it's looking after our interest. But somehow the law is being run by people on the side and not the government.” (GE 4)

5.7.5. The process of Applying to Government Support Programs

Entrepreneurs were asked for their views on whether accessing government support programs was a possible constraint to the emergence of small green business ventures.

One response raised by some entrepreneurs was in terms of awareness of the existence of different government programs that were available to support them. The entrepreneurs highlighted that because of the broadness of concept of “green”, there were a number of programs available to support green entrepreneurs. These were not always specified as ‘green’ support schemes, but at times were formulated to promote other objectives such as technology innovation or production process improvement. The challenge was that it was not always easy for entrepreneurs to become aware of the specific programs with which they might qualify to receive support for their business ventures. It was felt by the entrepreneurs that the government could do more in terms of marketing the availability of the different support schemes and improving awareness about these schemes.

According to most of the respondents, the actual processes of applying for government support programmes were not difficult, and thus were not a deterrent to green entrepreneurs. Almost always the application forms were easy to understand and complete.

The requirements in order to submit a compliant application for government support was in some instances a challenge. Some of the supporting documentation required such as tax clearance certificates, were commonly known to most applications and as such were anticipated. Hence, this was something that they, as entrepreneurs, often had already obtained or knew where to access.

Challenges arose in instances where applicants would be required to have some form of certification from industry associations in their respective sectors. This would prove to be a problem because of the exorbitant membership and licensing fees associated with acquiring these endorsements. It was not always clear to the respondents why these endorsements were built into the requirements for securing government support, but some respondents attributed this to the larger business interests in their industries establishing barriers to small business. Challenges were also experienced where applicants were required to put up some degree of financial resources by the government support agency as a means to align incentives between the program granting the support and the entrepreneur receiving the support. Some entrepreneurs were not able to meet this requirement as they did not have the resources available:

“...they need you to be at a certain level financially. so that they can meet you halfway, they request you to have maybe a 10 percent or 20 percent to match you. So, it's a problem, it's a problem really.” (GE 1)

5.7.6. Reporting and Accounting for Government Support Received

None of the respondents found the reporting and accountability processes to be so burdensome as to be a deterrent to sourcing support from the government for their entrepreneurship ventures. One view that was expressed was that government procurement rules imposed requirements that increased the cost of sourcing inputs for their businesses. However, this was considered to be a relatively minor challenge for which the rationale was well understood by the entrepreneurs.

5.7.7. Adjudication and Turnaround Times in Processing Applications

The processing and adjudication of the applications for government support were a major concern, however, for respondents. The most commonly cited time period to process applications for support across various government support programmes was two years,

with the shortest period cited being 8 months. According to the respondents, due to their extensive reliance on this type of support during the start-up phase of their business, the excessively lengthy period until approval meant that a number of businesses simply failed while waiting for some kind of support:

“Yes. actually, it has disadvantaged and discouraged a lot of people that tried to start the things but because of the turnaround time and how things in government work. A lot of people just don't believe they can receive the help. Even with us, in those two years...like it was after the corruption we spoke about, business was tough. They came back at the point where we were thinking our business is closing down because we even forgot about them. You can imagine, for a business, this is strenuous.” (GE 4)

5.7.8. Corruption

Corruption and unethical practices on the part of government officials was cited by a number of respondents as a significant constraint to their businesses. Concerns were raised particularly with regards to the selection processes governing allocation of government contracts, which according to the entrepreneurs were often adjudicated in an opaque manner and had inefficient outcomes. A significant concern raised repeatedly was the manner in which government contracts were often allocated to companies that did not have a competency in the specific green technological approach (e.g. installation of Solar Water Heaters) in order to effectively execute the contract. Consequently, the green entrepreneurs felt that they were being crowded out of their area of competency by non-green entrepreneurs who won green government contracts and would then seek to sub-contract the work to the actual green entrepreneurs. At least 2 of the respondents provided detailed cases of such:

Green Entr3: It's not good. Because for instance now, the government has been installing Solar Water Heaters in all the locations. But they seem to be interested in a lot of nepotism. People who have money, they're the one doing the job. The rest...us that have technical know-how, we don't get the job. So, that is a big problem [...] because 3 to 4 months back, [identifier removed] called me to say there's a guy who's won a tender in the North West, I said tell the guy to forward me the papers, the guy did not have any clue as to what was happening.

Researcher: But he had won the tender?

GreenEntr3: But he had won the tender. So, now he wanted us to go work for him.

In some instances, perceptions around the general level of corruption in the government were enough to deter respondents from even engaging the governmental process in any way. These entrepreneurs were not even willing to consider any product or service that would involve engaging the government at some point in time for fear of being tainted by allegations or perceptions of corruption at some later stage:

"I don't want it to end up: This is how I got this project. This is how I got funding. I'm with so-and-so, but I don't know what happens. And then something comes back to bite me. [...] As an entrepreneur I'll be doing the ones that are low level projects and there I need government forums. But I need them to be a forum and not to be about the fact that this person told you about it and now I've got this financing, now you've got this project. Because once I do that...and I take it to the market, I want to have a conscience to tomorrow that you know what, I hustled in a clean and ethical manner." (GE 7).

Respondents also recounted cases where government officials had allegedly appropriated their business ideas, supposedly for their own benefit or for the benefit of unknown third parties. As a result, entrepreneurs, were at times, reluctant to present proposals for support to government officials for fear that rather than receiving the required support, their ideas would instead be lost to others:

"I've submitted a proposal for the waste. Now I've been having continuous consultation meetings with the executive directors or management in the department only to find they'll say no, you know how government is it takes long, their processes are long for them to approve something. Then three months later it hits me. One of the...I think it is an assistant director... was asked to make a report on the proposals that I had submitted. But funny thing is she was supposed to make a report because that project when she received it, it's already being implemented by [identifier removed], my company and money has been paid. So, they wanted a report, and update; what's happening, so it can be taken to DG. Only to find that I didn't receive

any appointment. Secondly, I didn't receive any income. But the document that they are using is written [identifier removed]; there was no name change to that. So, I eventually raised a concern to say what is happening? Because that lady was not even aware of that. She saw the details of that document. She gave me a call. She said I need to report. Because on the biodiversity there was 10 million paid for the fencing. It was paid, and we now want to know the status quo, and can you put a report together. I said no, I cannot put together. She said [identifier removed], I'm carrying, and I have receipts. I'm like, hold on to that, I'm coming. When I got there, money was being paid directly to someone else but under [identifier removed] by the department.”
(GE 4)

In some instances, corruption did not even have to directly affect green entrepreneurs in order to have negative implications for their business, particularly in terms of raising the cost of doing business:

“And then you understand the need for all the processes. I saw now the when we got the EU funding for the Lesotho project, it's also a grant, but because of all the corruption in Africa, there's so much red tape that you have to go through to prove. You can't just say there some solar panels they're a good price. I'll buy them. It's like no, you need to give me...I need to get three suppliers. They will need to give me a quote on the right format and this template. If they don't give it on the right template, then their proposal is rejected, and they have to redo it. And most suppliers will say If you're not going to accept my quote then don't accept my quote. I'm not going to go jumping through hoops and redo my whole invoicing system just, so you can have it in your government format.” (GE 6)

5.7.9. Information Dissemination and Market Awareness Creation by the Government

The role of the Government in terms of information dissemination and support directed at connecting entrepreneurs with opportunities was also cited specifically pertaining to market research and intelligence. The government was seen as having an important role to play in terms of lowering the search costs for entrepreneurs in terms of overcoming information and network barriers and thus gaining access to crucial opportunities for business:

“We are very fortunate. There is this organization called Green Cape. And if it wasn't for Green Cape we wouldn't be doing this. I mean Green Cape have really been very instrumental and very friendly and very forthcoming with information. They are projecting their market research databases very well [...] both their public information sets and their private information sets which alluded to and sometimes they tell us what's in there. So, in terms of the market information you know we have they are our go-to guys. [...] You know if you want to get into the green space and you need to know whether these opportunities and what constraints are and what you should be doing, they are very forthcoming and very helpful and it's like actually amazing really. It's really very good. So, we rely on them.” (GE 8)

The government was cited by a number of entrepreneurs as having an important role to play in promoting green entrepreneurship by undertaking awareness creation activities to promote the uptake of green products by consumers. In their view, not enough was being done by the government to promote green products and services to consumers as a viable alternative to conventional products and services. Some expressed views that what was required was for the government to implement more decisive interventions in markets, using instruments such as public procurement and mandates, in order to promote green products and services:

