



The impact of the Development Bank of Southern Africa's investments on performance of renewable energy SMEs

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DECLARATION

I, Tshidi Mashabathakga, declare that this research report titled *'The impact of the Development Bank of Southern Africa's investments on performance of renewable energy SMEs'* is my own unaided work. I have acknowledged, attributed, and referenced all ideas sourced elsewhere. I am hereby submitting it in partial fulfillment of the requirements of the degree of Master of Business Administration at the University of the Witwatersrand, Johannesburg.

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ABSTRACT

This study assesses the impact of Development Bank of South African (DBSA) investment on performance of renewable energy solar photovoltaic (PV) SMEs. While The DBSA is one of the leading African Development Financial Institutions (DFI) wholly owned by the government of South Africa, established in 1983 to promote economic development, growth, and regional integration through infrastructure finance to improve the quality of people's lives Quantitative research was applied, the descriptive statistics used Analysis of variance (ANOVA) to analyse the empirical findings. The study indicates that funding had a minimal impact on employment, significant impact on solar photovoltaic installation and after-sales support skills development, a significant impact on expansion in the value chain into local warehousing for material storage and information and communication technology cluster development, and a minimal impact on revenue and market share growth. This study proposes a solution through the adoption of Porter's value chain framework to enable development and growth across the end-to-end business chain in order to realise job creation, critical skills development for solar PV solution, and revenue and market growth. Furthermore, the study recommends possible solutions for long-term air pollution (carbon emission), and landfill pollution from the solar PV renewable energy.

Keywords: DBSA, SMEs, Renewable Energy, Development practices

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DEFINITION OF KEY TERMS AND CONCEPTS

Social impact - generally indicates societal changes resulting from an action by an actor, or the effect of another person on an individual and/or organisation(Choe,2018)

Impact - a marked effect or influence (*Dictionarycom, 2012*)

Developmental practices - appeal to long-term investment enabling small and medium enterprises (SMEs) to focus on reconceiving products and markets and enhancing local cluster development, such as the supply chain cluster; demand and supply of products and services relationships triggered by SMEs' creativity and innovation in business, as mandated by an investment bank (*Nair & Sodhi, 2012*)

Investment – allocation of capital in the expectation of some benefits or return and appreciation in value for future (*Dictionarycom, 2012*)

Development – entails tasks and processes to develop and implement growth, economic development (*Dictionarycom, 2012*)

1. INTRODUCTION TO THE RESEARCH

1.1. Introduction

This study assesses the Development Bank of Southern Africa's (DBSA) investment impact on SMEs in renewable energy, while this chapter presents an overview of the research through the background and related aspects, the problem statements, the research objectives, and the aim from which the research questions are derived.

1.2. Background

The DBSA is one of the leading African Development Financial Institutions (DFI) wholly owned by the government of South Africa. The bank was established in 1983 to promote economic development, growth, and regional integration through infrastructure finance to improve the quality of people's lives. According to the DBSA publication presented in the 2022 sustainability report, there are R33.4 billion worth of investment for economic infrastructure. This investment accelerates development by funding infrastructure in the energy, transport, water and sanitation, information, and communication technology sectors (DBSA, 2022). understanding the energy crisis in Southern Africa and the rest of the world, with the growing loadshedding, it is important to employ the alternative sustainable sources of energy such as Solar energy.

The DBSA bears the responsibility for infrastructure development in the Southern African Development Communities (SADC). The regional integration projects invested R33.4 billion, to support regional development and integration by investing in energy and transport infrastructure projects to facilitate trade and Africa's global competitiveness. This financial institution has provided over R90 million towards electricity distribution and renewable energy projects. The DBSA is amongst the list of national development banks operating in the South African Development Communities (SADC) region to supply the finance for development projects. These energy projects have delivered additional activities with co-benefits, including job

creation, increased industrialization through the expansion of regional trade-in service, and market creation (DBSA, 2022).

The DBSA development strategy is aligned to the South African Development Plan. Yaqoot, Diwan, and Kandpal (2016) cited vision 2030, the African Union's Agenda and the Sustainable Development Goals (SDG), the SDG 7 ensures access to affordable, reliable, sustainable, and modern energy for all through preparation and funding for energy programmes and supporting under-resourced municipalities. Furthermore, SDG 8 promotes a sustainable economy and an inclusive impact mandate promotion that extends to the employment of local labour and contracts in projects where the DBSA plays the role of an implementing agent. According to the DBSA sustainability report, the projects created about 8 344 and 2088 jobs in 2018, and 2019 respectively, while 1087 and 2028 SMEs benefited.

The bank creates wealth through activities for its main stakeholder groups, including shareholders, social partners, providers of debt capital, such as the National Treasury and the Department of Mineral Resources and Energy and other global financial institutions. The institution creates sustainable value over the short, medium, and long term by managing resources and relationships translated into business models outcomes. Its value creation landscape has business model pillars that constitute financial capital, social and relationship capital, and other forms of capital.

Notably, in 2010, The DBSA, together with Department of Mineral Resources and Energy (DMRE) and National Treasury, established the independent Power Producers office (IPP office), to enable a programme to increase South Africa's electrical power generation capacity (IPP-Projects, 2021). In lieu of an energy infrastructure investment programme, the DBSA has partnered with the IPP office with a direct link to renewable energy SMEs. This investment ensures that the DBSA advances its mandate to grow energy infrastructure and create jobs, local industry development and renewable energy skills, as per SDG 7, access to affordable, reliable, sustainable, and modern energy. The IPP projects' value chain includes energy generation and energy management, particularly infrastructure installation, such as solar panels, transformers, electricity reading meters and wiring, just to mention few.

Notably, the DBSA funding is significant in the SMEs sector, given its high failure rate. Several laws have been introduced in South Africa to sustain the stability and growth of SMEs. However strong participation is required from both public- and private-sector investors (Booyens 2011:67). To that extent, Bosma (2016), in the Global Entrepreneurship Monitor, reported access to formal financial support in South Africa is no worse compared to other developing countries, hence an inadequate 27% of start-up businesses stand a chance of receiving a loan from the financial system, raising the concern of enhancing the potential business (Bosma, Schøtt, Terjesen, & Kew, 2016). This pattern is by no means South African specific; it is the same across the African continent (Rungani & Potgieter, 2018). The South Africa government has since made available an array of funding programmes; however, the ecosystem challenges remain lack of business development awareness programmes and marketing initiatives which subsequently constitute failure in SMEs (Svenson, 2022).

It is clear that despite the lack of awareness of programmes, there are also specific challenges particularly in the energy market, such as inaccessible capital, information and capacity building (Mkhwebane & Semelane, 2020). Considering the funding as a constraint for small business growth and the economy, this study explores the impact of the funding from the DBSA on renewable energy small businesses in South Africa. The next section outlines the importance of small-medium enterprises, the background of the SMEs sector and factors hampering growth in the sector in detail.

1.2.1. South Africa's Small and Medium Enterprises

In South Africa, it is noted that SMEs support economic development in low- and middle-income economies, since small businesses create employment and business interactions among local small businesses. Most critically, Maphosa, et al. (2020) has shown that there is a correlation between small business in the renewable energy sector and economic development on both micro-and-macro-economic level. Nkoana. (2018) adversely, the lack of government monitoring and awareness about renewable energy projects, particularly IPPs, and limited skills prohibits the SME promotion in the energy sector (Nkoana, 2018). Mulibana, et al. (2021) alluded to the

importance of radical innovation activities being crucial in promoting SMEs' establishment. Radical innovation is believed to be an enabler for small businesses growth in a South African environment where there are frameworks and policies that allow partnerships between corporates and the public to exist.

Mckinsey (2020) cited that the small-medium enterprises contribute about 98% of economy-wide business and 60% employment in both informal and formal SMEs. In the first quarter of 2021, amid the Covid 19 global pandemic, the SMEs started showing recovery, compared to years before the global pandemic, subsequently the second quarter has shown strong economic indicators boosted by resilience in the energy market, allowing energy producers to supply up to 100 megawatts of solar energy to Eskom. The upswing in the recovery has seen an employment rate of about 633 000 jobs in SMEs compared to the previous year (Seda, 2021). While the estimation of SMEs' contribution to the South African economy differs from source to source, SMEs contribute about 38% to the country's gross domestic product (Mckinsey, 2020). It is notable that SMEs are significant in an environment like South Africa's, with uncertainties and economic instabilities.

1.2.2. Small-medium enterprise sector background

In South Africa, there are various bodies and regulations that govern the business structures and policies. Leboea (2017) highlights that the Department of Trade and Industry (DTI) classifies SMEs in line with the National Small Business Act (102 of 1996). To provide for the Advisory Body and the enterprise promotion urgency, DTI defined small businesses based on the standard industrial sector and subsector size of the class, equivalent of paid employees, turnover, and asset value (Leboea, 2017), as outlined in Table 1.1 below

Table 2.1

Department of Trade and Industry: SMEs categories

Sector	Size of class	Fulltime employees	Turnover	Assets value
Agriculture	Medium	100	R5m	R5m
	Small	50	R3m	R3m
Mining & Quarrying	Medium	200	R39m	R23m
	Small	50	R10m	R6m
Manufacturing	Medium	200	R51m	R19m
	Small	50	R13m	R5m
Electricity, Gas & Water	Medium	200	R51m	R19m
	Small	50	R13m	R5m

Source: Banking Association of SA (2020)

Table 1.1 above shows the SMEs structure ranked from small to medium enterprise categorised according to firm size and revenue. These SMEs in their categories contribute significantly to economic growth (Leboea, 2017). With the research probing the underlying causes of inevitable SMEs failure, it is worth noting that failure means an initiative which was not implemented, or abandoned following the unavoidable reasons, mainly affecting developing countries' SMEs that succeed initially but fail after a year or so (Noudoostbeni, Yasin, & Jenatabadi, 2009). As failure persists and continues to threaten the success of small businesses, it is worth understanding the cause of failure. Bushe (2019) alluded that each failure needs to be reviewed as a unique case and be treated on its merit. It is therefore the purpose of this study to review different cases under which SMEs failed and the historical emergence of SMEs' development to provide a substantiated base for development.

Haselip, Desgain, and Mackenzie (2014) alluded that the absence of local financing has been shown to be a major barrier to set-up and grow energy SMEs, while the growth dependency of donor-backed programmes could be significant in SMEs development, essentially triggering growth and profitability (Haselip et al., 2014). The study suggests that amongst many other factors, the financial obstacle has been flagged as a major hindering factor affecting newly established energy SME growth (Fatoki & David, 2010). Notably, access to finance has shown a solid trend towards an energy SME footprint. Igwe, Ogundana, Egere, and Anigbo (2018) harmonised the view of capital access and asserted that out of the 2767 firms surveyed on the topic of factors limiting SME growth, access to finance was ranked the number one factor hindering business success (Igwe et al., 2018). This background provides the

justification to explore the capital impact on energy SMEs development within South Africa's Gauteng province.

Historically, it has been observed that energy SMEs could not grow to their full potential due to insufficient proper technology, marketing awareness and a relevant skillset to exploit the provided resources (*Aliyu, Modu, & Tan, 2018*).

Fatoki and David (2010) observed that amongst the number of energy SMEs that failed in the past, it has been noted that management skills had a huge negative impact on growth. Equally, the access to markets and infrastructure stood in the way of energy SME growth, and, according to Aliyu et al. (2018), access to electricity in the developing market should create a competitive market environment for SMEs to grow. The willingness for state organs to address electricity supply crisis could enable SMEs to participate in the economic activities and grow.

To understanding the small business emergence better, it is crucial to understand the formation of SMEs in South Africa. The SMEs have emerged from cases, such as Small Business Development theory, Entrepreneurship and expanding the business sector in a Developing economy, such as South Africa. *Noudoostbeni et al. (2009)* show that the emergence of SMEs have seen the De Beers mine adopting a small business initiative, assigning R1 billion for SME development by identifying those areas of business that SMEs can deliver. South African Breweries also followed by establishing a commercial equity programme targeting enterprises owned by people from the disadvantaged group with the ability to earn sustainable and mutually beneficial relationships. This meant setting SME contractors, suppliers, training, and workshops through corporate projects, such as the Blue project (*Noudoostbeni et al., 2009*). As the evidence suggests, it can be deduced that big firms and corporates' mandate to drive small business development is happening and more courage is required to support this development moving forward.

It is also appreciated that SMEs emerged from economic, social, and financial sustainability created by producing goods and services in support of technology and business innovation (*Masocha & Fatoki, 2018b*). To put this view to perspective,

social sustainability means a vital dimension for both large and small businesses as they rely on the local communities' well-being, stability, and success (Masocha & Fatoki, 2018). It is equally important to relate this view to concept of Corporate Social Value (CSV). Corazza, Scagnelli, and Mio (2017) conceptualised CSV as a strategic approach that identifies and expands the connections between societal issues and the business. The CSV strategies appeal to the long-term investments that shape sustainable competitiveness by focusing on social and environmental goals; such strategies include reconceiving products and markets and enhancing local cluster development (Corazza et al., 2017). These strategies are common in South Africa where various policies and structures are introduced to support partnerships between corporates and small business; these include preferential procurement, and the Broad-based Black Economic Empowerment as an integrated programme launched by South African government to address inequalities.

As Masocha and Fatoki (2018a) have indicated, it is clear that SMEs have emerged from various cases such as big firms and corporate who were invested or mandated to intervene in the small business development initiatives, and those corporates with desire to do social good. Thus, this study has adopted the SMEs emergent theory, essential to guide areas of development, congruent to economic and social sustainability on co-creation of economic value and the notion of CSV's long-term investment goals which includes employment and growth for small businesses.

1.3. Research conceptualisation

The research conceptualisation section is divided into four main sub-sections, namely, the problem statement, the purpose of the research, the questions and objectives and the significance of the research. These sections are explored successively in that order.

1.3.1. The research problem statement

1.3.1.1. Background

While South Africa is struggling with high unemployment, standing at 34.4%, equality and small and medium businesses are regarded as the booster of business and job creators (Omarjee, 2021). It is important to note that employment is triggered by macro-economic factors, such as, demand-and-supply and capital availability, essentially driving trade activities system, and capital remains a key resource in the chain. While appreciating the significant role of this sector on 38% GDP contribution and 60% of country's workforce across all the sectors (Mckinsey, 2020), this sector has displayed the potential to grow employment and GDP in future. It therefore the purpose of these to envisage how the DBSA investment could make renewable energy SMEs could potentially grow successfully and contribute to GDP and employment rate growth.

Equally, from a larger cost implications perspective, the National Planning Commission (2021) outlines South African National Development plan (NDP 2030), and the need to foster an Environmental, Social and Governance "ESG" programme to address environmental pollution. This NDP 2030 triggered the carbon emission's Sustainable Development Goals (SDGs) to be implemented as an intervention to tackle/reduce coal generated electricity.

1.3.1.2. Problem statement

In South Africa, 30% to 90% of SMEs fail due to various factors, including lack of financial support, according to Nemaenzhe (2011). The fundamental cause of SMEs' failures includes the lack of financial support from the institutions mandated by the government (Nemaenzhe, 2011). Congruently, Ramasobana, Fatoki, and Oni (2017) asserted that developmental challenges remain at the center of SMEs, financial management and marketing practices are identified as some of the factors limiting small business growth, while financial management inefficiencies are related to 70% to 80% business failure (Ramasobana et al., 2017), while Beneke, Blampied, Dewar, and Soriano (2016) alluded to marketing practices being identified as a cause of failure, due to poor target market reach and the impact of the non-existence of learning orientation on marketing practices, ultimately affecting the potential for businesses to attract new business and growth (Beneke et al., 2016). These studies presented the view that, while small business can be associated with various factors,

but not limited to financial support, lack of financial management skills from a business management perspective, skills and learning, and marketing practices can be detrimental to market growth. Given the failure and the lack of support, this research assesses the how the DBSA funding could make renewable energy SMEs success in relation to employment, skills development, cluster (industrialisation) and revenue and growth. While the secondary problem is the environmental pollution (carbon emission and landfill), this study aims to recommend the opportunity for future studies to assess the larger cost implication if renewable solar energy generation is deemed a replacement for coal energy generation.