“It's unfortunate because things like the cigarette tax did happen, the sugar tax did happen, but the carbon tax is not going to happen. And in fact, if you think about it the carbon tax as a percentage of the input costs of a company are not really that big enough to really send a company under one they're implemented. So, the government was very easy and spent a lot of resources on BEE. So, they said okay well we've got to bring in BEE and I agree with BEE. I don't have a problem, but they said we're going to have a five-point program; it's about ownership...it's very structured. Secondly, they created an industry of people who audited BEE. There were BEE audits and they were BEE certifications and everything like that. And the government funded training programs for people to be able to understand BEE and how it was going to work. They put millions into it. Now we get into the green economy. How much money has been put behind saying that a municipality well if you buy a recycled toilet paper vs. virgin toilet paper? If you buy recycled wheelie bins vs. virgin wheelie bins? If you use this... there's nothing! There's no

tender priority, there's no cost advantage, they don't say well if you buy something recycled you're able to pay 10 per cent more. There's nothing!" (GE 9)

5.7.10. Summarised Findings on Government Action as a Barrier

According to the respondents, the government, through various programs was providing significant support to green entrepreneurship through a variety of programs. However, when asked about their awareness of the various initiatives available to provide them support, Respondents raised quite strongly the ability of government officials to provide appropriate support to green entrepreneurs. The knowledge, skills and capacity required by officials in order to design and execute the requisite support programs necessary to adequately support green entrepreneurship was also questioned by the entrepreneurs. Other concerns about government action included the excessive influence of other stakeholders, high levels of corruption, long turnaround times when applying for support and poor design of supporting policies and programs, to name a few.

Table 5: Summary of Perceived Barriers Pertaining to Government Actions

Perceived barriers by pertaining to Government action	Representative Respondent Quote
1. Government policies and programs do not address the needs of green entrepreneurs	<i>"...So, they will say well we made progress with him. We made progress. He came into the program. He was he was a little bit green. He's less green! But have we achieved success? Is he now investment ready? Is he able to start his business tomorrow? I don't know whether those... there's adequate focus by our government people on those aspects that actually matter to entrepreneurs". (GE 9)</i>
2. Government officials are not sufficiently knowledgeable about Green Technologies /Approaches	<i>"Strategic plans... but I don't think basically the people within certain departments have a know-how of what they're dealing within the portfolio of the green economy." (GE 2)</i>
3. Excessive government support makes non-viable green businesses viable	<i>"... I would think in my own personal experience is that there is a willingness from government to help small businesses. But what I've found is that not all small businesses are willing to walk the journey on their own first before they could even go in to approach government." (GE 5)</i>

4. Lobbying and influencing government policies and programs is a constraint	“...21 percent on top of the franchisers and so forth then immediately you know then they have to pay triple the amount for the electricity and then their payback periods are ridiculously long: - GE 6
5. Applying to government support programs can be challenging	“...they need you to be at a certain level financially. so that they can meet you halfway, they request you to have maybe a 10 percent or 20 percent to match you. So, it's a problem, it's a problem really.” (GE 1)
6. Adjudication and turnaround of application for government support is a challenge	“Yes. actually, it has disadvantaged and discouraged a lot of people that tried to start the things but because of the turnaround time and how things in government work... Even with us...they came back at the point where we were thinking our business is closing down because we even forgot about them.” (GE 4)
7. Corruption on the part of government officials is a concern	Secondly, I didn't receive any income. But the document that they are using is written [by me] ...When I got there, money was being paid directly to someone else but under [my company name] by the department.” (GE 4)
8. Efforts at information dissemination and awareness creation by the government are inadequate	“I think there needs to be some education from the government's side as well. Because you know as much as they talk about qondis'ushishin lakho and all these other programs, but I think, I don't think they are reaching the right audience.” (GE 5)

5.8. MARKET BARRIERS TO GREEN ENTREPRENEURSHIP

5.8.1. Information Diffusion and Market Demand

The respondents were asked for their perspectives as to whether information about the green products and services they were marketing were sufficiently diffused throughout the market; and/or whether a lack of awareness and knowledge about the benefits of their products was a constraint on their marketing activities. Most respondents were adamant that green products and services were well known and accepted by the market. In fact, they were not struggling to demonstrate the benefits to customers, but were instead struggling to meet the excess demand from customers:

“So, when they are going to speak to anybody...in fact they want this. They can see it is green and they understand that it's good not just for the environment but for sustainability as well. And it's good for them in the long run. So, the problem is not that people don't understand. Why is that green?”

They understand; they know. And in fact, they want the product. They want what you have". (GE 7)

Even respondents that were still in the start-up phase were not particularly worried about their prospects to market their products once the businesses were fully established:

"We have to be a bit careful with ourselves because we don't want to promise the market too much and then we wait two years which is sort of what's happened to us. But the clients we've approached... that we've gone and seen, done interviews with; we did about 15, I think, clients, we got a 100% hit rate. The guys were going: you show me, one I'll buy one. We had that type of response. "(GE 8)

The respondents were asked to reflect on whether the need to explain how specific green products and services functioned was a possible constraint. Respondents felt that with most of their products and services, how these worked was not sufficiently different from conventional products so as to prevent consumers from purchasing them. In some instances, some additional training of consumers was required, particularly with more complex solutions, however this was often not so comprehensive as to be cost-prohibitive such that it could be cited as an impediment to establishing business ventures:

"You have to explain how the idea of battery charging works, but taking a car battery, charging it and take it to your shack and running your house is well known to many rural communities. So, say like charging a battery. They understand that. Like paying for phone recharge in town is a well-established way of getting your phone charge. So, they have to pay for that as well. So, it's not a new the idea of battery charging stations. We're just making a model that's usually located in cities at the local shops and moving it into communities close to the point of consumption." (GE 6)

The legitimacy of the entrepreneurs themselves was raised by the respondents as one of the constraints to marketing their green products. According to one entrepreneur who was marketing his products in a rural setting, his potential customers had communicated to him a concern about the authenticity of his products. Due to the technological innovativeness of the green solution the entrepreneur was providing, the customers had a perception that the entrepreneur did not possess the requisite skills and could not

garner the required resources to be in a position to be marketing such a solution. Their view was that the proposed green solution was in fact a scam designed to fleece them out of their hard-earned resources. Consequently, customers were more inclined to purchase imported products or those supplied by larger companies.

5.8.2. Competitiveness of Green Products

Respondents did not feel that perceptions around green products, specifically that they were expensive or that they were unreliable, were a significant impediment to marketing these products. In some cases, it was not even true that the green product was more expensive than the non-green product, and this was well understood by customers:

“Yes, they are very competitive. Remember, it's all about the cost. And with our products companies are saving versus virgin. Virgin, with the oil prices and all that it becomes...so a lot of companies are actually opting to go for recycled. So, compared to the virgin, we are very competitive.” (GE 4)

In most cases, however, it was often the case that green products were more expensive than conventional products, however it was also often the case that to the customers, the benefits of the products far outweighed any cost considerations:

“Well where I'm trying to sell there is awareness. The demand is there. Like I say, we have a lot of players in this space, but awareness is there. Because waste is generated daily and people just want somebody who will help them with it.” (GE 4)

Respondents were also quite optimistic about the future prospects of green products, particularly in terms of their cost coming down for the customer:

“Now, since we've had a lot of load-shedding in the country, now people it seems to have, compared to the past years, opened their eyes to getting an alternative source of energy...Now, they've had the joke of Eskom. People are running away from Eskom...the reliability of Eskom. If it is reliable, it is increasingly expensive, it is expensive to maintain.” (GE 3)

“For example, I can talk about the very big companies like your MPact's. MPact bought one of one of the biggest buyback centres in the country. To

supply them with recyclable materials. That's how competitive recyclable material is. So, this is not necessarily a constraint.” (GE 4)

5.8.3. Company Size and Economies of Scale

Respondents were asked to comment on whether being a green SME was a distinct disadvantage taking particularly into consideration the existence of large Green Businesses in South Africa. Some respondents felt that this was not necessarily a disadvantage as being small translated into agility and the ability to adapt quickly in a business space which is still emergent where business and technology innovations were quite common:

“When you're a smaller guy, it's easy to evolve. Because right now...what I'm talking about, within six months I can change it...Within six months, I can change and say actually now I want it to look like this because this is the response that I'm getting. If you are large, I can take 20 years. They're not as agile so there are benefits, various benefits that I see to being small” (GE 7)

Some entrepreneurs had taken the advantage of being small to address markets that they considered to be largely ignored or at least neglected by the larger concerns, as in the case of this entrepreneur located in a small rural town:

“I am the only person selling green products in my area and it gives them that you know, the relationship that this guy is from here, 24-7 he is here, if there is problem he comes without any costs without any hassle, so we'd rather work with him rather than go to any suburbs or towns somewhere.” (GE 1)

Despite these sentiments, most of the respondents felt that they were at a distinct disadvantage compared to large green business ventures. Respondents cited the ability to leverage more resources and economies of scale into the business venture as their primary concern when it came to competing against large business. Large businesses were for instance able to negotiate for lower prices with suppliers and thus offer more favourable prices to the ultimate customer. One respondent said suppliers were not even willing to take orders from them because the volumes required were too small. This was despite that supplier being the sole supplier of that particular product in the country. Large business was also able to raise financing more easily when compared to the smaller enterprises operated by the respondents.