1.3.2. The research purpose (aim and objectives) statement

This study focuses on exploring the impact of the DBSA investments on energy SMEs' development while gaining more insight, by first reviewing the literature to understand the problem's existence and contributing factors; second, to construct and present results showing the theoretical objectives' input as the linkage between the objective view of the general statement on the developmental practices; third, apply a quantitative research strategy to analyse the effect of investment on employment, skills, cluster, and revenue and market growth. And empirical analysis of data to evaluate the investment impact on developmental practices, essential to address the following research questions and objectives.

1.3.2.1. Research questions

- ❖ What is the impact of the DBSA funding on the SMEs' employment?
- ❖ What is the impact of the DBSA funding on the SMEs' skills development?
- ❖ What is the impact of the DBSA funding on the SMEs' clusters development?
- ❖ What is the impact of the DBSA funding on the SMEs' revenue and market growth?

1.3.2.2. Research objectives

- ❖ To assess the impact of the DBSA funding on the SMEs' employment.
- ❖ To assess the impact of the DBSA funding on the SMES' skills development.
- ❖ To assess the impact of the DBSA funding on the SMES' clusters development.
- ❖ To assess the impact of the DBSA funding on the SMES' revenue and market growth.

1.3.3. Significance of the research study

The energy SME sector and the community of Gauteng province will benefit from the business scaling, employment, and skills development while energy SMEs realise growth through the establishment of clusters or industrialisation working business model to boost the use of investment received. More successfully, locals can recognise a low cost of living by getting employment locally. The GPD will realise a significant growth contribution, and the employment figure will rise while the poverty curve declines. The study contributes to the body of knowledge and translates value to investors and future studies.

1.3.4. Delimitaion

Pertaining to the research boundaries, the study only focused on renewable energy SMEs within the DBSA value chain, in partnership with IPP-Projects in Gauteng province.

As outlined in the problem statement, the larger cost implications remain the need to foster the Environmental, Social and Governance "ESG" programme to reduce the environmental pollution generated from coal burning with renewable solar energy generation. However due to resource constraints, this study only focuses on the SMEs contributions towards employment, skills development and cluster development, and recommends larger cost implication for future studies.

1.3.5. Assumptions

The study made the following assumptions;

- ❖ Participants provided honest responses to the questions, given the assurance of guaranteed anonymity and confidentiality to maximise truthfulness.
- ❖ Postpositive knowledge claim which presumes that the causes determine the outcomes or effects.

1.4. Preface to the research report

This research project is divided into six chapters as follows:

CHAPTER ONE. INTRODUCTION TO THE STUDY

The first chapter that is entitled the introduction, has given a complete overview of the research. The problem statement and the research theory, the objectives that are set to solve the problem, and the questions derived from the objectives are presented in this chapter. Furthermore, the significance of the research as well as the conclusion of the chapter are outlined in the introductory chapter.

CHAPTER TWO: LITERATURE REVIEW

Chapter two provides a literature review covering the problem, the past studies, the explanatory framework, and the conceptual framework; The main research objectives are covered in the literature review.

CHAPTER THREE: RESEARCH METHOD AND METHODOLOGY

Chapter three discusses the research strategy, design, procedures, reliability, validity measures, and limitations to the project implementation.

CHAPTER FOUR: PRESENTATION AND INTERPRETATIONS OF RESULTS

Chapter four presents the results from the empirical study, in tables and figures and their interpretation.

CHAPTER FIVE; DISCUSSION OF RESULTS

Chapter five discusses the findings of the study and the argument from the other theories, the proposed solution and the implication for future studies.

CHAPTER SIX: SUMMARY, CONCLUSION, LIMITATIONS, AND RECOMMENDATIONS

The last chapter summarizes the research project, lists recommendations and the study conclusions.

1.5. Conclusion

This chapter has outlined the overview of the entire research through the background, research objective and questions; the next chapter collects and surveys the relevant literature, while focusing on the research objectives.

2. LITERATURE REVIEW

Introduction

The previous chapter outlined the research background, problem statement, and objectives from which research questions were derived. This section focuses on the review of literature on small business failures concerning economic development and sustainability and the research objective. Section 2.1 outlines the management research theories underpinning this project such Resource Dependence Theory and Value Chain Theory. In section 2.2, the empirical theories outline the various factors which results in the SMEs failure to grow and lack sustainability. Section 2.3 outlines the problem analysis; the study explores a three-level grounded theory landscape approach by looking at Small and Medium Enterprises' (SMEs) financial contribution in South Africa and other developing countries. Various theories on macroeconomic drivers of SME failure detail the factors that have significantly contributed to the lack of development in the SME sector. Section 2.4 outlines the research knowledge gap analysis. Section 2.5 present quantitative variables key to the research study. Section 2.6 This section underpins the theories under which the funding impacts the developmental practices and the framework for interpreting the research findings in line with research questions. Section 2.7 delimitations and the underlying assumptions.

2.1. Theoretical approaches

Amongst various management theories, this study assesses the impact of funding from the DBSA (IPP-Projects office) on small businesses' success; as such, the assessment focuses on the impact of resources towards the success of the SMEs. Exploring the various theories, the one that underpinned this research best is the Resource dependence theory by Alphonso and Olawale (2012), popularly known as the framework for understanding organisational-environment relations, which explored the effect of external resources of the organisation, in this case, the DBSA external funding through its Corporate Shared Value (CSV) channel, to support the success of small businesses (Drees & Heugens, 2013).

The CSV theory is Porter et al.'s (2012) theory, conceptualised as a strategic approach that focuses on identifying and expanding the connections between society and economic progress by addressing the social issues that interconnect with business (Corazza et al., 2017). The CSV theory has indicated that strategies appeal to long-term investments that sharpen sustainable competitiveness by focusing on social and environmental goals, such techniques include the following activities.

- ❖ Redefining products and services within the value chain itself.
- ❖ Reconceiving product and services for social and economic needs.
- ❖ Building clusters in communities in which they are operating.
- ❖ Focusing on those areas where your business can interact with those particular social challenges.

Kramer and Pfitzer (2016) proclaimed that enabling CSV clusters would require SMEs and businesses to partner for a common goal. As such, the role of business is to mobilise the organisations' budget in the form of impact investment to support SMEs' industrial development activities through enterprise and commercial cluster initiatives within the communities in which businesses operate, while SMEs establish a presence in communities by implementing and representing an integrated investment relationship and business approach towards sustainability and socio-economic development.

According to the DBSA (2019), indicated in the knowledge gap section, stakeholder relations report have shown an indicator for the Infrastructure Delivery Division of the DBSA to support infrastructure projects across all spheres of government, and have provided support to SMEs where R3.7 billion funding for 3753 SMEs benefitted, other than energy SMEs. The DBSA provides investments through the IPP project office with whom the DBSA have entered into a memorandum of agreement (MOA) to provide the necessary support to implement the IPP activities, including IPP-projects office for renewable energy (IPP-Projects, 2021). This investment ensures that the DBSA advances its mandate to grow energy infrastructure and create jobs, local industry development and renewable energy skills, as per SGD 7, access to affordable, reliable, sustainable, and modern energy.

The effectiveness of CSV structure and the DBSA investment footprint on SMEs provide the opportunity to introduce an interpretive framework linking the research questions and objectives to the enablers (SMEs) to address the research problem. The DBSA investments support IPP projects (energy SMEs) financially. Essentially, the bank provides the platform for developing small businesses through the local clusters. This relationship enables the DBSA to measure its investment impact, the relationship between the independent variable (impact investment) and dependent variable (employment, skills development, cluster and revenue, and market growth).

Despite the many definitions of CSR by various authors, McWilliams, Siegel, and Wright (2006) asserted that CSR is fundamentally established to contribute to societal goals for activist, charitable and socially good activities, besides that, external agenda pressure points drive it, essentially implying that impact investment is limited to CSR budget. The Agency theory further indicated that CSR is a misuse of corporate resources that would be better spent on value-adding projects (McWilliams et al., 2006). This is the case with Contini, Annunziata, Rizzi, and Frey (2019), who supported the firm's perception that traditional businesses and society understood CSR in terms of *ad hoc* charitable donations to be for a good cause, this notion implies that the inception of CSR policies was not geared for business and society but social good. This notion resonates with (Dube and Maroun, 2017, p.26), CSR practices in mining are perceived through legitimacy theory, "the entity's actions and policies displaying a concern for the community's well-being, including affirmative actions, equal employment opportunities, and producing environmentally friendly goods"; this theory draws the perception of CSR to society supporting business' policies to reciprocate donations for technological improvements and employment opportunities, while moral legitimacy theory, amongst other theories, is based on visible variables such as employment, reduced emission, and fewer workplace injuries (Dube & Maroun, 2017). These studies alluded to CSR as a socially good framework that engages stakeholders on short-term to long-term financial returns complemented by non-financial metrics such as worker safety, employee health, employment opportunities, housing, and related donations. Thus, the CSR theory aligns with the research problem under study, except that it does not define the conceptual framework to measure the dimensions of the independent and

dependent variables to answer the research questions under investigation. Contini et al. (2019) asserted that it is impossible to measure what we cannot define for as long as we use different definitions, we will get empirical results that are not reliable and comparable.

As far as the nature of this study is concerned, it is important to employ theories that religiously articulate the full value chain of business activities in the creation of products and/or services, such as the Corporate shared value, the Value chain and Supply chain theories, except for CSR which do not completely translate into value but donation. These theories can be used interchangeably as both refer to industry networks (Strange & Humphrey, 2019). According to the father of the value chain, Michael Porter, Porter's (1985), value chain refers to the range of activities which are necessary to effect products or services from the hypothetic view, through the various stages of production, distribution to consumer and after sales services, while the supply chain refers to the administration of information, materials, and finance across the manufacturer through to consumer and after sales services (Porter, 1985). Essentially, these management theories underpin the effect of the IPP-projects funding on skill development, job creation and clusters (industrialisation) development and innovation, and revenue and market share growth.

2.2. Empirical studies

Considering poor financial support, several studies have assessed that the lack of access to credit is one of the significant constraints which has resulted from commercial banks primarily focusing on lending to large formal enterprises (Kuzilwa, 2005). The commercial banks' red tapes towards SMEs remains a setback for those business that solely relied on banks to fund their growth and expansion, this limitation includes the credit limit linked to financial inclusion policies, which pronounces the fundamental requirements for capital access, such as required collateral that large firms would already have in obtaining loans. Also, SMEs' access to credit is generally considered riskier than that of larger firms (Quartey, Turkson, Abor, & Iddrisu, 2017). South African DFIs advocate the existence of SMEs credit

with the condition subjected to cost-recovery and risk strategies, effectively ruling out the disadvantaged (Maharajh, 2013). As the evidence suggests, the lack of funding support for small businesses is multifaceted and includes bank red tape, collaterals, and stringent loan policies. It is however encouraging that DFIs presented the willingness to support small business, subject to recovery strategies.

Fundamentally, businesses must invest in building competitive capabilities informed by learning and the upskilling of personnel. Beneke et al. (2016) asserted that a learning orientation has a significant affect on business performance, equally so, a market learning orientation is deemed crucial to enhance market growth. Congruently, Wiese (2014) cited Bruwer (2012) who argued against the view that a lack of financial support hinders small business growth, citing the 2008 recession that officially passed in 2010, with the economic indicators showing upsides, SMEs did not indicate significant change. Essentially, it can be assumed that small business failure is associated with functional activities required to operate any business, such as accounting, marketing, financing, and business management skills. Sitharam and Hoque (2016) also alluded to the SMEs' failure that results from the lack of managerial competency, skills, and technological capabilities. These skills include human resources, and information technology to connect the SMEs to the customers and suppliers (Sitharam & Hoque, 2016). As these studies suggested, small business failure is further attributed to a lack of those essential business development skills, with the presumption that the causes determine the outcomes or effects, the lack of skills development is subsequently linked to insufficiencies of financial support to grow SMEs.

Having noted the views presented by various studies, it is therefore important to highlight the significant contribution of SMEs on the wellbeing of the economy of South Africa. The underlying factors linked to SMEs' development failure include mainly financial support, with the presumption that the causes determine the outcomes or effects, subsequently lead to lack of financial management skills and, skills and learning, and marketing practices that are detrimental to market growth. Therefore, this study chose to assess the effect of the impact of funding on employment, skills development in marketing, information technology, supply chain,

and leadership variables. The next section outlines the research theory underpinning this research project, and the research questions and objective.

2.3. Research problem analysis

The three-level grounded theory framework is used to conduct problem analysis considering the “What, Why, and How” to uncover the research problem on the ground. Level zero represents the context of the research problem; Level one represents the focus on the core concepts of the research problem, and Level two observes the core concepts derived in levels zero and one and discussed in detail.

Table 2.2

Three-level grounded theory analysis

Literature review level	Focus Area	Why, What, How
Parent - (level zero)	The economic role of SMEs in South Africa	Why - this particular area of research is important
Focus discipline (Level one)	Lack of SMEs development in South Africa	What - concern variable
Core categories (Level two)	<ul style="list-style-type: none"> ✓ Lack of access to financial capital ✓ Macro environment factors ✓ Lack of skilled labour ✓ Less profitable SMEs ✓ Government policy 	How -explain the concern variable identified in level one

Source: researcher compilation(2022)

2.3.1. Level Zero - Economic role of Small and Medium Enterprises in South Africa

As in many developing countries, Small and Medium Enterprises (SMEs) have been identified as effective drivers of inclusive economic growth and development in South Africa. The Banking Association of South Africa (2020) points out that SMEs

make a significant contribution of 91% formalised business, providing an employer contribution of 60% labour force and estimated gross domestic product (GDP) contribution of 38% of the total growth. The DBSA (2011) indicated that SMEs drive the development of new sectors of the economy, such as energy infrastructure projects to support infrastructure development in the South African Development Community (SADC) regions. As the evidence suggests, SMEs provide levers for economic development in the context of business activities which include introduction of energy projects essentially containing the potential to create employment.

Mckinsey & Company (2020) alluded that SMEs are the lifeblood of South Africa's economy, are the most at risk, and indicated a GDP from SMEs standing at 39% compared to 46% of G2, and 57% to EU, essentially showing that this sector is a crucial engine of the economy as shown in Figure 2.1 below. The slowing economic growth is attributed to rating downgrades, the impact of COVID in 2021, and the 2008 global financial crisis that negatively affected SME's development year on year (Mckinsey, 2020).

SMEs are a vital component of economies, creating jobs and enabling inclusive growth





	 Majority of businesses	 Create private sector jobs	 Meaningful share of the GDP	 Enable inclusive growth
EU	99.8%	68%	57%	30%
G2	99%	65%	46%	25%
SA	98.5%	25.8%	39%	38%
	SMEs' share of total no. of businesses	SMEs' share of private sector workforce	SMEs' share of national GDP	SMEs owned by women

Figure 2.1: SMEs economic contribution in South Africa and other developing countries . Source: Mckinsey (2020).

Notably, South Africa's economic growth landscape is attributed to the level of employment. SMEs share of the private-sector workforce is 25.8% compared to 65% of G2 and 68% of the EU countries for creating private-sector jobs, as shown in *Figure 2.1* above. SMEs are potential source of employment in developing countries characterised by labour-intensive activities in the retail, trading, and manufacturing areas, while the extent of these activities depends mainly on the availability of raw material, taste, and consumption patterns of domestic consumers and export markets developments (Abor & Quartey, 2010).

2.3.2. Level One – Lack of SMEs development in South Africa

The theory has shown that the SME sector is one of the significant pillars of economic growth, as such, the government has the responsibility to support the development from the macro-economic level through growth. Sitharam and Hoque (2016) indicated that SMEs' failure resulted from the lack of managerial competency, skills, and technological capabilities. The descriptive findings revealed managerial competencies as having a positive influence on business performance, followed by outsourced skills such as accounting, human resources, and technological capabilities, information technology in particular, to connect the SMEs to the customers and suppliers (Sitharam & Hoque, 2016).