Another disadvantage cited by respondents was the influence of larger business concerns on policy- and rule-making by the government. The respondents felt that large green business concerns had a disproportionate influence on the government and tended to advocate positions that were to the detriment of SMEs while claiming to be representing all players in the industry. This was particularly true in terms of government support programs which tended to favour large business concerns in the way they were designed. When asked to confirm that this was a possible barrier to the emergence of green SMEs most responded in the affirmative.

5.8.4. Summarised findings on Information Dissemination and Market Demand as Barriers

According to respondents, perceptions about the dominance of large incumbents in the green economy were found to be impeding the emergence of small green entrepreneurs. Respondents perceived larger green firms as having the resources and being able to leverage economies of scale to take advantage of opportunities presenting themselves. Furthermore, they perceived the government as being more inclined towards larger businesses. Some entrepreneurs were perceived by customers as lacking legitimacy to be marketing green products and services as they were deemed as lacking the technical aptitude.

Perceived barriers by pertaining to Information Dissemination, Awareness and Market Demand	Representative Respondent Quote
1. Customers question the legitimacy of some green entrepreneurs to market green products	<i>“And they know that it’s a white-ran industry and dominating. White people are the only ones who run companies like that. So, if you come as I am and telling them that, they think no, this guy is taking chances. This one wants to rip us off or something. So, I need to penetrate that.” (GE 1)</i>
2. The dominance of large green enterprises is a challenge	<i>“Yes. Now the bigger company has all the things in one room. If I mark-up on top of that, for the bigger company its cheap. Even to transport for them it's cheap. You know, solar panels, batteries are heavy. But if you hire someone’s car from here to Johannesburg, it makes the price skyrocket high.” (GE 2)</i>

CHAPTER 6: DISCUSSION OF RESULTS

6.1. INTRODUCTION

This chapter presents a discussion of the findings detailed in Chapter 5 as explored through in-depth interviews with the 10 respondents who were owner-managers of green entrepreneurship business ventures. The findings are examined in relation literature review and each of the research propositions detailed in Chapter 2. The analysis demonstrates that the research questions have been investigated and answered; and whether the extant literature on the topic of the barriers to green entrepreneurship has been either confirmed, contradicted or extended. The chapter is then concluded.

6.2. ISSUES IDENTIFIED IN THE INTRODUCTORY QUESTIONS

The introductory questions were not intended to produce any findings regarding the barriers to green entrepreneurship. However, responses to introductory questions on the motivations for establishing green business were worth taking note of

6.2.1. Defining and Distinguishing Green Entrepreneurship

Respondents were queried about the primary motivations for establishing their green business venture. From the responses what clearly emerged was that despite the businesses having a clear environmental focus; social considerations, particularly those pertaining to employment and economic opportunities for poorer sections of society were very significant considerations for entrepreneurs when establishing their businesses. In fact, a majority of the respondent gave making a positive impact on local communities focusing on these social concerns tended to assume primacy over the environmental focus of their business.

One entrepreneur was explicit enough to suggest that even if the sore business was not environmentally focused, they would still have pursued an opportunity as long as it yielded socio-economic benefits; with job-creation as their highest consideration.

The reviewed literature on green entrepreneurship does not detail the perceptions of green entrepreneurship on the distinction between the social aspects and the environmental aspects. Dean and McMullen (2007) characterised green entrepreneurship as a subset of the broader field of sustainable entrepreneurship which

they defined as “the process of discovering, evaluating, and exploiting opportunities in market failures which detract from sustainability.”

This view was not shared by Thompson et al. who argued that Dean and McMullen's (2007) definition of sustainable entrepreneurship was divergent from previous definitions because in focusing on the market failure aspect and resultant economic opportunity it tended to elevate the economic aspect of sustainability above considerations pertaining to nature and society and make this the sole focus of the concept. From the responses gathered from the green entrepreneurs interviewed, what clearly emerged was that it was in fact the social aspect which was elevated above environmental considerations, although not necessarily over economic concerns. As such Dean and McMullen's (2007) conceptualisation of green entrepreneurship as a sub-field of sustainable entrepreneurship is contradicted. What was also contradicted in the responses was a conscious effort being made towards striking a sustainable balance between the competing objectives of profitability, the interests of nature and the environment; and that of profitability (Elkington, 2013; Parrish, 2010; Patzelt & Shepherd, 2011). Only 1 of the entrepreneurs interviewed explicitly discussed the concept of the triple-bottom line and how his business actively focuses on achieving this.

What emerged strongly was that in this developing country context; the majority of the green entrepreneurs interviewed were particularly concerned about the socio-economic conditions that prevail in their local communities and using their businesses to address this. Almost all the entrepreneurs spoke about the focus on creating economic opportunities for other members of society; particularly through creation of employment opportunities. Green entrepreneurs were particularly interested in how the emergent green entrepreneurship opportunities could be harnessed towards social value creation (Dacin et al., 2011); and where present and possible were keen to exploit these opportunities altruistically in line with the observations of Bacq and Janssen (2011). One entrepreneur had structured his business such that it had distinct commercial and non-profit elements; with the commercial meant to subsidise the operations of the non-commercial.

Not only is this an illustration of the altruistic exploitation discussed by Bacq & Janssen (2011); but it also is an illustration of including other types of organisations such as NGO's as observed by Thompson et al. (2011) in his definition of Social Enterprises. Ultimately, this contradicts the conceptualisation of green entrepreneurship as being distinct from social entrepreneurship as suggested by Thompson et al. (2011). It cannot

be concluded conclusively though that social and green entrepreneurial ventures are not necessarily distinct in developing country contexts as this was not the focus of the study. However, what emerges is that the motivational aspects for green entrepreneurship in developing countries is a possible area for future academic exploration as it is clear that prevailing contextual conditions impact quite significantly on entrepreneurial motivations and intent.

6.2.2. Institutional Entrepreneurship

Through the study, what also emerged clearly was that green entrepreneurs tend to be institutional entrepreneurs. All of the respondents noted the need to actively engage the contextual factors in order to secure the required resources for the green entrepreneurial venture. 9 out of 10 of the green entrepreneurs had, for instance, made conscious efforts to access multiple government and non-governmental support for their businesses.

In the literature, two contrasting views of green entrepreneurs and opportunity identification were presented. According to the creation view of opportunity discovery, opportunities come into existence through a continuous and iterative process of engagement with established economic structures such that the entrepreneur gains the ability to influence those structures (Pacheco et al., 2010; Sarason, Dean, & Dollard, 2006). The discovery view on the other hand implies that opportunities are simply discovered by those entrepreneurs that are most attentive and who benefit from the fact that others are simply not paying attention (Kirzner, 1973, 1979; Shane and Venkataram, 2000). From the information provided by the respondents, it is evident that the creation view of opportunity discovery is prevalent among green entrepreneurs. This is because, some opportunities are uncovered through constant engagement with the economic structures.

The information gathered from the respondents also confirms the observations of Pawan et al. (2017) that the manner in which entrepreneurs perceive institutional norms can significantly impact on their business prospects as well as the observations of Bruton et al. (2010) and Fields et al. (1983) that entrepreneurs try to secure the growth as survival of their business ventures by identifying and acting on societal and institutional norms.

6.3. DISCUSSION OF FINDINGS AGAINST PROPOSITION 1: ACCESS TO FINANCE AS A BARRIER TO GREEN ENTREPRENEURSHIP

6.3.1 Sources of Capital

Herrington et al. (2016) cited access to finance as one of the major constraints to small and medium entrepreneurial ventures in South Africa. From the information gathered from respondents the availability of finance to start-up and to scale-up their businesses was indeed confirmed as the major barrier to green entrepreneurship in their view.

Most of the respondents had relied on personal resources to establish their businesses, particularly through the start-up phase. Personal resources were mostly in the form of salaries and savings. In some instances, green entrepreneurs relied on family and friends to provide additional capital for setting up the business. Some entrepreneur had previously established other businesses and were able to channel resources from these other businesses into the green start-up ventures. In some instances where green entrepreneurs had sought loan financing, their personal homes were put up as collateral against the loans raised.

These findings confirm those of Bygrave and Quill (2006) who observed that a substantial amount of the capital required to establish green start-ups tend to emanate from the entrepreneurs themselves and concurred with the views of Hargadon and Kenney (2012) that it is often more prudent for investors to rely on self-financing and investment from friends and family to start-up their businesses.

Only one respondent suggested that they had considered an online platform to source capital, although ultimately, they had not pursued this due to the perceived difficulty in presenting a competitive proposal as the funding was being offered on a competitive basis. Funding by corporate organisations through their CSR departments also proved to be a significant source of financial and capacity-building support for the green entrepreneurs interviewed. This suggests that alternative avenues of raising funding for green entrepreneurship such as online platforms and crowdfunding are indeed emerging in the South African context as well, confirming the observations of Bocken (2015).

Government-affiliated agencies (such as the Technology Innovation Agency); government departments (at multiple levels); as well as academic institutions are playing a significant role as a source of funding for green entrepreneurs in South Africa. These are institutions focused on promoting a range of government mandates ranging from technological innovation, to rural development and environmental protection. The financing for green entrepreneurs from these institutions is made available on both a

grant and loan basis and was mainly targeted at establishing proof-of-concept of a green technological innovation.

This finding confirms the observations of Bergset and Fichter (2015) that increasingly there are financing institutions providing finance to green start-ups, beyond the typical financiers often found in the eco-system in general. This also confirms the finding by Ghosh and Nanda (2010) in the United States, where that government was found to be a significant enabler of green entrepreneurship ventures, particularly through the provision of subsidies to industry.

However, the findings from the information gathered from the respondents extend the findings of Bergset and Fichter (2015) in that rather than these type of non-conventional financing institutions solely focusing on green entrepreneurship and creating specialised instruments and funds targeting sustainable investments; instead they have extended the mandates of already existing instruments to green entrepreneurship. Such mandates include technology innovation; business process improvement as well as agriculture and rural development to name a few. This may arise as an implication of the contextual conditions where all these mandates are ultimately seen as contributing to the ultimate objective and fundamental priority in developing countries which is socio-economic development. As a result, officials are more flexible in accommodating green entrepreneurship under existing mandates. The implications of such an approach as opposed to creating new specialised support instruments specifically targeted at promoting green entrepreneurship could be the focus of further academic research.

The respondents also mentioned several private sector financing sources in the form of specialised funds, accelerators and incubators as potential sources of funding. In some instances, these were of a public-private nature where a private fund manager was managing resources on behalf of the government. Two of the respondents had succeeded in securing funding agreements from such institutions and many more had at least engaged with institutions of this nature without necessarily securing finance. This confirms the findings of Bergset and Fichter (2015) that commercially oriented institutions are increasingly interested in funding sustainable investments and more developed financial markets are increasingly seeing a proliferation of these.

One particularly significant challenge highlighted by almost all green entrepreneurs was in sourcing finance for the start-up phase of the entrepreneurial venture. Respondents cited this as almost impossible to do particularly because none of the financing

institutions were willing to consider providing finance for this phase. While government agencies and academic institutions had stepped in to provide financing for technological innovations to establish proof-of-concept; there were no institutions that were willing to support green entrepreneurs in the next phase of start-up activities which is to prove commercial viability of the entrepreneurial venture by operating successfully for a limited period of time during which the risks associated with the venture could be established. As Bergset and Fichter (2015) observed, often-times challenges arise due to the inability of funders to determine appropriate levels of risk that they are willing to assume in an innovation-based investment opportunity placed before them.

In more developed markets, the role of funding new innovation-based entrepreneurial ventures is often played by venture capital firms, who tend to be willing to accept the high levels of risk associated with financing business ventures based on prospective technologies and innovations, as may be the case with green entrepreneurial ventures. Indeed, Bergset and Fichter (2015) included venture capitalists in their observations of the types of financiers who were increasingly looking into the space of green entrepreneurship. This observation is contradicted in the instance of South Africa as multiple respondents explicitly pointed out the absence of such venture capital firms that could be approached for funding as one of the barriers to green entrepreneurship.

In developing country contexts such as South Africa, the gap in the market resulting from absence of financiers such as venture capital firms may be expected to be filled by government-owned banks or development-finance such as the Industrial Development Corporation (IDC) and the National Empowerment Fund (NEF) to name a few. Respondents were adamant, however, that while such institutions were quite helpful to them in providing cheaper funding terms once the businesses were established, it was not evident to them that such institutions played an active role in addressing the funding gap left by the absence of venture capital-type institutions.

The respondents, when asked whether there should be specific financial instruments established to support green business ventures focusing particularly on the environmental or ecological aspect, responded in the negative. They felt that the challenges experienced in matching their green entrepreneurial ventures did not pertain to the environmental or ecological dimensions of the business. This confirms the observations of Bergset (2018) that it is often the high level of innovativeness and poor business management skills that caused funders to reject the applications of green entrepreneurs, and as such it could not be concluded that green entrepreneurs faced

challenges distinctly different from other entrepreneurs when it comes to sourcing start-up capital.

The finding that capital-intensity of some green entrepreneurial ventures, particularly those based on technological innovations, as observed by some of the respondents confirms the findings of Ghosh and Nanda (2010) who advocated for syndication across financiers of green ventures in order to address the significant capital requirements sometimes associated with these types of investments.

6.3.2. Loans as a Source of Finance

Bank loans did not feature prominently as a way in which the green entrepreneurs interviewed had financed their businesses. The major reason for this was the multiple challenges associated with securing bank loans. Multiple concerns were raised by the respondents regarding bank loans, including high interest costs, poor matching of investment requirements with loan tenors as well as the requirement to put up collateral in order to secure bank loans.

As a result of these challenges some entrepreneurs made a strong case against pursuing bank loans to fund the business in the start-up phase and relying instead on the 'bootstrapping' approach where organic growth of the company would be achieved through re-investing profits generated from the business

One of the major challenges preventing accessing of loans by green entrepreneurs is that of the associated high interest costs. Respondents cited multiple implications of this particular challenge: high interest costs fundamentally impede the economics of the business venture in terms of profitability and combined with the other environmental and social costs associated with operating a green business, this makes the project not viable. This confirms the observations of Di Domenico et al. (2010); Patzelt and Shepherd (2011); York and Venkataraman (2010) that engaging the social and environmental challenges entailed in pursuing green entrepreneurship, imposes additional challenges beyond those experienced by traditional entrepreneurs. If conventional SMEs are already finding loan financing costs to be high; then the social and environmental dimensions of green SMEs tend to push the financing dimension over the edge into non-viability.

6.3.3. Green Technologies and Approaches as a Constraint to Securing Finance

One significant reason for the challenges faced by green entrepreneurs in securing finance pertains to the inability of funders sometimes to determine the appropriate levels of risk that they are willing to assume in an innovation-based investment opportunity placed before them (Bergset, 2018b; Bergset & Fichter, 2015). Another reason may be reluctance to provide financing for investments in areas where the perception is that markets do not function well (Patzelt & Shepherd, 2011; York & Venkataraman, 2010).

Both these observations were confirmed in the interviews with respondents who reported challenges in raising financing where the green entrepreneurial venture had not been established and in operation long enough such that it had a track record that could be assessed by funders. Consequently, their views were that at times financiers did not understand their businesses. Or, alternatively, they were not well-placed to assess the viability of the business, including the associated risks in the absence of a track record. Where financiers were willing to provide financing, it was often the case that the interest costs were very high; the security requirements were also high; or entrepreneurs were required to give up a lot of equity, which also translated into a significant financing cost.

6.3.4. Business Acumen

The level of business acumen of many green entrepreneurs as assessed by financing institutions was found to be a constraint to green entrepreneurship. Many of the green entrepreneurs interviewed acknowledged that they had approached the funding institutions and had been denied financing due to the funder lacking confidence in the ability of the entrepreneur to operate the business. It is notable that these entrepreneurs did not feel that they were being assessed unfairly in this regard by the funders. This finding confirmed the position put forward by (Bergset, 2018) who observed that often-times it was the paucity in business management skills that was the cause for funders to reject applications for financing by such entrepreneurs.

6.4. DISCUSSION OF FINDINGS AGAINST PROPOSITION 2: GOVERNMENT AS A BARRIER TO GREEN ENTREPRENEURSHIP

6.4.1. Sources and Suitability of Government Support

According to the respondents, the government, through various programs was providing significant support to green entrepreneurship through a variety of programs. The nature

of the support was in the form of capacity-building measures as well as the provision of subsidies to green entrepreneurial ventures, and it made a significant difference in establishing viability of their businesses. This confirms the findings of (Ball, 2016), who looked into the role played by government support instruments to promote green ventures, and established that where these mechanisms were in existence, they were deemed helpful by the entrepreneurs and that they were a significant enabler of green entrepreneurship ventures (Ghosh & Nanda, 2010).