Mckinsey (2020) surveyed about a hundred SMEs to understand the reasons for poor development. For example, one of the top three reasons explored was "I wasn't aware of the government loan support," which implies the lack of transparency and access to valuable information. Also noted is that the national entrepreneurship ecosystem is vital to drive the growth and sustainability for SMEs. However, there is a prevailing gap in terms of SME markets. The lack of demand inhibits SMEs development. Notably, the government can significantly enhance the national entrepreneurship culture by promoting programmes that prioritise SMEs as preferred suppliers (Mckinsey, 2020).

Ramasobana et al. (2017) assert that South Africa's SMEs' developmental challenges contribute to 70% and 80% failure, attributed to inefficiencies in financial management and marketing practices, while on the upside, the marketing practices

provide an opportunity for SMEs to reach the target market for business growth (Ramasobana et al., 2017). In the advent of marketing practices is the learning orientation feature which significantly affects organisational performance towards capturing the target market and revenue (Beneke et al., 2016).

The other factors hindering growth are related to the skills and capabilities needed to drive development in the SME sector. Mckinsey (2020) points out the lack of a sustainable relationship between government and corporates contributes to limited skills and capabilities growth in the industry, insufficient supplier development long-term scale, and the lack of development plans to close supplier capability gaps (Mckinsey, 2020). This study necessitates the need for SMEs to invest in building skills capabilities and to engage in supplier development programmes for the benefit of scalability and growth. It is important for small businesses to understand the complexity of contractual terms and conditions required to secure funding, perceived as “information asymmetry”, to help access capital for business development (Alphonso & Olawale, 2012).

2.3.3. Level Two – The core categories affecting SME development in South Africa

Level two details how the focused lack of discipline identified in step one above potentially affects the development of SMEs and economic growth in South Africa.

2.3.3.1. Lack of access to funding

Financial capital is the essential resource to drive SME sustainability and sector development. Creating an enabling environment for SMEs positively impacts growth, however, the absence of an enabling environment negatively affects financial-related aspects, such as financial availability, infrastructure, and service delivery (Meyer & Meyer, 2017). As noted earlier, access to capital is deemed critical to business growth, the inability to access funds hinders SME development and decreases the probability of the SMEs remaining sustainable, consequently failing to realise the potential of contributing to poverty alleviation and employment creation (Leboea, 2017). Access to funding is moreover, linked to information availability; essentially, reliable records and collateral options. Banks rely

exclusively on collateral to mitigate new SMEs' information asymmetry and moral hazard (Alphonso & Olawale, 2012). To a greater extent, credit limits also add to inefficiencies within capital access, linked to this is the financial inclusion policies in defining the fundamental requirements for capital access, such as required collateral that large firms would have in obtaining loans, consequently affecting capital capability and growth (Quartey, Turkson, Abor, & Iddrisu, 2017).

Alphonso and Olawale (2012) asserted that creditors rely primarily on complex information in making the credit funding decisions for new SMEs with the ethical behaviour of entrepreneurs and the legal system boosting the possibilities of obtaining external debt. According to Mckinsey (2020), one of the top three reasons as to why small businesses are not getting the funds was "I do not qualify," which implied the lack of sufficient information. Congruently, Meyer and Meyer (2017) say that capital availability assisted in enabling the environment to effect growth and service delivery of the SMEs in the developing regions while it was simultaneously deemed as a stumbling block. Leboea (2017) asserted that capital investment helped small businesses to remain sustainable, essentially contributing to employment and other growth elements, such as skills development and learning.

In South Africa, there is an urgent need for structural transformation and an inclusive environment, considering the slow economic growth, equality, and state of employment. The focus on the energy sector and its SMEs is apparent, given the global strategic direction, as per NDP 2030, to improve the livelihood by addressing the climate change quest to curb carbon emission (CO₂) through initiatives, such as renewable energy (National Planning Commission,2021). While the capital investment effort to introduce and sustain renewable energy SMEs can be made successful by appointed DFIs, particularly the Industrial Development (IDC) and the DBSA, however the evidence suggests that the IDC funding model has been concentrated on the up-stream sectors and there is less focus on funding to facilitate the entry of SMEs, so it can be assumed the integrated industrial policy directs investment accordingly and has been in existence for a while (Goga, Bosiu, & Bell, 2019).

2.3.3.2. Lack of business management skills

At the heart of any form of business growth are good management practices. Meyer and Meyer (2017) mention that the management practices include the focus on meeting customer expectations, time management, employees' development, financial management, supply chain management, business development, and product development (Meyer & Meyer, 2017). Ramasobana et al. (2017) say that through proper marketing practices, SMEs are set to communicate their value proposition to their target market and realise the potential to grow beyond the stagnation point. Profoundly, Beneke et al. (2016) alluded to the essential need that SMEs are required to introduce relevant learning programmes and marketing capabilities for business development beyond just normal business practices. The practices are set to assist business in growing its revenue and expanding their market share.

Essentially, skills capabilities are necessary for businesses to remain competitive and grow. Equally, Mckinsey (2020) asserted that business founders struggle to up-skill personnel to ensure relevant knowledge capability to support business development. These skills gaps include supply chain management, customer relationships management, and networking to stimulate growth drivers. The enhancement of skills and capabilities can be made possible through government's partnership with industries to allow a learning environment for business sustainability (Mckinsey, 2020). Sitharam and Hoque (2016) suggest that business performance is related to the quality of human resources, accounting, and technological capabilities. Technically, the SMEs find it challenging to compete with the lack of technical (IT, ERP systems) skills which are essential to help the organisations to communicate with customers, suppliers and facilitate business transactions. It is therefore focused on assessing the effect of capital investment on skills development across the levers of the business structure.

2.3.3.3. Macroeconomic factors

The macroeconomic factors remain in the interest of South African government to ensure policies are in the right balance to support economic progress in the country.

Leboea (2017) posits that macro-economic factors play an essential role in SME development; notably, the fiscal and monetary policies drive the demand and supply, job-creation, in the SMEs' development, and economic growth (Leboea, 2017). Amongst many other factors, rising exchange rates, interest rates, and inflation results in unfavourable supply chain trades and increase the cost of doing business (Sitharam, & Hoque, 2016b). The rising cost of doing business has a direct impact on SMEs' business models, if the cost structure presents a higher production cost, that takes away the business profitability essential for growth investments.

2.4. Research knowledge gap analysis

The research knowledge gap analysis was conducted through the Knowledge Gap theory, the Knowledge Gaps Analysis and the Gap analysis Conclusions are elaborated below:

2.4.1. Knowledge Gap theory

The study was conducted to understand the challenges facing SMEs' developmental path, mainly, the inability to turn businesses into sustainable ventures. The study further gained an understanding of factors that resulted in SMEs' failure. Contextually, after conducting a theoretical sampling and applying substantive grounded theory focusing on the drivers of SME development in a particular area, the study showed that skilled labour has a direct impact on SMEs' development (Leboea, 2017).

While the fundamental issue remains, the SMEs continue to show less development-pending many factors. The literature assessed the impact of firms' entrepreneurial characteristics on access to finance by SMEs in South Africa. The results have shown a significant positive relationship between collateral (personal and business property) and access to funding, essentially meaning the entrepreneurial characteristics contribute significantly to SME development (Fatoki & Asah, 2011). Similar to findings by Leboea (2017) on skills development and SMEs' development,

it becomes evident that skills capability on business growth should be assessed deeply and precisely to understand the real impact on SMEs of focus.

Choe (2018) assessed the impact of investments on profit portfolios and high-growth companies whose operating value model is driven by social purpose and proposition for clients and investors to respond to long-term trends on societal challenges. The outcomes indicated that in realising the significant social impact, the company's core function, guided by impact value, provides the evaluable and measurable benefits (Choe, 2018). As Schrötgens and Boenigk (2017) explored the social impact investment behaviours of private investors on the effects of social impact, the social impact investors are likely to make an investment based on perceived project innovation (Schrötgens & Boenigk, 2017). Contextually, the concept of social impact is being used interchangeably with social value, corporate social responsibility (CSR), and shared value. Similarly, this study resonated with the various applications of social impact value, thus further exploring the theoretical relationship between social impact (shared value) and investment as follows.

According to Porter and Kramer (2019), shared value is defined as a policy and operating practice designed to enhance the organisation's competitiveness while advancing the economic and social conditions in the communities in which the organisation operates. Corazza et al. (2017) defined corporate share value (CSV), citing Porter et al. (2012) who conceptualised this as a strategic approach that focuses on identifying and expanding the connections between societal and economic progress by addressing the social issue that interconnects with business. The authors emphasised that CSV strategies appeal to long-term investments that shape sustainable competitiveness by focusing on social and environmental goals, including reconceiving products and markets and enhancing local cluster development (Corazza et al., 2017). Congruently, shared value creation is a strategy that requires expertise from the society and business to subject the projects to the analysis for investments viability (Kramer & Pfitzer, 2016). These concept(s) brought about the role of society and business interactions to address economic gaps. Moreover, according to Corazza et al. (2017), the SMEs play a partnering role in enabling the CSV cluster, essentially attracting the investments, and making a visual representation through external communication and internal implementation, while

representing an integrated investment relationship towards sustainability and economic development (Corazza et al., 2017).

While some theories indicated that impact investment featured many philanthropic organisational studies, notably the profit investment seeks to generate social and environmental good while generating the profit returns. Congruently, impact investment intended to create a positive impact beyond a financial return, and must be measurable as it is necessary to prove causality with a financial return and show the positive effect on society and small business development (Midoux, 2017). Santpoort, Bosch, Betsema, and Zoomers (2017) argued that instead of attributing effects to specific societal causes, the focus should be shifted to the outcome of transformative processes, stimulated by investments and interventions. It is therefore the view of this study to say, it is crucial for investors to consider the social good benefits, however there is a need to have the revenue model embedded in the investment contract or policy, and to curb the existing measurement gap by introducing a strong measurement mechanism to help realise the impact.

Santpoort et al. (2017) alluded to insufficient evidence to show whether private sector investment in Africa and other developing countries successfully provides for the intended socio-economic impact on a local level. The existence of impact assessment seemed to be limited to government intervention projects, executed by non-profit and non-governmental organisations and large-scale investment infrastructure, mainly measured by the Organisation for Economic Co-operation and Development (OECD) to ensure an effective corporate governance framework, disclosure, and transparency (Santpoort et al., 2017), while there seemed to be a gap in the IDC funding policy for entry SMEs due to alleged inexistence of integrated industrial policy to directs investment accordingly (Goga et al., 2019). There seems to be a gap in terms of the monitoring of infrastructure projects by the OECD with limited resources that becomes a limitation to in-depth impact assessment resulting in inadequate evaluations, and the policy makers of DFIs which limit support for SMEs' development.

The DBSA highlighted that as an investing institution, it creates wealth through activities with its main stakeholders, including shareholders, social partners,

providers of debt capital (National Treasury, Department of mineral resource and energy and global partners). Amongst its capital pillars is the financial pillar, which includes equity, debt funding from investors and clients, while Social and relationship capital involves working with clients, partners, and government. A solid corporate shared value relationship with strategic stakeholders to align business practices with the societal needs has been established through these pillars. The institution highlighted that the bank continues to monitor ecosystem conditions through a rigorous business lens in the interest of socio-economic benefits in justifying impact investment (DBSA, 2019).

DBSA's (2019) stakeholder relations report has indicated that an indicator for the Infrastructure Delivery Division of the DBSA, that was established in 2013, is the support of infrastructure projects across all spheres of government. It has provided support to SMEs for R3.7 billion funding for 3753 SMEs. Considering the investment made, the DBSA indicated a developmental impact on long-lasting social and economic effects delivered by construction, water tanks, and other housing projects (DBSA, 2019). Evidently, the scope for the investment has covered most of the infrastructure projects excluding the energy projects, which necessitates the need for this study to explore the impact of DBSA investment on energy projects and SMEs developmental practices.

Corporate social responsibility (CSR) and competitiveness were among the vital drivers of SME development. Jeppesen, Kothuis, and Tran (2012) examined the concepts of CSR and competitiveness in relation to investors and sampled the interviews in South Africa and Vietnam with a structured questionnaire and face-to-face interviews with 110 owners and managers. The study concluded that CSR should be embedded in the organisations' vision, governance, ethical codes, values (Jeppesen et al., 2012). Congruently, CSR should align with community relations that involve collaborations and partnerships with different stakeholders, considering the investors' value for investment practices (Jeppesen et al., 2012). The CSR notion presents a link between business and society while in parallel, providing the competitive landscape for business, thus opening a learning opportunity for business and society in Gauteng, particularly the energy investors and the SMEs that aspired to grow in this sector.

2.4.2. Knowledge Gaps Analysis

Various studies have been conducted on the topic of SMEs' development internationally, and in Africa. However, some gaps in the literature need further exploration. This section outlines the knowledge gaps which are set to guide this research study further. Some studies looked at the SME's development in particular study areas, omitting the other geographical regions. Amongst other studies, Choe's (2018) study does not include the empirical analysis that represents the affected SMEs in a specific area and industry, however, it focused on South Africa broadly. This study opens a geographical gap to be explored within the energy industry. It is also worth noting that the studies examined insufficiently the factors affecting SME developments, such as analysing how impact investment and CSR bring about closing the small business development gap, as presented by Jeppesen et al. (2012) and Schrötgens et al. (2017). As a knowledge gap, these studies missed the business model to integrate business and society in a structured manner. This study is intended to focus on closing the knowledge gap between impact investment and CSR's role in society.

With the studies having explored various methodologies in different countries, this research is adopting some of these methodologies and frameworks to further explore them in the South Africa physical context, energy industry in the Gauteng region. Similarly, Choe (2018) applied a secondary data methodology on Impact investing companies located in Europe. Congruently, Jeppesen et al. (2012) conducted a CSR impact study through a semi-structured interview in Denmark to draw from the management or owner's perspective. It is worth researching this notion to add to the South Africa body of knowledge.

Leboea (2017) adopted a Grounded theory framework for critical thinking, making connections, and relationships within SMEs across South Africa. This study has also adopted a grounded theory framework to translate SMEs' causes of failure into understanding the relationships between impact investment and developmental practices among the DBSA, it's partners, and SMEs in the energy industry.

Corazza et al. (2017) defined CSV as a long-term development investment strategy that can help realise the real investment impact through reconceiving products and markets and enhancing local cluster development. This study has identified an interpretive framework gap, thus adopted the CSV strategy as an interpretive framework to add to the knowledge body and further interpret the empirical findings into recommendations.

The DBSA (2019) indicated a developmental impact on long-lasting social and economic impact realised by construction, water tanks, and other housing projects. This study focused on exploring the developmental impacts of other projects, such as the energy sector projects that have been delivered.

2.4.3. Gap analysis Conclusions

From the above theoretical concepts about South Africa, it is evident that SME development is attributed to the investment value creation process. With these theories, Choe (2018), Schrötgens et al. (2017), and Corazza et al. (2017) concluded that the relationship between business performance, impact investments, and CSV is linked to SMEs' development across developed and developing regions. This study has adopted the methodological approaches that studies did not research in South Africa's physical context, such as exploring primary data on SMEs in partnership with the investor to understand the effect of impact investment on developmental practices. The existence of insufficient evidence indicated by Santpoort et al. (2017) presented an opportunity to explore impact measurements mechanism and tools to realise the real impact of investment on SMEs development.

2.5. Quantitative variables key to the research study

In this study, quantitative variables are studied to help in the analysis of the research problem. Sukamolson (2007) defined quantitative variables as the sets of the data collected from units (organisations, group, concept, phenomena, etc.), and the data will initially differ between units. While 'variable' denotes a statistical term referring to a quantity that can differ on possible values or a feature that can take different forms at different times in different places and circumstances (Onen, 2016). In

addressing the research questions under study, “*What is the Impact of DBSA investment on SMEs developmental practices?*”, the concepts Impact Investment and Developmental practices translate into study variables that are explored to unpack the variable authenticity by linking dimensions into them. Onen (2016) has adopted the following framework to establish measurable dimensions of the research problem.