However, when asked about their awareness of the various initiatives available to provide them support, Respondents raised quite strongly the ability of government officials to provide appropriate support to green entrepreneurs. The knowledge, skills and capacity required by officials in order to design and execute the requisite support programs necessary to adequately support green entrepreneurship was questioned by the entrepreneurs. This lack of skills and capacity also manifested itself in terms of long turnaround times of applications for support.

6.4.2. Overreliance on Government Support

Some respondents suggested that green entrepreneurs were at times too quick to seek out the support of the government in pursuing their green entrepreneurship ventures. They advocated quite strongly for growing the business organically, particularly by reinvesting the profits generated by the business venture. In this regard, they confirmed the observations of Hargadon and Kenney (2012) that it was often more prudent for entrepreneurs to rely on self-financing and investment from family and friends as opposed to pursuing government subsidies to support their entrepreneurial ventures.

6.4.3. Lobbying and Influence on Government Policy and Program Design

Porter and van der Linde (1995) placed significant emphasis on the role that can be played by well-designed environmental regulations and programs in unlocking innovation and competitiveness. This is because establishing favourable framework conditions assists firms to deal with issues of uncertainty and other constraints preventing them from realising and exploiting opportunities presented by environmental practices with profit-making potential (Ambec et al., 2013).

The respondents raised the dominance of large business and established interests as one significant constraint to green entrepreneurs. Whilst it was true that the government

had made many programs available to support green entrepreneurs; what was also true was that these were not always designed in a way that served the interests of green entrepreneurs. It appears that the influence of large business over the green space is quite significant, as entrepreneurs ventured to suggest that policies, regulations and programs were even being designed outside of government, by agents of large business to serve the interests of their sponsors. The information collected from the entrepreneurs confirms the findings of Ball (2016) who observed that even in instances where the government is making an effort to support green entrepreneurship, it can sometimes be the case that the policy arrangements and support provided are not suitable to the establishment and scaling up of smaller ventures; but are instead more favourable to large incumbents.

6.4.4. Applying, Adjudication and Reporting for Government Support Programs

According to Pinkse and Groot (2015) because green start-ups tend to be more reliant on government subsidies for support of their entrepreneurial ventures, a significant challenge can be in the process of submitting applications to receive that assistance. For instance, submitting applications may entail a significant amount of paperwork; or alternatively a lack of transparency in how applications are adjudicated as well as in onerous reporting requirements may translate into green entrepreneurs being reluctant to pursue assistance from the State (Rizos et al., 2016).

From the information gathered from the respondents the process of applying for government assistance was not a deterrent to green entrepreneurs. This is because in their experience, the application process was not very onerous as it did not involve a lot of paperwork, nor did it require that they submit any additional documentation that was not relatively to access. As such, the observations of Pinkse and Groot (2015) were contradicted.

In terms of the adjudication process for government support; entrepreneurs were particularly unhappy in terms of the opaqueness of selection for government contracts that were targeted at green entrepreneurs. Respondents cited examples where companies awarded contracts did not have the necessary competence to execute the projects. As such they were often discouraged from submitting applications to these preferential procurement programs because they suspected that these would not be adjudicated fairly and objectively; and instead some nefarious criteria were used to allocate these benefits to undeserving recipients. This confirms the observations of (Rizos et al., 2016) about how a lack of transparency in how government support is

awarded may serve as a deterrent to deserving green entrepreneurs and as such may be a barrier to green entrepreneurship.

Respondents who had applied for government support programs were also asked to reflect on whether reporting and accountability processes were so onerous that they were a deterrent to potential green entrepreneurs trying to access these crucial resources. None of the entrepreneurs mentioned the reporting and accountability requirements to be so burdensome as to be a deterrent. The entrepreneurs acknowledged that some accountability procedures, for instance when procuring goods and services using resources from the government support instruments, increased the cost of doing business marginally. However, they were well aware of why it was required and were not discouraged from pursuing the resources because of such requirements. In the case of the respondents interviewed, the observation of Pinkse and Groot (2015) that reporting, and accountability requirements could be a barrier to green entrepreneurship were contradicted.

6.4.5. Corruption

The issue of corruption and unethical practices by government officials loomed large as a barrier to green entrepreneurship ventures. As already discussed, one significant dimension of this was the lack of fairness and transparency in how government contracts targeted at green entrepreneurs were adjudicated. Green entrepreneurs were often discouraged from submitting applications to such programs because they anticipated that through some nefarious adjudication processes, these contracts would be awarded to some other non-deserving applicants. Furthermore, some entrepreneurs were deterred by the anticipation that if they were to be successful in securing contracts, they would be tainted by suspicions that they had achieved this by utilising some under-handed means.

The respondents also raised the challenge of maintaining and controlling their intellectual property rights in their engagements with government officials. Submitting a proposal to a government agency or department for support entailed presenting the proposal or solution to government officials, verbally or in written format. Respondents cited many instances where subsequent to such presentations, they were turned down or did not hear further from the government officials; only for some time later for them to find out their solution or product being delivered to the market by some other entity who they suspected had sourced it from the very same government officials.

The issue of corruption as a significant barrier to green entrepreneurship is not significantly discussed in the literature. Rizos et al (2016) only mentions the issue concerns about transparency in how applications are adjudicated as a potential barrier to green entrepreneurs making an effort to access the much-needed support from the government. Consequently, our findings extend the theory on the barriers to green entrepreneurship by establishing that corruption and unethical practices on the part of government officials can be a significant barrier to green entrepreneurship in that it deters these types of entrepreneurs from trying to access government support. As already mentioned, according to Pinkse and Groot (2015), green start-ups tend to be more reliant on assistance from the government.

6.4.6. Information Dissemination and Market Awareness Creation by the Government

The government was cited by a number of respondents as having an important role to play in promoting green entrepreneurship through its efforts at dissemination of information around green enterprises. This could be achieved by conducting market research and disseminating market intelligence about opportunities, technologies, business models and markets. Indeed, in instances where the government was doing this well, this was mightily lauded by the respondents as a difference-maker in terms of their business.

However, it was often the case that the government was not living up to the expectations of the entrepreneurs in terms of fulfilling its responsibilities pertaining to information dissemination and market awareness creation. In their view, the government needed to establish a more coordinated approach to creating awareness about government support opportunities; particularly because these were not always directly geared towards green entrepreneurs and hence were quite dispersed. Furthermore, entrepreneurs felt that the government could undertake more direct action towards market creation; informing the general public about environmental concerns and the green approaches, products and services that were available to address this.

These findings confirm the observations of Silajdžić et al. (2015) who observed that green enterprises were often impeded by dispersed action by the government; where no single platform was available to access requisite information and support, and this significantly raised the cost of establishing innovative solutions.

6.5. DISCUSSION OF FINDINGS AGAINST PROPOSITION 3: INFORMATION DIFFUSION AND MARKET BARRIERS TO GREEN ENTREPRENEURSHIP

6.5.1. Information Diffusion and Market Demand

According to Haldar (2018) overcoming the challenge of establishing sufficient demand from customers is a significant one that most green start-ups have to overcome. One of the significant elements of this constraint is ensuring that information about the benefits of the green product and service is sufficiently disseminated to as to influence product choice by the market. Further constraints related to this challenge include brand and product preference by customers, as well as stiff competition from imported products, conventional products and those produced by larger incumbents (Haldar, 2018).

The respondents were queried about their perceptions as to demand for their green products and services. All the respondents attested to excess demand for their products and services, and that the challenge was in fact in their failing to meet this demand with their supply.

In terms of information diffusion, they attributed their challenges in meeting demand to a lack of skills and knowledge about green innovations in products and services, a paucity in managerial acumen, including establishing the right procedures and processes to operate their businesses optimally.

According to the respondents, the market was familiar with the benefits of the green products and services; including the contribution to environmental preservation. However, the drivers for demand tended to be around the tangible value that these products and services delivered to customers, particularly in the form of lower prices when compared to competitor products, whether conventional or imported; or in some cases in the form of addressing an existing market failure as in the case of municipal waste-collection and recycling. Some entrepreneurs had also deployed marketing and positioning strategies that ensured sufficient demand, such as pursuing niche and rural markets.

Multiple respondents though highlighted their views that the potential for the market for green products and services was significantly larger than what it currently was. They expressed a view that government efforts at supporting the growth in demand for these types of services was not as yet optimal. Some suggested that more direct intervention

through government policy such as mandates was required in order to drive demand towards green products and away from non-green conventional products and services.