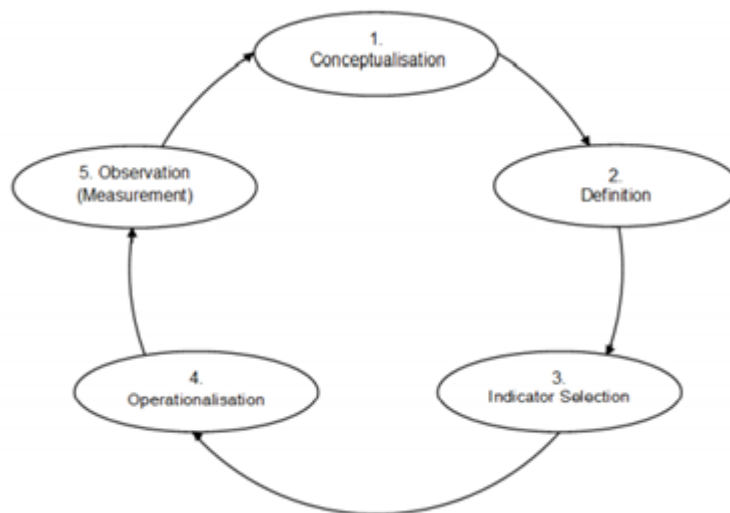


Figure 2.2. Conceptualising the quantitative variable dimensions

Sources: Onen (2016)

Subsequent to the conceptualisation of the variable in step one is the definition of quantitative variables of the research questions identified in this study: DBSA Investments (independent variable) and developmental practices (dependent variables). Ndhlovu (2011) says that investment in some contexts is referred to as Corporate Social Investment (CSI), an investment where a return is expected in terms of social uplifting for the broader change agenda and increasingly a return for the business or sectors itself, where collaboration becomes an enabler between development sectors, while flexibility and the speed at which corporates disburse funds and accounts has evidently been a more successful and efficient method (Ndhlovu, 2011).

Arslan-Ayaydin, Florackis, and Ozkan (2014) alluded to the measure of the investment drawn from the concept of financial flexibility. A firm with the ability to

access and restructure its capital structure has low leverage and high cash, thus dictating corporate investment and performance linked to region, size, age, and business group affiliation (Arslan-Ayaydin et al., 2014). Essentially, the amount of investment a specific SME receives will be proportionate to expected developmental practices' output.

To put development into perspective, development can be seen as the process by which economic well-being and the quality of life of a nation, region, local community, and individual are improved, according to targeted objectives. This development perspective resonates with the CSV strategic approach that focuses on identifying and expanding the connections between the societal and economic signs of progress explained earlier by Corazza et al. (2017). The developmental practices appeal to long-term investment, enabling SMEs to focus on reconceiving products and markets and enhancing local cluster development, such as supply chain clusters including the demand and supply of products and services, triggered by SMEs' creativity and innovation in business, as mandated by an investment bank (Nair & Sodhi, 2012). These clusters enable local business and employment as variable dimensions of the developmental practices as the dependent variable, while business linkages and an inclusive business environment create employment and empowerment (Baldo, 2014). In this study, it is theorised that the existence of clusters indicates developmental practice measures towards SME growth.

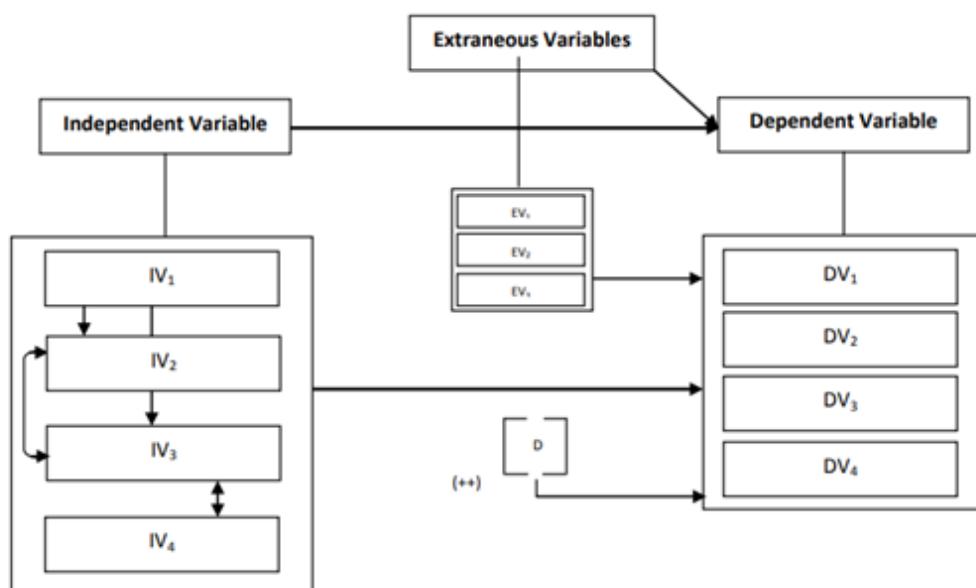


Figure 2.3. General model of a variable(s) framework

Source: Onen (2016)

This study adopts the general model of a conceptual framework, as shown in *figure 2.3* above. The Independent variable is measured through the economic value created by CSV developmental practices as the dependent variable (DV). The dependent variable (DV) dimensions are created by CSV, in which development is measured by employment statistics, skills development, cluster existence, revenue, and market growth.

2.6. Framework(s) and Theories for interpreting research findings

This section underpins the theories under which the funding impacts the developmental practices and the framework for interpreting the research findings. Section 2.6.1 presents porter's value chain framework. Sections 2.6.2 to 2.6.5 reviews the theories under which the funding impacted on developmental variables in line with the research questions and objectives. Section 2.6.6 presents the research study conceptual framework.

2.6.1. Porter's Value chain Framework

Porter's (1985) *figure 2.4* below, outlines guiding the end-to-end value addition activities starting from design activities, in-bound process for raw material and parts, the solar plant assembly activities, market of the product and services offered by the SMEs, and distribution and sales for commercial activities. To conceptualise the value chain process in line with the research questions, the resource dependence theory ascertains the procurement of external resources to drive the value chain to ensure competitiveness and the value chain theory to harmonise the research variable, employment, skills development, clusters/industrialisation development, and revenue and market growth.

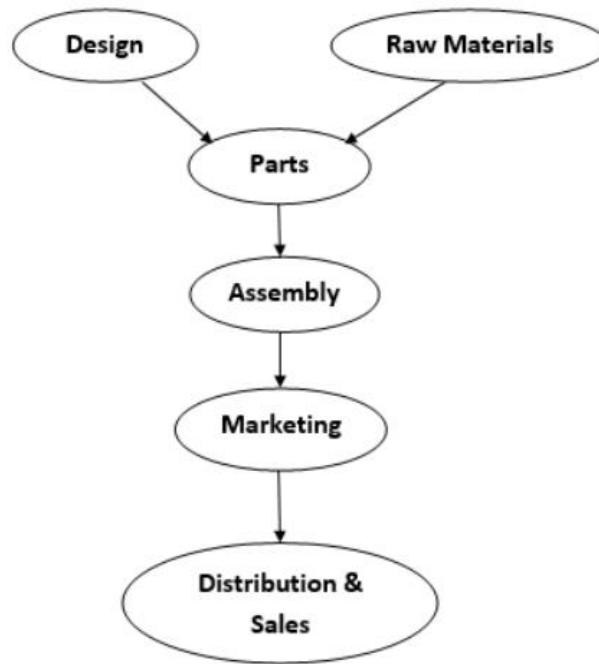


Figure 2.4. Porter's Value chain

Source: Porter (1985)

2.6.2. Impact of funding on SMEs skill development

Availability of funding is regarded as one of the critical resources for skills development. Mckinsey (2020) maintains that the lack of a sustainable relationship between government and corporates limits access to essential resources such as capital, which contributes to limited vehicles of skills and capabilities growth in the SME sector. Moreover, lack of supplier development's long-term scale, lack of development plans due to lack of capital and budget hinders the planning from curbing supplier capability and skills gaps (Mckinsey, 2020). Equally, complicated contractual terms and conditions required to secure funding are perceived as SMEs' information asymmetry, ultimately limiting access to funding to execute skill development (Alphonso & Olawale, 2012). These theories necessitate the need to explore the IPP investments' impact towards SMEs skill developmental practices.

Morris, Robbins, Hansen, and Nygard (2021) asserted that, in the advent of green energy, IPP-projects' office should encourage beneficiary sourcing first tier suppliers and localisation of value added services including developing of manufacturing

enterprises. To qualify this notion, *figure 2.4* above outlines guiding value add activities starting from design, raw material, parts, and assembly, as such, the localisation of sourcing and implementation of green energy infrastructure provides the opportunity for energy SMEs to ascertain skills sets. Baker (2016) points out that the technology supply for renewable energy projects has been led by foreign big companies with the expertise in project development. From the design value chain activities, technology skills to be imparted include solar photovoltaic cells (PV) modules (wafer inventors - electronic integrated circuits), solar PV panels installations, storage warehouse for modules, and inventor installation and connection. The skills set required for the inbound process for raw material and parts include demand planning, buying of components, and other sourcing activities. The next activity on the value chain involves activities to effect assembly and installation. To effect this, the skills set required include building of panels, frames, inverters, installation of transformers, cable trays, cells and glass. The energy SMEs also require marketing activity as part of the value-add process to connect the business with the markets. Lastly, the distribution and sales activities require the SMEs to have people with commercial know-how. As Baker (2016) alluded, commercialisation of renewable energy from SMEs required the IPPs to sell their power to Eskom (South Africa state owned power utility) (Baker, 2016). This means there is a need for skills sets such as connection of electricity meters to read the energy generated and distributed to the ESKOM grid, connection from the IPP to the grid, while sales value-add activities and skills sets include customer service, business development, commercialisation process, invoicing, and after sales maintenance services.

2.6.3. Impact of funding on SMEs employment and job creation

The growing unemployment rate can be attributed to inefficiencies of various structural factors within the economic development configurations. Mckinsey (2020) perceives the lack of corporate involvement as a hindering factor for SMEs to drive growth through creating employment among the youth and spearheading innovation. The inability to access funds hinders SME development and decreases the probability of the SMEs to remain sustainable, consequently failing to realise the potential of contributing to poverty alleviation and employment creation (Leboea, 2017).

Growing a small business means more resources, among which the financial resources, which implies that funding can enhance employment from SMEs. That stance has explained why it is essential to develop small businesses if the government wants to address the high unemployment, thus prioritising small businesses' funding. That position is comforted by the White Paper of 1995, which advocated that the need of the SMEs in South Africa should be through the National Strategy and Promotion of Small Businesses in South Africa, which involve the government. Booyens (2011) has reported that SMEs in South Africa can create jobs, thus making them a major attraction for public- and private-sector investors, which should be funded by both the government and the private sectors.

Despite the awareness of the SMEs requiring funding to create more jobs to combat unemployment, it is reported by many researchers that the industry is still facing some challenges. According to Rungani and Potgieter (2018), and confirmed by Byubyukan and Sofia (2020), the lack of emphasis on the crucial areas that enhance the success rate and sustainability of SMEs is recorded as a major challenge for the sectors. That has explained the relative scarcity of the typical SME achieving substantial growth, which has prompted academics, management experts, and the government to be keen to discover ways to encourage SME success. As such, it can be deduced that access to formal financial support remains crucial to the SME sector and the South African government, ultimately employment needs to grow.

In this instance, the energy SMEs create employment through stages of its value-addition activities. Starting from the first value addition in *figure 2.4* above, solar SMEs set to employ people to effect the design of the solar solution, inbound value-added activities which require materials planners and procurement officers for planning and co-ordinating incoming raw material, such as panels, frames, inverters, transformers, cable trays cells and glass, while solar plants require technicians and general labour for solar plant assemblies, technicians and electricians to connect the meter for reading energy generated, do the wiring and grid connection and maintenance, and technical salespeople, commercial teams and customer service teams. Other employment would come from industrialisation (clusters) wherein

SMEs' supply chains would have extended their services to external resources to drive the value chain to ensure competitiveness.

2.6.4. Impact of funding on clusters development and innovation

Vertakova and Plotnikov (2016) alluded to the report by United Nations Industrial Development Organisation (2013), that industrialisation development has increased economic growth and innovation over the decades. Moreover, those clusters have become a key input for most policies' development around the world because they advocate the concentration of resources and funding in certain areas targeted for high growth and development and unique examples are Silicon Valley industrial development in California in the United States of America or the Bangalore clusters found in India to name two (Vertakova & Plotnikov, 2016).

The development of clusters of small businesses requires funding to locate, improve their business, gain market share, give those companies the enabling environment for SME industrial development, and give the principle of economy of scale that stands in favoring the cluster businesses. As recommended by the United Nations Industrial Development Organisation (2013), they are strong evidence from strongly performing clusters, and by disparity, have demonstrated that SMEs can achieve high levels of growth, steady quality improvements, and value-added, while at the same time remaining environmentally friendly, within the social and labour standards.

According to Baker (2016), South Africa had a scarcity in terms of technical capability to manufacture and deliver solar technology infrastructure as well as renewable energy equipment. An example was set pertaining to local content regulation by the Department of Trade and Industry (DTI), where foreign suppliers would bring in fully imported panels, pack them in boxes and claim local content by paying those who pack things in boxes, this claim had affected the execution of renewable energy IPPs to realise generation for employment, skills development and increased local manufacturing, while the need for financial institutions for technology competitiveness has put the local content suppliers in a disadvantageous position (Baker 2016).

As such, the emphasis on the local content threshold policy has been set to enable SMEs to expand other services within their value chain. As the RDT suggest the procurement of external resources to drive the value chain to ensure competitiveness, this industrialisation can take the form of manufacturing and assembly plants for solar PV accessories, and such accessories might include the assembly of solar PV modules originally being provided by Swiss and German equipment manufacturers, a lamination factory originally supplied by Jinko first manufacturing in China, storage warehouse for modules owned by Suntech foreign company, etc. (Baker ,2016). The success of these clusters' adoption would lead to greater opportunities to realise an extended lens for IPP-projects to increase the employment landscape, skills development and growth.

2.6.5. Impact of funding on SME's revenue and market growth

Undoubtedly, SME financing has been at the centre of policymaking in the wake of the recent financial crisis. Many central banks have been initiating programmes for lending to the SME sector, given that SMEs are regarded as the lifeblood of South Africa's economy. Also, it was reported by Mckinsey (2020) that SMEs across South Africa represent over 98.5% share of total number of businesses, employ about 25% of the private sector workforce across all sectors. At the same time SME's, provide up to a quarter of job growth in the private sector, leading to a considerable market share growth or even contribution to the GDP, amounting to 39% of the share. According to Dixon and Rollin (2012), there is a strong relationship between start-ups reporting access to financial difficulties and the amount of credit they have received. Access to finance was reported to be one of the most significant constraints on activity.

There is an adverse relationship between reports of financial difficulties and the amount of credit received, impacting firm profitability. Research has shown that SMEs who have reported rising profits have also confirmed they have received some funding, leading to funding increasing profits and thus market share for small businesses, and adversely, it is consistently the smallest firms that are most constrained by lack of funding support (Beck, Demirgüç-Kunt, & Maksimovic, 2005). Quartey et al. (2017) asserted that the credit limit is attributed to financial

inclusion policies in defining the fundamental requirements for capital access, such as required collateral that large firms would have in obtaining loans, consequently affecting small business' cash model, including profitability and growth.

2.6.6. Research study conceptual framework

Figure 2.5 outlines the conceptual framework in line with the value chain theory. The framework follows the value-added activities from which the research questions were adopted, to guide the empirical survey questionnaire of this study.