The views of the respondents align with those observed by Silajdžić et al. (2015) who established that the diffusion of information about green products and services was an impediment which the government could contribute to resolving by implementing education and awareness-creation measures aimed at fostering green innovations. On the supply side, the views of Silajdžić et al. (2015) that the government could intervene by improving knowledge and resolving skills gaps about green technologies and the management of green business was also confirmed. Consequently, the failure of the government to fulfil this expectation about the role it ought to be playing can be seen to be one of the barriers to green entrepreneurship.

The legitimacy of the entrepreneurs themselves was raised by the respondents as one of the constraints to marketing their green products. According to one entrepreneur who was marketing his products in a rural setting, potential customers had communicated to him a concern about the authenticity of his products. Due to the technological innovativeness of the green solution the entrepreneur was providing, the customers had questioned the legitimacy of the product due to a perception that the entrepreneur did not possess the requisite skills and could not garner the required resources to be in a position to be marketing such a solution. What clearly emerges from this example is the importance of government intervention in terms of resolving skills gaps about green technologies so as to give the market comfort that the green entrepreneurs marketing the products and services are well qualified for as observed by Silajdžić et al. (2015).

This finding however, extends the existing literature in that it establishes that on the supply-side, skills and capacity building efforts in terms of information diffusion should not only be targeted at upgrading the capabilities of the entrepreneurs; but it should have the related objective of reassuring the market about the abilities of green entrepreneurs to successfully deliver solutions, particularly those associated with technology and innovation. This is particularly significant in developing country contexts where legacy issues such as colonialism and racialised business practices tend to be a barrier to some groups participating in economic opportunities.

6.5.2. Competitiveness of Green Products

Respondents were asked to reflect on whether perceptions around green products, including that they were expensive or perhaps that they were unreliable, were a significant impediment to marketing these products. Respondents did not feel such perceptions were prevalent in the markets they were operating in or that if they existed they were a significant impediment to marketing these products. Most respondents were of the view that in fact in a number of cases it was well understood by customers that green products were in fact cheaper than the non-green conventional alternatives. This finding contradicted the observations of Halдар (2018) that establishing demand is a significant challenge and one of the reasons for this pertains to perceptions about product cost and quality among other variables. It is evident from the information collected from the green entrepreneurs that green products and services, including their benefits and the value they deliver, are often well understood by the market in the South African context.

This case was made by a number of respondents participating in the waste and recycling sector.

6.5.3. Dominance of Large Incumbents

Respondents were queried regarding whether perceptions about the dominance of large firms in the green sector could be an impediment to green entrepreneurs seeking to establish smaller green entrepreneurial ventures. The dominance of large firms was indeed raised as a concern by the respondents. One dimension of the concerns was the extent to which the larger green firms seemed to dominate access to policy-making and government structures. As such they were often the voice articulating a position on behalf of the entire industry, that was not necessarily representative of the smaller green entrepreneurs. This finding is consistent with the findings of Ball (2016) who observed that policy arrangements tended to favour large incumbents.

Respondents also raised concerns about the manner in which size and scale tended to benefit larger firms over smaller firms. Examples made were where suppliers would not let smaller green entrepreneurs procure key inputs and supplies because the volumes they were ordering were deemed not sizeable enough. In some instances, smaller green entrepreneurs were not considered for some government or corporate contracts because they were deemed not sizeable enough.

Some respondents had overcome the challenges of size by pursuing smaller rural and niche markets. Determining where such opportunities lie such that they can be exploited, however, was dependent on the amount of information available. Consequently, the perception that large companies dominate the space; that conducting business as a small green entrepreneur is prevalent according to the respondents. That such information could be a deterrent to potential new and small entrants was confirmed by almost all of the respondents. This confirmed the observations of Silajdžić et al. (2015) that the diffusion of information about market conditions and the prevailing opportunities to conduct green business was an impediment to green entrepreneurs. Overcoming these challenges required more effort in terms of awareness-creation efforts as well as efforts at improving skills and knowledge gaps and familiarity with green products, services, technologies and processes.

6.6. OVERALL CONCLUSION

This chapter discussed the findings of the research in relation to the extant literature as well as information gathered in the field by interviewing green entrepreneurs. The research set out to establish the nature of the barriers impeding the emergence and proliferation of green entrepreneurs in South Africa. The chapter highlighted that the barriers to green entrepreneurship pertained to constraints in accessing finance; accessing quality government services; as well as how information disseminated affected market demand for green products and services. Challenges in terms of access to finance pertained to the availability of capital, high costs, the availability of collateral as security for loans; as well as loan tenors. Challenges pertaining to the government were mainly about access to well-designed policies and programs; officials with poor knowledge about green technologies and green business; as well as the prevalence of corruption in government departments and agencies. Perceptions around the dominance of large green incumbents were cited as the main constraint to the emergence of green entrepreneurs in South Africa. There are additional dimensions to the barriers to green entrepreneurship in developing countries that are yet to be fully explored in the literature.

CHAPTER 7: CONCLUSIONS

7.1. INTRODUCTION

Chapter 6 presented a discussion of the findings from the data collected and in relation to the literature that was reviewed under Chapter 2, and the research questions that were investigated. This chapter presents conclusions which are based on the findings detailed in the preceding chapter. Recommendations for different stakeholders in the subject of green entrepreneurship are presented and future areas for research are proposed.

7.2. CONCLUSIONS

7.2.1. Access to Finance as a Barrier to Green Entrepreneurship

In this study it was established that green entrepreneurs perceived accessing financing for their green entrepreneurship ventures to be a significant barrier to green entrepreneurship. One of the major challenges they experienced was that across the range of the financing needs of a green entrepreneurship venture over the life-cycle of the business, financial instruments to address the different funding needs were not available (Bergset & Fichter, 2015). Entrepreneurs were able to muster the resources to initiate a business. For this they relied predominantly on personal resources mostly in the form of salaries and savings. Green entrepreneurs were also able to source funding from family members and friends to support the initial stages of the business (Bygrave & Quill, 2006).

There were also a variety of institutions that were venturing in to support green entrepreneurship ventures in this initial stage of the business. These institutions came mainly in the form of government departments and government agencies who operated different grant and loan support programmes. The private sector was also venturing into this space, predominantly through its corporate social responsibility programs. Academic institutions, business incubators and accelerator programs were becoming prevalent actors as well supporting green entrepreneurs (Bergset & Fichter, 2015).

Most of the funding at this stage was targeted towards establishing proof-of-concept as well as building capacity to operate and manage the business. However, scaling-up of green enterprises requires significantly more resources. This is particularly true because of the capital intensity of some of the approaches under green entrepreneurship, implied

by the technological and innovative focus of some of the solutions (Bergset & Fichter, 2015).

In order to provide significant funds to green entrepreneurs for the later stages of the business, financial institutions were only willing to make loans based on an established track record where commercial viability had been demonstrated (Cosh et al., 2009). Such a track-record also assisted financial institutions to understand and compute the risks associated with the multiple innovative approaches associated with green entrepreneurship. Green entrepreneurs were struggling to bridge the gap between starting up and achieving proof of concept; and scaling up into viable commercial operation. Of particular significance was the dearth of venture-capital type investors who tended to fill this role in more developed capital markets. The existing financial institutions were unwilling to operate in this riskier space and hence raising loans was difficult (Patzelt & Shepherd, 2011). This included development finance institutions whose willingness to accept risk did not extend far enough to allow them to operate in this market gap. Many green entrepreneurship ventures failed at this stage due to funding constraints.

Other challenges that entrepreneurs faced pertained to high interest costs; the requirements to provide collateral as loan security; as well as loan tenor rates that did not match the investment needs of the green entrepreneurship ventures. Some green entrepreneurs were reluctant to approach financial institutions for loans to scale up their businesses. The main reason put forward for this reluctance was the high interest costs associated with the loans made available. Due to risk perceptions arising out of the novelty and innovativeness of the green businesses; a poor track record; and perceptions about market demand for green products and services, financial institutions tended to charge exorbitant interest rates. The implications of these high loan costs when modelled into the project were to reduce the viability of the investment. This was particularly the case because the business was already absorbing other costs associated with its social or environmental orientation. The reluctance to tap into this much needed resource for financing the scaling up of a green entrepreneurship venture meant that emergence and maturity of such businesses was either impeded or terminated.

The requirement to provide security when approaching financial institutions for loans was a significant barrier for green entrepreneurs to overcome. Some were able to put up their homes and other personal assets as security in order to access loan financing. Others, who had previously established businesses, were able to put up assets from those other

ventures as security. A significant number, particularly those from disadvantaged backgrounds, were simply unable to overcome this hurdle. A number of green entrepreneurship ventures tended to be impeded by this constraint from flourishing.