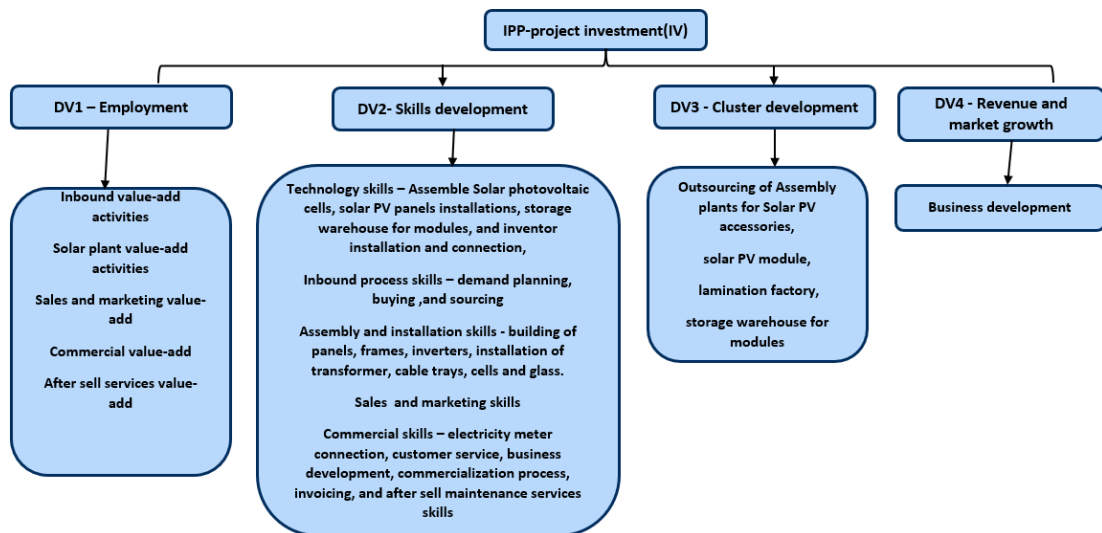


Figure 2.5. Research study conceptual framework

Source: Research compilation (2022)

3. RESEARCH STRATEGY, DESIGN, PROCEDURE AND METHODS

3.1. Introduction

The previous chapters have reviewed the literature, factors limiting SME growth and the impact of funding on employment, skills, clusters and revenue and market growth, the available investments from the DBSA and IPP projects. This chapter explores the methodology, the research strategy, research instrument, methods of analysis, data collection process, the research reliability and validity, and ethical considerations.

3.2. Research strategy approach

Three types of research approaches can be adopted in a study: qualitative, quantitative, and mixed methods research approaches.

3.2.1. Quantitative research approach

Quantitative research is used to assess and measure the behaviour of individuals of a specific group or population. In this approach, the data collection process is well structured, with the subsequent statistical treatment of the data (Almeida, 2018). The quantitative research tries to find the causes of changes through measurement and quantitative analysis. This approach has the tendency of generalising to the larger population through conducting analysis using complex statistical software and tools.

3.2.2. Qualitative research approach

The qualitative research method is that one that does not use statistics and mathematical processes for data collection and analysis but instead focuses on the standard of the info like narrations and outline. In the approach, the participant view is used to generate knowledge (Arghode, 2012). The researcher is more worried about the observed meaning rather than actual meaning.

3.2.3. The research approach used in this study.

Bryman (2016) applied a step-by-step approach to a quantitative study, Step 1, the literature review that signifies the deductive approach to the relationship between theory and the research under study, known to be sociological theory associated with positivism origins. Step 2 is termed hypothesis, entails hypotheses deduced from theory and to be tested. Step 3 entails research questions, an explicit statement of what the research would like to know about, in this case, the impact of investment on SMEs' developmental practices. Step 4 entails sampling cases, breaking down concepts into measures understood by respondents, selection of research sites where practical and ethical factors can be limiting factors, and selection of a sample of participants through sampling technique. Step 5 entails data collection through a relevant research design, collecting data through pre-coded questionnaires and surveys. Step 6 entails data analysis, management, and analysis of data, including statistical analysis of questionnaire data to look at the significant correlation between variables, to see if one variable has a significant effect on another variable, using graphs and charts, statistical techniques, such as Bartlett's test, through the use of the statistical package for social sciences (SPSS). Step 7 entails interpreting the results of the analysis and writing up findings (Bryman, 2016).

Fatoki and Asah (2011) adopted a quantitative research strategy to assess the impact of firm and entrepreneurial characteristics on access to debt finance by SMEs in King Williams Town, intending to empirically investigate the impact of firm and entrepreneurial characteristics on access to finance by SMEs in South Africa. The study adopted Pearson correlation to establish the significance of the relationship between variables of business information and access to debt finance by SMEs.

Similarly, the quantitative research approach aligns to the aim of this study, to find the causes of changes through measurement and quantitative analysis, in this case, the impact of investment on SMEs' developmental practices (employment, skills development, cluster development, revenue, and market growth), to answer research questions and future recommendations. The descriptive statistics and analysis of variance (ANOVA) is used to analyse the means, to establish the effects of funding

from empirical findings on job creation, skills trainings, various outsourced supply chain activities and marketing and sales activities for business growth.

3.3. Research strategy

A research strategy is a step-by-step plan of action that directs the thoughts and actions and effort, enabling one to conduct research systematically and on a plan to establish quality results. There are various types of research strategies, among which the experimental, the survey, the case study, and the action research just to name a few.

3.3.1. Experiment and Non-experiment strategy

Experimental research is conducted with a scientific approach using two sets of variables. Participants are randomly selected to undergo a research imposed intervention followed by measurement and assessment of the effects, and the researcher should establish scientifically, cause and effects (Leedy & Ormrod, 2019). The researcher considers multiple possible factors that may cause and influence a situation or condition. The main reason for using an experimental design in social science research is that it is mostly used as a yardstick against which non-experimental research is assessed (Saunders, Lewis, & Thornhill, 2012). On the other hand, non-experimental research is based on events that occurred previously and analysed later with the conditions that, controlled experiments cannot be performed due to ethical issues, the participants already exist in an environment of interest, and the research explores the occurrences exactly how they happened. The similar study by Schrötgens and Boenigk (2017), has adopted a randomised experimental design to seek and model financial effects on social impact investment behaviour and examined the role of social impact from a social investor's perspective, mainly focusing on the cause-and-effect and the correlational relationships.

3.3.2. Survey strategy

In the survey research, exploratory and descriptive studies are applied through the collection of data on various events at a single point in time. With this approach, the data is collected in the form of quantifiable data from two or more variables with the purpose of finding a pattern of correlation between the variables, and this is mainly the preferred overall strategy for quantitative researchers due to its perceived authoritative nature (Saunders et al., 2012).

3.3.3. Case Study strategy

The case study strategy is usually associated with empirical studies from a specific location, such as a community or organisation or focus group (Saunders et al., 2012), or an intensive investigation into a single case, and is often complex (Stake, 1995). Thus, a case study is context-specific (Saunders et al., 2012). Case study designs are based on an in-depth interrogation of a single individual, group, or event to underpin the real causes of the fundamentals leading into a situation. Comparative studies aim to make comparisons across different individuals, groups, events, countries (Becker, Bryman, & Ferguson, 2012).

3.3.4. Research strategy applied in this research study

Based on the nature of non-experimental research, in this research project, the empirical study is conducted based on investment funding which was received by SMEs from the IPP-project office, and spent on business activities, such as skills development, innovations and clusters development, human resources. As the conditions for non-experimental research states, the study applies the questionnaire survey to enhance the reliability of the results, moreover the participants already existed (SMEs “Owners, managers and partnerner”, in partnership with IPP projects office and DBSA). It for this reasons that the study adopted the survey research approach which resonates with the objective of collecting and analysing data to evaluate the investment impact on developmental practices.

3.4. Research philosophy

Many researchers have referred to research philosophy and the knowledge developments according to its nature in a given field of study (Denzin & Lincoln, 2011). Therefore, many of them exist and depend on the school of thought. However, despite all that multitude of views, the western traditions in the scientific undertaking have grouped the research philosophy into two categories namely Positivism (scientific) and interpretivism (anti-positivist).

3.4.1. Positivism philosophy

Alharahsheh and Pius (2020) describe Positivism as a philosophical stance of the natural scientist and state that it entails working with an observable social reality to produce law-like generalisations. In this philosophy, the researcher's role is limited to data collection and objective interpretation, and this philosophy is mainly related to a quantitative study.

3.4.2. Interpretivism philosophy

Alharahsheh and Pius (2020) referred to interpretivism as beliefs that social reality is subjective and nuanced because it is shaped by the participants' perceptions, similarly because of the values and aims of the researcher, which is more aligned with the qualitative research.

3.4.3. The philosophy followed in this research study

Rahi (2017) asserted that a quantitative approach is a scientific approach, which can identify its grounds in the positivist paradigm. Positivism is also known as a scientific method, empirical science, post-positivism and quantitative research (Rahi, 2017). Given the objective of this research project, it is essential to collect data and interpret these to get scientific results that can be trusted and translated into recommendations for investors and SMEs. Therefore, this research, as quantitative, will follow the positivism philosophy.

3.5. Research design

The research design means the overall strategy of research that you choose to integrate components of the study coherently and logically, from conceptualisation of a problem to writing research questions, data collection, analysis, interpretation to writing a report, essentially connecting empirical data to the study's research question and its conclusion (Creswell & Poth, 2016).

3.5.1. Exploratory Research

Exploratory research involves a literature search or conducting focus group interviews. Exploring the latest phenomena this way may help the researcher's need for better understanding, to test the feasibility of the extensive study, or to determine the simplest methods to be utilised in the subsequent research. For these reasons, exploratory research is broadly focused and barely provides definite answers to specific research issues (Saunders et al., 2012).

3.5.2. Descriptive research

As the name suggests, descriptive research seeks to supply an accurate description of observations of phenomena, gathering data that accurately describes basic information on national populations at a selected point in time, and to validate the hypothesis or objectives on certain groups of people. The target of much descriptive research is to map the terrain of a specified phenomenon (Saunders et al., 2012). The nature of descriptive study assumes a form of a non-experimental approach, to provide information about variables in a dataset and to highlight potential relationships between the variables of interest.

3.5.3. Explanatory Research

Regarding the explanatory research design, Neuman and Robson (2014) say that explanatory research entails testing a theory's predictions, extending a theory to new issues, supporting or disproving a proof or prediction, further linking issues to a general principle, and determining which of several explanations is the best. In

addition, explanatory research seeks the causes of observed phenomena, problems, or behaviours. Comparatively, the descriptive study examines the what, where, and when of a phenomenon, while explanatory research seeks answers to why and how forms of questions (Mouton, 2010).

3.5.4. Type of design used for this research

From the above explanations of the categories of studies and in line with Saunders et al.'s (2012) advocacy for utilising the quantitative method, this research undertakes the quantitative approach. The study applies the descriptive statistics and analysis of variance (ANOVA) to provide information about investments made by IPP-projects on SMEs and developmental practices (employment, skills development, cluster establishment and revenue and market growth).

3.6. Research procedure and methods

This section outlines the actual procedure and the methods employed in this research to collect, collate, process, and analyse empirical evidence.

3.6.1. Research data and information collection instrument(s)

The research data collection instrument refers to an approach or instrument used to collect data, such as paper questionnaires. Questionnaires in the form of a survey are used as a tool to collect data while data collection instruments include, amongst others, questionnaires (Phellas, Bloch, & Seale, 2011). The heart of the survey is the questionnaire which stems from experience on one hand, and methodological research, on the other hand. Questionnaire design mainly focuses on words used in the research questions and further draws from the structural features of the question or problem. The survey design takes the form of closed-ended questions to allow respondents to select from the set of choices, which often apply four point Likert scaling (Krosnick, 2018). Fatoki et al. (2011) adopted a questionnaire-based survey with both closed and open-ended questions to collect data on the impact of firm and entrepreneurial characteristics on access to finance by SMEs in South Africa,

focusing on SMEs which are registered with an enterprise directory. The choice of this method was inspired by the objectives to collect data from the participants who already existed in IPP-projects value chain, so the to analyze the impact of funding towards developmental practices.

3.6.2. Research data collection instrument applied in this study

Similarly, this research study adopts a questionnaire-based survey with closed-ended questions. The choice of this collection instrument was inspired by the objectives to collect data from the participants which already existed (IPP-projects energy SMEs in partnership with DBSA), and to analyse it to evaluate the investment impact on SME development.

3.6.3. Research target population and selection of respondents

The section covers the criteria for selecting a targeted study population and respondents.

3.6.4. Research target population

The target population refers to the total group of individuals from which the sample is drawn. Meyer and Meyer (2017) selected to study developing regions within South African local development based on the developmental character of the region and its economic diversity. Including advanced manufacturing and the traditional agricultural sector, they identified and analysed the stumbling blocks preventing business success.

Similarly, this research studies the renewable energy SME sector in South Africa, Gauteng province as a target population. The population was selected based on the DBSA footprint in partnership with IPP-projects office.

3.6.5. Research sampling method and techniques

According to Taherdoost (2016), sampling techniques can be divided into two types: probability sampling and non-probability sampling.

3.6.6. Probability sampling

Probability sampling is the sample choice characterised by known chances of each element of the population to be chosen as part of the sample (Lombard & Haidle, 2012). This sampling method is the preferred method of quantitative research in social sciences, given the lower level of human bias in the sampling method, which is conducted randomly and systematically (Bhattacharjee, 2012).

➤ Simple Random sampling

This sampling method refers to the technique whereby all the respondents, or members of the population, have an equal chance of being selected (Walliman, 2010). Under simple random sampling, elements are chosen without following any particular sequence.

➤ Stratified sampling

This method refers to the sampling technique used for a population that belongs to different sub-groups or strata (Litosseliti, 2018). This technique ensures that each one of the various strata is represented within the sample. The samples are categorised within the different segments. Oluwatayo and Rachoene (2017) adopted a stratified sampling technique to assess factors that impact credit access, focusing on smallholder farmers in the Capricorn District Municipality of South Africa. The sample selection was based on the district that ranked number one in the province regarding population and farming. The district hosts about 82% of substantial numbers of smallholder farmers as compared to 18% of the commercially oriented counterparts.

➤ **Systematic sampling**

Systematic sampling is defined as a sampling technique that involves using simple sampling to pick the primary elements to follow a specific pattern in choosing the other elements, such as picking every nth number (Walliman, 2010).

➤ **Cluster Sampling**

Cluster sampling is the sampling technique whereby the researcher divides the population into multiple groups (clusters) for research. From there, researchers then select random groups with a straightforward random or systematic sampling technique to pick out elements (Litosseliti, 2018).

3.6.7. Non-Probability Sampling

Non-probability sampling techniques do not involve randomness; hence, they do not give elements an equal chance of being selected (Walliman, 2010). The following are the non-probability sampling techniques

➤ **Snowball Sampling**

This sampling technique is adopted for members of the population that are difficult to locate; hence the researcher identifies the primary element. Thereafter, the element refers the researcher to other respondents until the targeted sample size is reached (Stokes & Weber, 2017).

➤ **Judgemental Sampling**

This sampling technique involves purposively selecting the unit that may participate in the study (Walliman, 2010). This implies the researcher needs to come up with clearly defined criteria for choosing the sample.

➤ **Quota Sampling**

Quota sampling could be a sampling method during which data is drawn from a homogeneous group. It also enhances the representation of groups within the population, thereby ensuring that these groups are not over-represented (Stokes & Weber, 2017).

➤ **Convenience Sampling**

Convenience sampling is when participants are readily available and willing to participate within the study (Walliman, 2010).

3.6.7.1. The rationale for selected sampling method: Simple random probability sampling

According to Alvi (2016), simple random sampling is a type of sampling where all the elements of the population selected equally participated in the sample. Thus, the entire sampling process is done in a single step, with each subject selected independently of the other population members. Similar to Alvi (2016) and Oluwatayo, et al. (2017), this study employs a simple random sampling as the technique to draw data from the energy sub-group. As DBSA recommended the study to focus on IPP-projects energy SMEs; based on this recommendation, the empirical study was conducted on the IPP-projects sub-group of the energy sector, amongst other sectors, such as electricity, gas, and water sectors. In this sample, all the divisions of the value chain are represented, from energy generation, distribution, energy management and business management.

3.6.8. Ethical considerations when collecting research data

Žydžiūnaitė (2018) has mentioned that ethical considerations in research and academic communities have become more intense in recent decades. This study adheres to conditions set in the ethics clearance certificate.

3.6.9. Informed consent

According to Akaranga and Makau (2016), informed consent is one of the significant ethical issues in conducting research, which implies that a person knowingly, voluntarily, intelligently, and in a manifest way gives their consent. To ensure that the above ethical standard in the current study is maintained, the informed letter is attached to the questionnaire; informed consent is given before the questionnaire is answered.

3.6.10. Confidentiality and anonymity

Fleming and Zeywaard (2018) asserted, that it is crucial that the identity of participants is kept confidential or anonymous. Participants' confidentiality means the participant's identity is known to the researcher. As such it, to ensure confidentiality and anonymity, participants' personal information will not form part of the questionnaires while identity is kept anonymous.

3.6.11. Summary of ethical consideration

In conducting my research, I am aware of ethical misrepresentation's impact on Organisations, the University, and the public. During the data collection process, a serious consideration was given to the avoidance of breaching the confidentiality agreement between the research and the IPP-projects in the interest of their partners, intellectual property, and the public domain. The collected data is kept in secured

storage, and highly confidential. No harm is anticipated as a result of using the data collected.

3.6.12. Research data collection process

Research data collection involves the process of putting together a set of data and measuring that data on variables of study interest in a more established and systematic way that enables the researcher to answer research questions. The mode of research data collection includes the survey questionnaire on internet platforms (Moser & Korstjens, 2018).

Schrötgens et al. (2017) adopted a survey questionnaire collection process, to examine what an evaluable definition of social impact could be so that an organisation's social impact could be assessed. Participants were invited via an email from the bank and asked to participate in a scientific study online.

3.6.13. Research data collection process applied in this study

Similar to Schrötgens et al. (2017), this study proposes to adopt a questionnaire survey approach, by setting up a questionnaire on the Qualtrics survey tool and to distribute the link to the email addresses of the SMEs from the IPP-projects office. The data is then transferred via an encrypted file share and stored on a password-protected laptop at the researcher's home.

3.6.14. Research data processing

Research data processing refers to a series of actions performed on data sets to organise, verify, transform, integrate and source valuable data output for subsequent use. This process involves the entry of collected data into a computer for further processing and data coding and the process of transforming data collected into meaningful and logical categories (Briney, 2015). This study collected data and

exported it to an Excel file for cleaning unnecessary information, and transfer to SPSS software for coding and analysis.

3.6.15. Research data analysis

Albers (2017) alluded to research data analysis involving critical thinking when analysing the data to reveal the underlying patterns and relationships in an intervention. The use of statistics to analyse and interpret data is key to completing the data analysis process. The process analysis can be realised by adopting various methods such as Regression analysis, Analysis of variance (ANOVA) method that separates observed data into different components to test variances, essentially gaining more information about the relationship between variables (Albers, 2017).

Schrötgens et al. (2017) have adopted a regression analysis statistical model to establish a correlation relationship between the dependent variable (financial returns) and independent variable (impact investment), while the study concluded that there is a statistical significance effect between the two variables where the results have indicated innovativeness of the project had a strong positive effect on influencing impact investment decisions.

In this study, Analysis of variance (ANOVA) is used to analyse the differences between means, with inferential statistics used to compare differences between the means or treatment groups. The Abdelrasheed (2018) method was used in the interpretation of Likert scale outcomes.

3.6.16. Description of the research respondents

As the study sample suggest, IPP-project office energy infrastructure SMEs make up the participant list, particularly the founders, senior managers, managers, and business partners who represent this small business. The participants come from various functions of the value chain including energy generation, energy distribution,

and energy management division. The response might consist of a balanced gender split or otherwise, of different age groups.

3.7. Research strengths—reliability and validity measures applied

3.7.1. Research reliability

Mohajan (2017) says that reliability refers to the confidence that one has obtained from the instrument used, mainly the degree to which the tool can control the probability of the error. It measures the repeatability, trustworthiness, accuracy, and consistency of the research. A reliability test checks internal consistency with an acceptable reliability coefficient above 0.7 implying the instruments are relatively free of measurement error (Gravesande, Richardson, Griffith, & Scott, 2019). This study applied Cronbach's alpha coefficient to check the degree of consistency for all the variables to indicate the significance of errors.

3.7.2. Research validity

Research validity refers to the accuracy of measurement instruments during empirical studies. Validity error is triggered by various elements including limitations during the empirical study (Mohajan, 2017). In this study, close-ended questions are used in a questionnaire to mitigate external validity risks from the participants, allowing the respondents to answer in a manner that fits the objectives of the research project.

3.8. Research weaknesses—technical and administrative limitations

The study only focused on beneficiaries of DBSA, IPPs energy projects SMEs in Gauteng province, limiting the opportunities to explore the investment impact from other geographical areas.

3.9. Conclusion

This chapter provided a close elucidation of the research design methodology. The study employs a quantitative method research design. This chapter also outlined the data collection method, the measuring system to be used; the target population; concepts of validity and reliability; ethical considerations; and data analysis. Moreover, discussed the research methodology, the information collection instrument used is the questionnaire survey method, the research design, research approach, research philosophy, target population, sampling, data collection, data analysis, reliability and validity of the research. While the next chapter present the empirical research study results and demographics.

4. PRESENTATION OF RESEARCH RESULTS

4.1. Introduction

This study explores the investment impact made by financial development institutions, the DBSA in partnership with IPP-Projects, to answer the research questions about the effect on SMEs' developmental practices. The empirical study design followed a questionnaire survey design to answer the questions related to the research variables. Chapter 2 surveyed the literature on the impact of funding on various aspects of the small business, namely, employment, skills development, clusters development, revenue, and market growth. Chapter 4 presents the outcome of the survey from the primary results, in tables and figures and their interpretation, from the survey response rate, the demographics to empirical results presentation.

4.2. Research response rate

Table 4.1

Survey response rate

Sample required for the population of	150
Number of respondents	106
Response rate percentage	70.67%

Source: Researcher's Field Survey Result (2023)

The solar renewable energy sample of 150 was drawn from a renewable energy sector through the IPP-projects office, One hundred and six questionnaires were returned, which equates to a response rate of more than seventy percent, substantially deemed acceptable to be representative of population sample (Fincham, 2008).

4.3. Demographics

4.3.1. SMEs Revenue Distribution

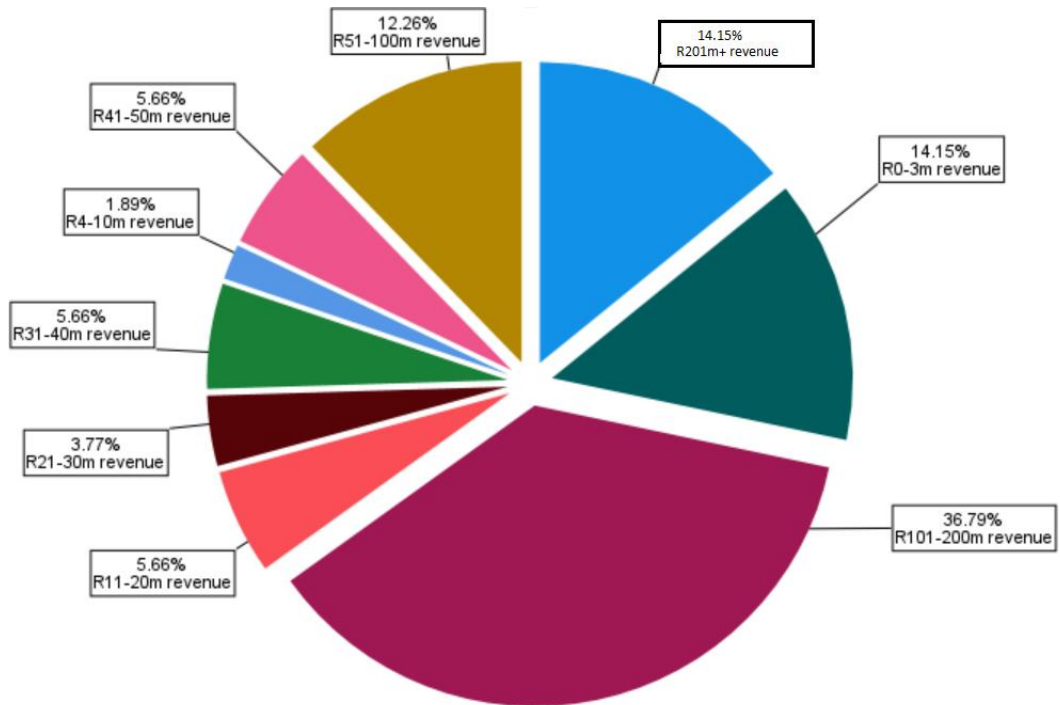


Figure 4.1. Company turnover distribution

Source: Researcher's Field Survey Result (2023)

Figure 4.1 presents the profile of the companies responding in terms of their annual turnover. The absolute majority of 65.1% have a turnover between 3 million and 200 million rands or more, followed by revenue between 50 million and 100 million per annum, representing 17.92% of the respondents. The smallest fraction was those companies with a turnover between 4 to 40 million representing 16.98% of the respondents.

4.3.2. SMEs by value chain category

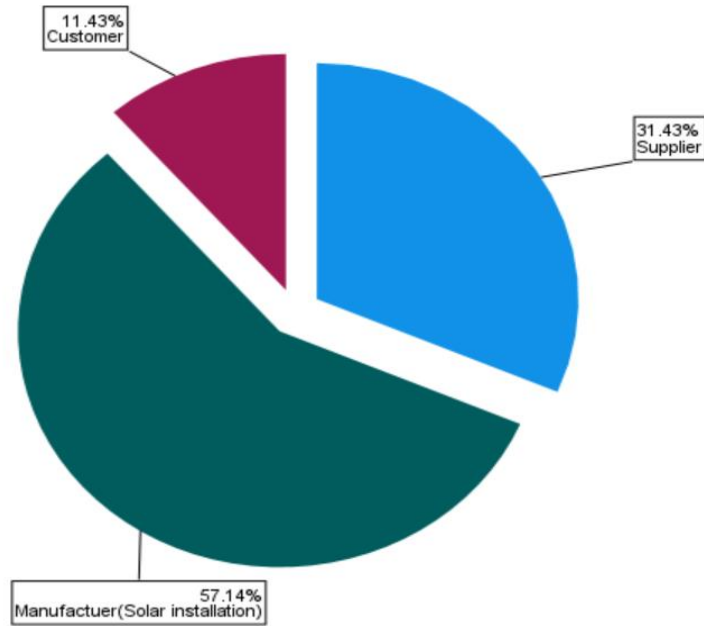


Figure 4.2. Participants by value chain

Source: Source: Researcher’s Field Survey Result (2023)

Figure 4.2 represent the survey participants by value chain category, where the absolute majority of 57.14% was the SMEs from solar energy generation termed solar installation. 31.43% was the SMEs from the supply chain (tier 1, tier 2 suppliers, etc) and the rest of the 11.43% SMEs from the customer end (commercial, spares, accessories).

4.3.3. Energy sector distribution

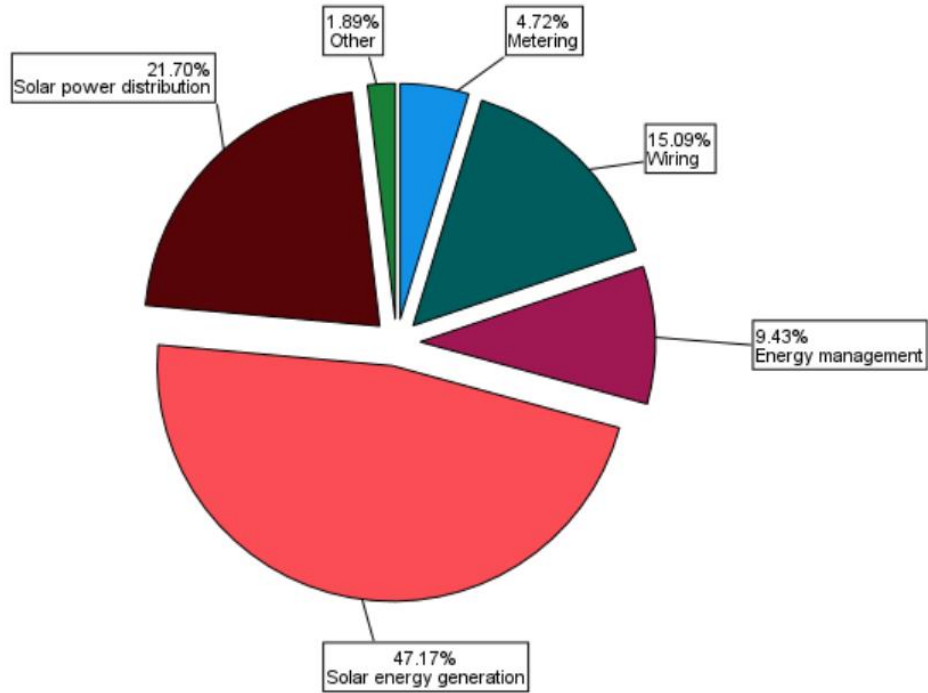


Figure 4.3. Solar energy SMEs distribution

Source: Researcher's Field Survey Result (2023)

Figure 4.3 presents the participants from different sub value chains of solar power production, where 47.17% represented participants from the solar energy generation, while 21.70% presented the participants from solar power distribution, followed by 15.09% participants from the electrical wiring chain, 9.43% from energy management services and the rest of the 6.61% participants from metering and other complementary operations of the renewable solar energy generation chain.

4.3.4. Source of funding

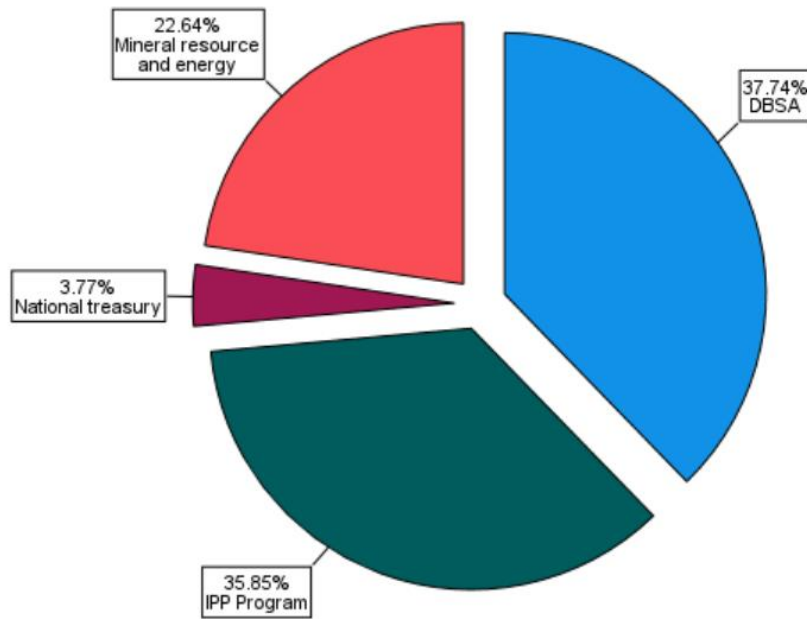


Figure 4.4. Source of funding for SMEs
 Source: Researcher’s Field Survey Result (2023)

Figure 4.4 indicates the majority of the respondents have received funding directly from the DBSA and IPP programme, while some indicated the Department of Mineral Resources and Energy and National Treasury, of course, looking at the DBSA funding model, all of the above investors form part of the DBSA funders whose interest is in the infrastructure development.