In some instances, the loan tenors proposed by financing institutions were not suited to the investment needs of the green entrepreneurship ventures (Bergset, 2018). Because of the social and environmental dimensions of the businesses, it was often the case that longer investment periods were required in order to make the green entrepreneurship ventures viable. Entrepreneurs cited periods ranging from 7 to 10 years as suitable payback periods for their business ventures. However, it was often the case that financing institutions were only willing to make loans for periods covering 2-5 years. Periodic refinancing of loans in order to cover the investment period needed was considered an additional expense that in some cases it was not possible to take on.

Business acumen was another factor constraining green entrepreneurs from accessing financial instruments for their businesses from financial institutions (Bergset, 2018). Many entrepreneurs recounted stories of how they had been turned away from financing institutions when requesting for a loan. The feeling of the entrepreneurs, however, were that the financial institutions were right in taking that action. They did not feel that green entrepreneurs were being unfairly targeted or cheated in this regard.

The findings based on the information collected from the respondents confirmed those in the literature which established financial constraints for green entrepreneurs most often related to the following (or even a combination of them): perceived high levels of risk with the technologies and/or approaches associated with Green Entrepreneurship; high levels of capital required (Bergset, 2018; Ghosh & Nanda, 2010) ; perceived low prospects for acceptable returns (Bergset, 2015, 2018); or, the need for “patient” capital which can tolerate long investment periods sometimes associated with investments of a green nature (Bergset, 2018)

7.2.2. The Government as a Barrier to Green Entrepreneurship

According to the green entrepreneurs that took part in the study, the government had an important role in facilitating the emergence and proliferation of green entrepreneurs (Silajdžić et al., 2015). In instances where it was able to do this and do this well, the positive effects were evident and were lauded by the green entrepreneurs. The entrepreneur displayed the characteristics of institutional entrepreneurs and actively

engaged the economic structures in order to influence the arrangements and to get support from the system (Pawan et al., 2017). The government was playing an active role in terms of establishing policies and programmes of support; particularly those offering funding support and capacity-building support to green entrepreneurs. Another important role played by the government was as a disseminator of information about green technologies and processes (Linnanen, 2002; Silajdžić et al., 2015). This created market-awareness for green products and services and ensured the viability of green entrepreneurship ventures by increasing market demand (Silajdžić et al., 2015). Another important role played by the government and its agencies was in terms of conducting research about prevailing market conditions and opportunities and sharing these with green entrepreneurs such that they could be exploited (Silajdžić et al., 2015).

However, the government was also seen to be impeding green entrepreneurship quite significantly. One concern raised pertained to how many government officials were unfamiliar with various green technologies, processes and approaches despite the fact that they occupied pivotal positions to unlock opportunities for green entrepreneurs (Silajdžić et al., 2015). A related concern was how because of this dearth of skills and knowledge government officials had effectively outsourced their responsibilities and were allowing private sector interests to craft policies, laws and regulations. These private sector representatives tended to put in place measures that were favourable to larger green and corporate interests and not to small green entrepreneurs (Ball & Kittler, 2017). This was despite that oftentimes it was argued that they were crafted to the benefit of all players in the industry. The finding that the dominance of large private sector interests is due to a lack of knowledge and skills by government officials extends the findings of Ball and Kittler (2017).

Another concern that was very strongly raised pertained to corruption. Some respondents felt that the allocation of government contracts was being done in a manner that was unfair and not transparent. As a consequence, opportunities that otherwise should have been allocated to genuine green entrepreneurs ended up in the hands of undeserving individuals or companies who often did not have the competence to execute (Schaltegger & Hörisch, 2017). Government officials stealing the business ideas of green entrepreneurs was another major concern raised about the government. Green entrepreneurs were reluctant to approach the government for much needed support for fear of their ideas being stolen and executed by others. This finding about corruption by government officials as an impediment to green entrepreneurship extends the general

findings of (Silajdžić et al., 2015) about how the government impedes green entrepreneurship.

Long turnaround times of applications for government support programs was another significant challenge for the green entrepreneurs interviewed (Pinkse & Groot, 2015). The most often cited period by the entrepreneurs for waiting for an application to be adjudicated was 2 years. A number of the respondents recounted how they had almost gone out of business during the period they had been waiting to receive government support.

7.2.3. Information Diffusion and Market Barriers to Green Entrepreneurship

According to the respondents Ultimately, demand was not perceived to be a significant constraint to green entrepreneurship from the views of the respondents. In the South African context, it seems to be the case that there is sufficient diffusion of information about green technologies, products and services to ensure adequate demand for these. This contradicts the position of Haldar (2018) that establishing sufficient demand is often one of the most significant barriers to green entrepreneurship.

In the case of one respondent, due to the technological innovativeness of the green solution the entrepreneur was providing, potential customers questioned the legitimacy of the product due to a perception that the entrepreneur did not possess the requisite skills and could not garner the required resources to be in a position to be marketing such a solution. Green entrepreneurs may be struggling to market their products to market perceptions about their qualifications to operate in the space. Such a finding extends the existing literature in that it establishes that on the supply-side, skills and capacity building efforts in terms of information diffusion should not only be targeted at upgrading the capabilities of the entrepreneurs (Silajdžić et al., 2015); but it should have the related objective of reassuring the market about the abilities of green entrepreneurs to successfully deliver solutions, particularly those associated with technology and innovation. This is particularly significant in developing country contexts where legacy issues such as colonialism and racialised business practices tend to be a barrier to some groups participating in economic opportunities.

Perceptions about the dominance of large incumbents in the green economy also impede the emergence of small green entrepreneurs (Silajdžić et al., 2015). Respondents perceive larger green firms as having the resources and being able to

leverage economies of scale to take advantage of opportunities presenting themselves. They also perceive the government as being more inclined towards larger businesses; particularly also because it allows the interests of large business to have an outsized influence on government policy-making and program design (Ball & Kittler, 2017).

7.3. RECOMMENDATIONS FOR STAKEHOLDERS

7.3.1. Green Entrepreneurs

Green entrepreneurs ought to be proactive in pursuing opportunities for green business and the necessary support from the government and other stakeholders in the ecosystem. As demonstrated, the institutional entrepreneurship approach is rewarding to green entrepreneurs. By actively engaging the economic structures, green entrepreneurs can be able to impact the prevailing arrangements such that ultimately, they can be oriented towards better supporting them and their businesses. Small green entrepreneurs should continue to connect into their networks particularly industry associations and business chambers to influence the positions that are put forward on behalf of all green business. It is also through engaging through the existing structures, and as such aggregating their voice, that the particular concerns of small green entrepreneurs can eventually be articulated to the levels where they can be in a position to influence the design of the relevant policies and programs that are put forward to support them.

Entrepreneurs should also endeavour to showcase their experiences as green entrepreneurs. A significant part of the constraints they face pertains to a lack of understanding about the technologies and innovations that are implied by green entrepreneurship. Presenting the products and services that are being marketed; and particularly the benefits they generate, even beyond the environmental and social impact, will promote a favourable view of the sector and of green entrepreneurs in general. Sharing experiences also pertains to the challenges faced. New institutions and actors are entering the green entrepreneurship nexus each day with a view to filling the multiple gaps that exist in the ecosystem and that are a barrier to green entrepreneurship. In order for this to be done successfully, what will be required is a good understanding of the nature of the constraints, as well as a informed discussion about what appropriate solutions might be.

7.3.2. Government

The government should look into establishing a platform that would collate and present consolidated information to green entrepreneurs about the nature and type of instruments of support that are available to them. This can be extended further to include standardised application processes in order to further reduce the burden associated with applying for these programs. Reviewing the application process for government support programs also presents an opportunity to investigate why it is that processing turnaround times for applications for support take so long. Concerted effort must be put into resolving this major challenge for green entrepreneurs.

The government should intensify its efforts at capacitating its officials with knowledge, skills and experiences pertaining to green technologies, processes and solutions. Frequent engagement with green innovators as well as international benchmarking are some of the methods that can be adopted to bring this key component of the ecosystem to the level required in order to support green entrepreneurs. The government should also look into measures to deal with the perception of corruption being carried out by government officials. Establishment of mechanisms to appropriately manage intellectual property issues pertaining to green entrepreneurs, such as establishing a standardised and trackable system of non-disclosure, is one way in which this could be addressed. Improved enforcement including stiffer penalties for those found to be in contravention is another measure that can be adopted.