4.3.5. Energy sector distribution

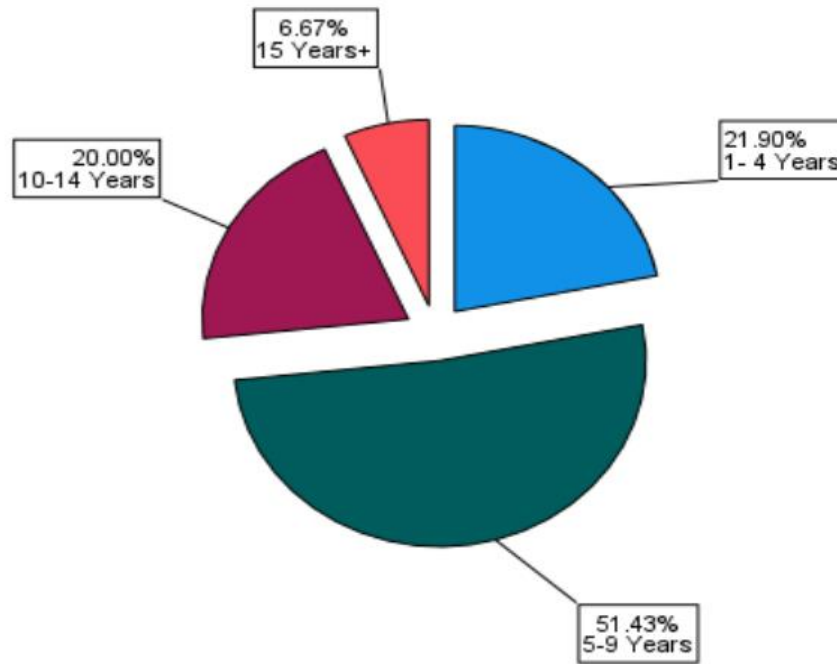


Figure 4.5. SMEs distribution by age

Source: Researcher’s Field Survey Result (2023)

The above figure indicate solar plant distribution by years of existence, where over 50% of the solar plant are between 5 and 9 years, 20% few plant are between 10 to 14 years and 1 to 4 years, and very 6.7% few are over 15 years.

4.4. Primary results presentations

The primary results are presented in accordance with the research objectives that have raised the questions upon which the questionnaire was built for the survey participation.

4.4.1. Impact of funding on employment

4.4.1.1. Reliability Statistics Impact of funding on employment

Table 4.2

Reliability Statistics Impact of funding on employment

Cronbach's Alpha	N of Items
.726	2

Source: Researcher's Field Survey Result (2023)

The reliability or internal consistency of the two variables measuring the impact of funding on employment was performed using the Cronbach's alpha, which has yielded a value of 0,726, which is higher or equal to 7, implying an acceptable internal consistency as endorsed by Cronbach (1951) (Vaske, Beaman, & Sponarski, 2017).

The impact of funding on employment or job creation was measured using two variables that were placed on the Likert scale of four points. The central tendency present in the form of mean and standard deviation is presented, and the analyses of variances are performed. The two variables are indexed as follows to ease the capture of the data on SPSS 22.0.

4.4.1.2. Descriptive Statistics; ANOVA of the impact of funding on Employment

FeMP: Impact of Funding on Employment

The impact of funding on employment was measured using the Likert scale dimensions four: not at all=4, very little =3, somewhat=2, to a great extent=1. Descriptive analysis of variance was used, and the results on mean and standard variation were presented to show the central deviation. The Abdelrasheed (2018) method was used in the interpretation. The range of the scale was calculated by subtracting the maximum from the minimum of the Likert scale 4 points (4-1=3). The range was divided by the greatest value of the scale ($3 \div 4 = 0.75$). Afterwards, the least value 1 in the scale was added in order to identify the maximum of this cell.

The length of the cells was determined as follows.

- ❖ From 1 to 1.75, which was interpreted as great extent
- ❖ From 1.76 to 2.5, which was interpreted as somewhat
- ❖ From 2.51 to 3.26, which was interpreted as little
- ❖ From 3.26 to 4, which was interpreted as never

FeMP1= Has the funding enhanced the recruitment of the contract employees?

FeMP2= Has the funding enhanced the recruitment of permanent employees?

Table 4.3

Descriptive Statistics: ANOVA of the Impact of funding on employment

	N	Min	Max	Mean	Std. Deviation
FeMP1	106	1.00	4.00	2.0189	.82786
FeMP2	106	1.00	4.00	2.0094	.86735
Valid N (listwise)	106				

Source: Researcher's Field Survey Result (2023)

The first variable (FeMP1) assesses whether the funding enhances the recruitment of the contract employees, which was placed on the impact of the Likert scale four points for central tendency measurement. The descriptive results outlined the means of 2.0189, which is in line with the analysis model equal to somewhat contract employment. Indeed, by exploring the inequalities $1.76 \leq 2.0189 \leq 2.5$, it can thus be deduced that the respondents have observed a moderate impact of the funding on the recruitment of contractual employees.

The second variable (FeMP2) assesses whether the funding enhances the recruitment of permanent employees, which was placed on the impact of the Likert scale four points for central tendency measurement. The descriptive results outlined the means of 2.0094, which is in line with the analysis model equal to somewhat contract employment. Indeed, by exploring the inequalities $1.76 \leq 2.0094 \leq 2.5$, it can be assumed that the respondents have observed a moderate impact of the funding on the recruitment of permanent employees.

4.4.2. Impact of funding of skills development

4.4.2.1. Reliability statistics impact of funding on skills development

Table 4.4

Reliability statistics: The impact of funding on skills development

Cronbach's Alpha	N of Items
.860	17

Source: Researcher's Field Survey Result (2023)

The reliability or internal consistency of the seventeen variables measuring the impact of funding on skills development was performed using the Cronbach's alpha, which has yielded a value of 0.860, which is higher or equal to 8, implying a good internal consistency endorsed by Cronbach (1951) (Vaske et al., 2017).

4.4.2.2. Descriptive Statistics: ANOVA of the impact of funding on skills development

FSD: Impact of funding on skills development

The impact of funding on skill development was measured using the Likert scale dimensions four: not at all=4, very little =3, somewhat=2, to a great extent=1. Descriptive analysis of variance was used, and the results on mean and standard variation were presented to show the central deviation. The Abdelrasheed (2018) method was used in the interpretation. The range of the scale was calculated by subtracting the maximum from the minimum of the Likert scale 4 points (4-1=3). The range was divided by the greatest value of the scale ($3 \div 4 = 0.75$). Afterwards, the least value 1 in the scale was added in order to identify the maximum of this cell.

The length of the cells was determined as follows.

- ❖ From 1 to 1.75, which was interpreted as great extent
- ❖ From 1.76 to 2.5, which was interpreted as somewhat
- ❖ From 2.51 to 3.26, which was interpreted as little
- ❖ From 3.26 to 4, which was interpreted as never

- FSD1= Does the business train employees or interns on assembly of Solar Photovoltaic?
- FSD2: Does the business train employees or interns on Solar Photovoltaic installations?
- FSD3: Does the business train employees or interns on Inventor installation and connection skills?
- FSD4: Does the business train employees or interns on electronic subcomponents assembly?
- FSD5: Does the business train employees or interns on solar after sales commercial support skills?
- FSD6: Does the business train employees or interns on inbound logistics process – demand planning?
- FSD7: Does the company train employees or interns on soft management skills?
- FSD8: Does the business train employees or interns on inbound logistics process – sourcing and buying?
- FSD9: Does the business train employees or interns on installations of solar panels?
- FSD10: Does the business train employees or interns on assembly of frames and inverters?
- FSD11: Does the business train employees or interns on assembly and installations for cable trays, cells, and glasses?
- FSD12: Does the business train employees or interns on electricity meters installation and connection?
- FSD13: Does the business train employees or interns on customer services skills?
- FSD14: Does the business train employees or interns on business development skills?
- FSD15: Does the business train employees or interns on IT administration skills for IT services?
- FSD16: Does the business train employees or interns on marketing and sales skills?
- FSD17: Does the business train employees or interns on solar infrastructure technical support skills?

Table 4.5

Descriptive Statistics: ANOVA of the Impact of funding on skills development

	N	Min	Max	Mean	Std. Deviation
FSD1	106	1.00	4.00	2.0094	.96110
FSD2	106	1.00	4.00	1.8396	.81809
FSD3	106	1.00	4.00	1.8774	.83612
FSD4	106	1.00	4.00	1.9528	.86610
FSD5	106	1.00	4.00	1.8491	.90283
FSD6	106	1.00	4.00	1.8774	.76473
FSD7	106	1.00	4.00	2.0283	.74906
FSD8	106	1.00	4.00	2.0849	.73183
FSD9	106	1.00	4.00	2.0094	.77454
FSD10	106	1.00	4.00	1.9057	.74996
FSD11	106	1.00	4.00	2.1887	.94731
FSD12	106	1.00	4.00	1.9340	.93878
FSD13	106	1.00	4.00	1.8679	.90581
FSD14	106	1.00	4.00	1.8585	.86673
FSD15	106	1.00	4.00	1.8774	.80122
FSD16	106	1.00	4.00	1.9151	.86319
FSD17	106	1.00	4.00	2.1604	.82965
Valid N (listwise)	106				

From the above, the first variable (FSD1), the impact of funding on assembly skills, measures the impact of funding on the assembly of Solar Photovoltaic skills, and has recorded a mean score of 2.0094, which, according to the interpretation model, implies somewhat hence $1.76 \leq 2.0094 \leq 2.5$. It can thus be inferred that most of the respondents share the view that funding impacts the assembly of Solar Photovoltaic skills to some moderate extent.

The second variable (FSD2) measures the impact of funding on the training of employees or interns on Solar Photovoltaic installation skills, and the recorded mean statistics were 1.8396, which, according to the interpretation model implies somewhat, as $.76 \leq 1.8396 \leq 2.5$ can be inferred that funding has impacted the training of employees or interns on Solar Photovoltaic installation skills to some moderate extent.

The third variable (FSD3) measures the impact of funding on the training of employees on inverter installation and connection skills and results in a mean

statistic of 1.8774, which according to the interpretation model implies somewhat, as $1.76 \leq 1.8774 \leq 2.5$ appeared to infer that the majority of the respondents are of the opinion that funding impacts training of employees on inventor installation and connection skills to some moderate extent.

The fourth variable (FSD4) measures the impact of funding on the training of employees regarding the electronic subcomponents assembly skills, and yields a mean statistic of 1.9528, which according to the interpretation model, implies somewhat, as $1.76 \leq 1.9528 \leq 2.5$ and appears to infer that the majority of the respondents are of the opinion that the impact of funding on electronic subcomponents assembly skills works to a moderate extent.

The fifth variable (FSD5) measures the impact of funding on the training of employees or interns on solar after-sales commercial support skills. The results of the mean statistic were 1.8491, which according to the interpretation model, implies somewhat, as $1.76 \leq 1.8491 \leq 2.5$ inequalities can infer that the funding impact on training employees or interns on solar after sales commercial support skills is to a moderate extent.

The sixth variable (FSD6) measures the impact of funding on the training of employees on inbound logistics process – demand planning skills. The results, as presented in the table above, show a mean of 1.8774, which according to the analysis model of the point four scales used, $1.76 \leq 1.8774 \leq 2.5$ inequalities deduced that the majority of respondents believe that, to a moderate extent, the funding impacted on demand planning skills.

The seventh variable (FSD7) has gauged the impact of funding on soft management skills training and development. The results have yielded a mean statistic of 2.0283, as presented in the table above, which, according to the interpretation models, implies somewhat, as $1.76 \leq 2.0283 \leq 2.5$ appears to infer that the majority of the respondents hold the view that funding has moderately helped in soft management skills development.

The eighth variable (FSD8) measures the impact of funding on company training employees or interns on inbound logistics process – sourcing and buying. The results yield the mean statistic of 2.0849 as shown in the table above. According to the interpretation model, $1.76 \leq 2.0849 \leq 2.5$ appeared to infer that the majority of the respondents believe that funding has helped in sourcing and buying skills development to some moderate extent.

The ninth variable (FSD9) measures the impact of funding on the training of employees or interns on installations of solar panels. The results presented in the table above show mean statistics of 2.0094, which, according to the interpretation model, $1.76 \leq 2.0094 \leq 2.50$ can be inferred that the funding impact on the installations of solar panels skills development was to a somewhat extent.

The tenth variable (FSD10) measures the impact of funding on the training of employees or interns on assembly of frames and inverters connection skills. The table above has recorded a mean for that variable was 1.9057, which, according to the analysis model means somewhat hence $1.76 \leq 1.9057 \leq 2.50$. It can be inferred that although funding impacts the employees' ability on assembly of frames and inverters connection skills training, the impact is not significant.

The eleventh variable (FSD11) gauges the impact of funding on the company's ability to train employees or interns on assembly and installations for cable trays, cells and glasses skills development. The mean statistics results obtained were 2.1887, which, according to the analysis model, based on $1.76 \leq 2.1887 \leq 2.50$, it can be inferred that funding impacts the company's ability to train employees on assembly and installations for cable trays, cells, and glasses skills to some moderate extent.

The twelfth variable (FSD12) measures the impact of funding on the company's ability to train employees or interns on installation and connection electricity meters skills. The mean statistics results obtained were 1.9340, which, according to the analysis model, based on $1.76 \leq 1.9340 \leq 2.50$, it can be inferred that funding impacts

the company's ability to train employees on installation and connection of meters to a somewhat extent.

The thirteenth variable (FSD13) measures the impact of funding on the company's ability to train employees or interns on customer services skills. The mean statistics results obtained were 1.8679, which, according to the analysis model, based on $1.76 \leq 1.8679 \leq 2.50$, it can be inferred that funding impacts the company's ability to train employees on customer services skills is to a somewhat extent.

The fourteenth variable (FSD14) measures the impact of funding on the company's ability to train employees or interns on business development skills. The mean statistics results obtained were 1.8585, which, according to the analysis model, based on $1.76 \leq 1.8585 \leq 2.50$, it can be inferred that funding impacts the company's ability to train employees on business development skills is moderate.

The fifteenth variable (FSD15) measures the impact of funding on the company's ability to train employees or interns on IT administration skills. The mean statistics results obtained were 1.8774, which, according to the analysis model, based on $1.76 \leq 1.8774 \leq 2.50$, it can be inferred that funding impacts the company's ability to train employees on IT administration skills is moderate.

The sixteenth variable (FSD16) measures the impact of funding on the company's ability to train employees or interns on marketing and sales skills development. The mean statistics results obtained were 1.1951, which, according to the analysis model, based on $1.76 \leq 1.1951 \leq 2.50$, it can be inferred that funding impacts the company's ability to train employees on marketing and sales skills is moderate.

The seventeenth variable (FSD17) measures the impact of funding on the company's ability to train employees or interns on solar infrastructure technical support skills development. The mean statistics results obtained were 2.1604, which, according to the analysis model, $1.76 \leq 2.1604 \leq 2.50$ appeared to infer that the majority of the respondents believe that funding has helped solar infrastructure technical support skills development, to some moderate extent.

4.4.3. Impact of funding of cluster development (industrialisation)

4.4.3.1. Reliability Statistics Impact of funding on Cluster development

Table 4.6

Reliability statistics: The Impact of funding on cluster development

Cronbach's Alpha	N of Items
.836	7

Source: Researcher's Field Survey Result (2023)

The reliability or internal consistency of the seven variables measuring the impact of funding on clusters development was performed using the Cronbach's alpha, which has yielded a value of 0.836, which is higher or equal to 8, implying a good internal consistency as endorsed by Cronbach (1951) (Vaske et al., 2017).

4.4.3.2. Descriptive Statistics: ANOVA of the impact of funding on cluster Development

The impact of funding on cluster development was measured using the Likert scale dimensions four: not at all=4, very little =3, somewhat=2, to a great extent=1. Descriptive analysis of variance was used, and the results on mean and standard variation were presented to show the central deviation. The Abdelrasheed (2018) method was used in the interpretation. The range of the scale was calculated by subtracting the maximum from the minimum of the Likert scale 4 points (4-1=3). The range was divided by the greatest value of the scale ($3 \div 4 = 0.75$). Afterwards, the least value 1 in the scale was added in order to identify the maximum of this cell.

The length of the cells was determined as follows.

- ❖ From 1 to 1.75, which was interpreted as great extent
- ❖ From 1.76 to 2.5, which was interpreted as somewhat
- ❖ From 2.51 to 3.26, which was interpreted as little
- ❖ From 3.26 to 4, which was interpreted as never

Seven variables were used to measure the impact of funding on cluster development as listed below:

FCD1: Has the funding encouraged the business to have intentions to support industrialisation policies?