Lastly, the government should look into how public-private partnerships could be used as a tool to better support green entrepreneurs. As things currently stand, the complementarity between government support programs, which are targeted at the start-up phase and private sector programs- targeted at commercial operations, is minimal and woefully inadequate. Pursuing avenues to bring these into closer proximity, for example by establishing a blended finance instrument where green entrepreneurs can access technical assistance, loan financing as well as other credit enhancement instruments such as guarantees, is one practical example that could be pursued. Government financing institutions such as development finance institutions should look into improving support measures to green entrepreneurs. Through specially designed concessional-financing instruments, green entrepreneurs can be supported for the environmental and social benefits that they deliver to society. This can be achieved by providing loans at cheaper interest rates or introducing loan instruments with more suitable terms such as longer tenors and grace periods.

7.3.3. Private Sector Financing Institutions

Financing institutions should open themselves up to closer collaboration with the government in terms of crafting suitable instruments to support green entrepreneurs. As already discussed there is significant potential for public-private partnerships to address the constraints that green entrepreneurs face. A closer engagement with the entrepreneurs themselves, in order to better understand the nature of the challenges they face, together with partnership with the government, can allow for a better understanding of the risks associated with green entrepreneurship ventures and how these could be allocated to the stakeholder best placed to address them. In this regard, financing institutions can leverage the vast skills base in terms of financing investments to craft instruments that can better address the needs of green entrepreneurs.

7.4. LIMITATIONS AND RECOMMENDATIONS FOR FURTHER RESEARCH

What emerged from the study is that the barriers to green entrepreneurship tend to be quite context-relevant. As such the findings of this study, including as a result of the qualitative analysis approach deployed, cannot be generalised to other contexts as each will have its own prevailing circumstances and challenges.

A suggestion for future research is to replicate the study in other developing country contexts. South Africa is a unique country on the African continent in relation to the topic under consideration. It has a higher level of industrialisation and technological advancement. The dominance of large companies executing complex operations, including in the financial sector is another distinguishing factor. For such reasons it may be that the findings in other developing country contexts are different. As observed by Tan (2001) as well as Kronenberg and Bergier (2012) in general, examples of best practice in the field of sustainable development tend to be cited from developed countries and SMEs from developing economies have not received adequate attention despite that it is in such economies that their impact could be the greatest.

7.5. CONCLUSION

Despite numerous barriers, a number of small green entrepreneurs have been able to emerge and establish commercially viable and sustainable operations. Overcoming the barriers has required of them to engage the economic structures in order to garner the resources required as well as to influence the prevailing arrangements such that they could be reoriented to better support them. The entrepreneurs have articulated the challenges faced by themselves and their counterparts in terms of access to finance;

government policies and action; as well as accessing markets. These barriers cannot simply be ignored as green entrepreneurship possesses the potential to contribute to rapid economic growth as well as to a transition to a more sustainable society (Belz & Binder, 2017). Each stakeholder has a role to play and is encouraged to do so.

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APPENDIX 1: CONSISTENCY MATRIX

Propositions	Literature Review	Data Collection Tool	Analysis
<p>The ability to access financial resources is perceived as a significant barrier to establishing new businesses by Green Entrepreneurs</p>	<p>Linnanen (2002)</p> <p>Silajdžić et al. (2015)</p> <p>Bergset & Fichter (2015)</p> <p>Bergset (2018)</p> <p>Cosh et al. (2009)</p> <p>Patzelt & Shepherd (2011)</p>	<p>Questions 5-8</p>	<p>Green entrepreneurs are constrained by perceptions around difficulties in accessing finance. Perceived difficulties include instruments not suitable to the financing needs of their business ventures; high interest costs; requirements for collateral or security; a mismatch between financing needs and loan tenors; as well as capital amounts required to execute projects.</p>
<p>Prevailing government policy and regulatory arrangements are perceived as insufficiently supportive to promote the establishment and scaling Green Enterprises?</p>	<p>Linnanen (2002)</p> <p>Silajdžić et al., (2015)</p> <p>Porter & van der Linde (1995)</p> <p>Schaltegger & Hörisch (2017)</p>	<p>Questions 9-12</p>	<p>Government support is perceived to be a barrier to green entrepreneurship. Perceived challenges include unsuitable instruments of support; lack of knowledge about green technologies and processes; a policy bias towards large green firms; and, corrupt activities by government officials.</p>

	Pinkse & Groot (2015) Ball (2016)		Application and reporting processes are not perceived to be an obstacle
Perceptions about the extent to which information and knowledge about green technologies, models and approaches is sufficiently developed and diffused in developing-country markets so as to ensure sustainable market demand by consumers for green products and services are an impediment to green entrepreneurship?	Halдар (2018) Silajdžić et al., (2015) Ball (2016) Linnanen (2002) Ball & Kittler (2017)	Questions 13-15	Perceptions about market demand are not a significant obstacle to green entrepreneurs. Information about green technologies, products and services is perceived to be sufficiently diffused to ensure adequate market demand for green products and services. The perceived dominance of large green firms is a barrier to small green entrepreneurs entering the market.

APPENDIX 2: INTERVIEW SCHEDULE

Interview Schedule and Consent Form

Informed Consent Form

I am a Master of Business Administration (MBA) student at the Gordon Institute of Business Science and I am conducting research into The Barriers to Green Entrepreneurship in Developing Countries.

Our interview is expected to last 45 minutes to 1 hour; and will help us understand the nature of the challenges that Green Entrepreneurs, such as yourself, encounter as they are trying to establish their business ventures.

Your participation is voluntary, and you are welcome to withdraw at any time without penalty. All data collected will be reported anonymously, with identifiers used in place of your and your company's name.

If you have any concerns, please contact either myself or my supervisor at the details provided below:

Researcher	: Wakhile Mkhonza	Supervisor	: Jabu Maphalala
Phone	: 078.013.3790	Phone	: 071.679.2770
Email	: wakhilem@gmail.com	Email	: jabumaphalala88@gmail.com

Signature of participant: _____ Date: _____ 2018

Signature of researcher: _____ Date: _____ 2018

Name :
Company :
Date :
Start time :
End Time :

Introduction

- This study is aimed as understanding the barriers to green entrepreneurship in South Africa.
- Idea is that by understanding this we can make recommendations to better support entrepreneurs
- The interview is meant to be exploratory and conversational. You are thus encouraged to speak freely. Please be assured that the information you share in this interview will be kept confidential
- Before we begin, may I request that you sign the consent form. Please also confirm that you are happy with me using an audio device to record the interview.
- The interview will consist of 15 standard questions. Other questions will be posed based on the responses you provide.

Questions pertaining to the Green Business

- Tell me about your business? What is your product / service? Who are your suppliers / customers?
- How long have you been in business?
- How did you become aware of this business?
- Why were you motivated to start such a business?

BARRIERS TO GREEN ENTREPRENEURSHIP

Access to Finance

- Tell me about how you financed your business (Private sector loans or grants; Public sector loans or grants or tax-incentives; Own equity (e.g. Savings, salary, former business); Equity from other private parties (e.g. family, friends, angel investors).
- Tell me about whether having a green focus/Technology as a core part of your business was a weakness or strength in trying to secure finance to start it. (partnerships to overcome this?)

- Tell me about your previous experience in business and whether this was a strength or weakness in trying to access finance.
- By your assessment, are the types of financial instruments currently available suitable or not suitable to support businesses such as your own? If not, why? If yes, why? (difficult application requirements, type of instrument – smes v large/technology focus, interest costs)

Government support

- Have you ever tried to access any form of government support? If not, why not? (probes: suitability, administrative burden, awareness, reporting and accountability)
- Please tell me about your perception as to whether the government support available for businesses like yours is suitable or unsuitable, and why.
- Please share with me your experiences around the application process to access this support (unclear procedures; responsiveness and turnaround; corruption; opaque adjudication criteria)
- Share with me your experience around reporting and accountability for the government support received

Market Barriers

- Tell me about your perception as to whether the green aspect of your product is a weakness or strength in selling it to the market. (sufficient awareness and information diffusion to affect demand)
- Tell me about whether in your opinion your green product is competitive or not competitive against non-green / conventional products
- Tell me about whether by your perception being a small enterprise / start-up is an advantage or disadvantage against larger companies in terms of marketing green products.

APPENDIX 3: ETHICAL CLEARANCE

**Gordon
Institute
of Business
Science**
University
of Pretoria

08 August 2018

Mkhonza Wakhile

Dear Wakhile

Please be advised that your application for Ethical Clearance has been approved.

You are therefore allowed to continue collecting your data.

Please note that approval is granted based on the methodology and research instruments provided in the application. If there is any deviation change or addition to the research method or tools, a supplementary application for approval must be obtained

We wish you everything of the best for the rest of the project.

Kind Regards

GIBS MBA Research Ethical Clearance Committee