FCD2: Does the funding contribute to the business expanding its value chain into local assemblers of subcomponents or maintenance spares?

FCD3: Has the funding helped the business to outsource local warehouse or storage houses for their products or material?

FCD4: Has the funding helped the business to outsource information technology services for systems support?

FCD5: Has the funding equipped the business to outsource local marketing and sales agents for business development?

FCD6: Has the funding equipped the business to outsource after-sale services for technical and commercial support?

FCD7: Has the funding equipped the business to outsource local transport service to distribute materials for installation?

Table 4.7

Descriptive Statistics: ANOVA of the impact of funding on cluster development

	N	Min	Max	Mean	Std. Deviation
FCD1	106	1.00	4.00	2.0094	1.02813
FCD2	106	1.00	4.00	1.8302	1.01861
FCD3	106	1.00	4.00	1.7736	.96888
FCD4	106	1.00	4.00	1.7642	1.00997
FCD5	106	1.00	4.00	2.2642	1.13223
FCD6	106	1.00	4.00	2.2547	1.04254
FCD7	106	1.00	4.00	2.0755	.96311
Valid N (listwise)	106				

The first variable (FCD1) assesses if the funding has encouraged the business to implement and support industrialisation policies to expand the value chain. The mean statistic for this item was 2.0094, which, according to the analysis method, represents

somewhat impact, as $1.76 \leq 2.0094 \leq 2.50$ infers that the funding has a slight moderate impact on cluster development policy introduction and value chain innovation.

The second variable (FCD2) assesses if the funding contributes to the business expanding its value chain into local assemblers of subcomponents or maintenance spares. The mean statistic for this item was 1.8302, which, according to the analysis method, represents somewhat of an impact, as $1.76 \leq 1.8302 \leq 2.50$ infers that the funding has a moderate impact on business expanding its value chain to outsourcing the assembly of subcomponents and maintenance spares.

The third variable (FCD3) assesses if the funding contributes to the business outsourcing the warehouse or storage houses for products and material housing expanding its storage capabilities. The mean statistic for this item was 1.7736, which, according to the analysis method, represents somewhat of an impact, as $1.76 \leq 1.7736 \leq 2.50$ infers that the funding has some moderate impact on the business expanding its value chain by outsourcing the warehouse or storage houses capability.

The fourth variable (FCD4) assesses if the funding contributes to the business outsourcing the warehouse or storage houses for products and material housing expanding its storage capabilities. The mean statistics for this item was 1.7642, which, according to the analysis method, represent somewhat of an impact, as $1.76 \leq 1.7642 \leq 2.50$ infers that the funding has a significant moderate impact on business expanding its value chain into outsourcing the warehouse or storage houses capability.

The fifth variable (FCD5) assesses if the funding contributes to the business outsourcing the local marketing and sales agents for business development. The mean statistic for this item was 2.2642, which, according to the analysis method, represents somewhat of an impact, as $1.76 \leq 2.2642 \leq 2.50$ infers that the funding has a slight moderate and less significant impact on business expanding its value chain into outsourcing marketing and sales agents for business development capability.

The sixth variable (FCD6) assesses if the funding contributes to the business outsourcing the after-sales services for technical and commercial support. The mean

statistic for this item was 2.2547, which, according to the analysis method, represents somewhat of an impact, as $1.76 \leq 2.2547 \leq 2.50$ infers that the funding has a slightly moderate impact on the business expanding its value chain into outsourcing after-sales services for technical and commercial support capability.

The seventh variable (FCD7) assesses if the funding contributes to the business outsourcing the local transport service to distribute materials for installation. The mean statistic for this item was 2.0755, which, according to the analysis method, represents somewhat of an impact, as $1.76 \leq 2.0755 \leq 2.50$ infers that the funding has a slightly moderate impact on business expanding its value chain into outsourcing transport service capability to distribute materials.

4.4.4. Impact of funding on growth and market share

4.4.4.1. Reliability statistics impact of funding on growth and market share

Table 4.8

Reliability statistics: The impact of funding on growth and market share

Cronbach's Alpha	N of Items
.918	2

Source: Researcher's Field Survey Result (2023)

The reliability or internal consistency of the seven variables measuring the impact of funding on clusters development was performed using the Cronbach's alpha, which has yielded a value of 0.918, which is higher or equal to 9, implying an excellent internal consistency as endorsed by Cronbach (1951) (Vaske et al., 2017).

The impact of funding on growth and market share was measured using two variables that were placed on the Likert scale four points. The central tendency present in the form of mean and standard deviation is presented, and the analyses of

variances is performed. The two variables are indexed as follows to ease the capture of the data on SPSS 22.0.

4.4.4.2. Descriptive Statistics: ANOVA of the impact of funding on growth and market share

The impact of funding on cluster development was measured using the Likert scale dimensions four: not at all=4, very little =3, somewhat=2, to a great extent=1. Descriptive analysis of variance is used, and the results on mean and standard variation are presented to show the central deviation. The Abdelrasheed (2018) method was used in the interpretation. The range of the scale was calculated by subtracting the maximum from the minimum of the Likert scale 4 points (4-1=3). The range was divided by the greatest value of the scale ($3 \div 4 = 0.75$). Afterwards, the least value 1 in the scale was added in order to identify the maximum of this cell.

The length of the cells was determined as follows.

- ❖ From 1 to 1.75, which was interpreted as great extent
- ❖ From 1.76 to 2.5, which was interpreted as somewhat
- ❖ From 2.51 to 3.26, which was interpreted as little
- ❖ From 3.26 to 4, which was interpreted as never

FGM1= Has the funding helped the business to increase revenue?

FGM2=Has the funding helped the business to increase market share?

Table 4.9

Descriptive Statistics: ANOVA of impact of funding on growth and market share

	N	Min	Max	Mean	Std. Deviation
FGM1	106	1.00	4.00	2.1792	.95416
FGM2	106	1.00	4.00	2.2925	1.00444
Valid N (listwise)	106				

The first variable (FGM1) assesses if the funding has helped the business to increase revenue. The mean statistic for this item is 2.1792, which, according to the analysis

method, represents somewhat of an impact, as $1.76 \leq 2.1792 \leq 2.50$ infers that the funding has a slight moderate impact on increase revenue.

The second variable (FGM2) assesses if the funding has helped the business to increase its market share. The mean statistic for this item is 2.2925, which, according to the analysis method, represents somewhat of an impact, as $1.76 \leq 2.2925 \leq 2.50$ infers that the funding has a slight moderate and less significant impact on market share.

4.5. Conclusion

The chapter has presented the results and their interpretation in the research objective. In summary, based on employment creation variables' mean statistics disparity, it appears that funding has a minimal impact on employment, however has a more significant impact on long term employment and less impact on contractual short-term employment.

Looking at the skills development variables mean statistics disparity, funding has a significant impact on solar photovoltaic installation and after-sales support skill, and not much impact on other variables.

The observations on cluster development variables mean statistics disparity indicates the funding has a significant impact on the expansion of the value chain into local warehouses for material storage and information technology to support energy management integration systems, and a less significant impact on the other variables.

Looking at revenue and market share growth, the variables mean statistics disparity suggests that the funding appears to have a minimal impact, however it has a more significant impact on revenue and less on market share growth.

5. THE RESEARCH PROJECT REPORT AND DISCUSSION OF RESEARCH FINDINGS

5.1. Introduction

Chapter 4 presented the findings of the study and the study's implication on research, theory, and practice. This chapter presents the research problem statement and objectives to guide the discussion of the research findings. The discussions compared the results to the literature review about research problem variables in the context of the investment impact effects on SME developmental practices, i.e., employment, skills development, cluster establishment, and revenue and market growth.

5.2. Research problem statement and objectives

5.2.1. The Problem statement summary

In South Africa, 30% to 90% of SMEs fail, due to various factors, including lack of financial support, marketing practices, learning orientation, industrialisation development, etc. Sadly, the energy SMEs fail to create employment, skills development and less market growth. While this study has defined the development as - the ability for Small-Medium businesses to generate sustainable employment, skills development, industrialisation and revenue and market growth.

In light of the larger cost implication, the problem of environmental pollution (carbon emission) has triggered the National Development Plan 2030 to sustainable development goals (SDG) to be implemented, focusing on sustainable interventions, as such this study focused on the following research objectives to envisage some of the practices to support the foreseeable Environmental, Social and Governance “ESG” programme within the solar renewable energy scope.

5.3. The Research Objectives, findings and Discussion

The purpose of the discussion of the research findings is to interpret and describe the significance of the findings in light of the already existing research problem in the

context of impact investment variables and employment, skills development and cluster development, revenue and market growth variables.

5.3.1. Impact of funding on employment or job creation

The first research objective investigated the impact of funding on renewable energy SMEs job creation. The findings from this research have shown that funding has minimal impact on employment, however, there is a more significant impact on long term employment and less impact on short-term employment. The main argument is that regardless of the nature of the contractual agreement, the observations have shown some shift on employment. The financial support as a primary cause affecting SME job creation is unlikely to be the reason, as cases such the 2008 recession have passed and economic indicators shown an upswing, but still SMEs did not improve (Bruwer, 2020). The challenge for green projects development is not only the lack of long – term financing, taking a view that most green technologies are new, just like there are risk(s) associated with every new product, such as lack of material availability and equipments ultimately resulting in constrained employment (Taghizadeh-Hesary & Yoshino, 2020). To the contrary, slowing economic growth and employment is attributed to lack of corporate involvement and other factors affecting capital circulation, such as, rating downgrades, the impact of Covid 19, and the global crisis (Mckinsey, 2020). The researcher therefore argues that the funding has a potential to positively impact the small business and push in a direction that creates employment for either the long-term or short-term basis, essential to trigger the next variable for skills development.

According to the Resource dependence theory (Alphonso & Olawale), the procurement of external resources to drive the value chain to ensure growth is vital for the DBSA to impact renewable energy SMEs, in this case, the data confirmed that indeed SMEs have received funding from the DBSA investment, in which according to CSV theory, DBSA has adopted the strategic approach that focuses on identifying and expanding the connections between society and business to address the issue of unemployment. However, after the SMEs have received the investment from DBSA, little impact on employment was realised. Therefore, this study

concluded in agreement with the literature in that capital investment is a key resource essential for SMEs' employment practices to be sustained.

5.3.2. Impact of funding on skills development

The second research objective investigates the impact of funding on skills development within the renewable solar energy value chain. A number of conclusions can be drawn from the results presented in chapter four. Although the sample from which data was gathered represented 71% response rate, the researcher is of the opinion that the results still provide meaningful findings and insights that could be drawn for skills development practices and the role of funding. The objective investigated seventeen variables on skills development coming from various sections of the renewable energy value chain. In fact, the majority of the respondents indicated that funding has a significant impact on solar photovoltaic installation and after-sales support skills. Some literature argues that the renewable energy success, irrespective the capital, has been limited by factors, including lack skilled manpower for assembly, installation and weak maintenance services due to lack of after-sales support skills (Ouedraogo, 2019). It is the view of the researcher that funding is essential to employ and empower people on assembly and installation for sustainability of the small players in the renewable energy space.

Looking at the skills development variable mean disparity, the majority of the respondents believe that funding had some moderate impact on skills empowerment, adding value to demand planning, customer service skills, business development skills, IT system skills (technology integration) and marketing and sales. According to the renewable energy forecast, funding alone could not be the only obstacle to renewable energy development, it is vital to employ forecasting models to guide the value chain. Statistical forecasting skills development is key to demand planning, business development and sales and marketing where reliance on data science brings about cloud imaging or weather predictions to inform long-term energy forecasting, remove systematic prejudices and quantify uncertainties (Sweeney, Bessa, Browell, & Pinson, 2020). Yaqoot et al. (2016) earlier said that funding does contribute slightly to SME development, however the emphasis on lack of skilled manpower

and adequate training on operations and maintenance are the most critical hindrances to development. It is the view of the researcher that funding is necessary to provide capital investment, especially for small business and start-ups, however, an emphasis on forecasting the future activities for the renewable energy industry is vital to value stream the business demand planning process, business development, sales growth and outstanding customer services.

Looking further at the skills development variables disparity, the majority of the respondents believe that funding has no impactful practice on key skills such as buying and sourcing, installation of cable trays, cells and glasses, and solar infrastructure technical support skills development. The in-bound logistics - buying and sourcing skills - are essential for delivery of the product on time to the end user, especially learning how to source within the specific renewable energy industry as a new paradigm. The challenges for green projects is not primarily the lack of capital, these are new green technologies facing challenges such as lack of material availability and equipment resulting in the inability to allow the business environment to train employees on specialised green sourcing (Taghizadeh-Hesary & Yoshino, 2020). The findings concur with Baker (2016) that show no funding impact on skills such as installation of cable trays, cells and glasses, highlighting that the technology supply for renewable energy projects has been led by foreign big companies with the expertise. This import scope constrained the opportunity to empower employees on installation of cable trays, cells, and glasses skills development. It is the view of this research study that funding is essential to support the installations skills development, equally the effort to improve the localisation policy on material and technology scope of supply is vital for business development.

The solar infrastructure technical support is vital for after-sales and customer service value addition. As the commercialisation of renewable energy from SMEs requires the IPPs to sell their power to the South African state-owned power utility, this would require infrastructure technical support to ensure maintainability and long-life span. While the findings have indicated that funding did not have any significant impact on infrastructure technical support skills development, it is understood that most of the solar plant establishments are fairly new, with the oldest one being 15 years + old (figure 4.5.), it could be that SMEs have not considered maintainability

of the infrastructure as yet. The literature concurs that the solar PV life span can be altered to give a life span longer than 27 years, the degradation process allows the PV panels to operate under certain temperatures conducive for solar panel to increase power production to 40 years operation (Nehme, M'Sirdi, Akiki, Naamane, & Zeghondy, 2021). This research takes a view that SMEs should think about the expanding the value chain into integrated energy management system, product lifecycle and maintenance programmes that will ensure infrastructure technical support for a longer lifespan.

5.3.3. Impact of funding on cluster development

The third research objective have investigated the impact of funding on cluster or industrialisation development within the renewable solar energy value chain. Looking at cluster development variables mean statistics' disparity, the findings indicated that funding has a significant impact on the expansion of the value chain into local warehousing for material storage and information and technology to support energy management integration systems, and a less significant impact on the other variables. Indeed, the storage warehouse for Solar PV materials is crucial as the extension of the business value chain. It is the view of Corporate Share Value (CSV) theory that institutions can expand their value chain into clusters in communities in which they are operating while reconceiving product and services for social and economic need (Corazza et al., 2017). In the case of solar PV storage warehousing, it means the SMEs outsourced the warehousing for both used and new material management. The PV storage house carries more value than just holding the materials, in the context of a circular economy, the resource recovery and secondary market opportunities are essential for industrialisation to create more jobs, skills development and more income for institutions and renewable energy SMEs. The environmental drivers, such as the negative environmental impact and resource constraints, regulatory and policy enablers may encourage institutions and investors to participate in a circular economy for PV systems material, particularly repair, reuse, recycling of solar PV system offer future environmental reimbursements, and some extend the lifespan of the PV systems (Curtis, Buchanan, Smith, & Heath, 2021). The circular economy gives a leverage to cluster development enabled by the

new and expanded market opportunities, regulatory and policy, essential for small business revenue and market growth.

Looking at the information technology to support energy management integration systems, indeed the funding made an impact on the extended value chain into information and communication technology. Nwaigwe, Mutabilwa, and Dintwa (2019) say that for the integration of renewable solar energy into electricity grids, integration technology has become vital for energy's prerequisites which obligated the need for various methods in which energy can be produced and integrated, Solar – grid information and communication technology involves integration of inverters' technology, grid-plant protection technology, solar-grid forecasting technology and smart grids technology. Essentially, the energy management integration helps these SMEs to optimise the value-add activities to reduce the losses during power transmission and distribution. Padmanathan, Govindarajan, Ramachandaramurthy, and Jeevarathinam (2018) concurred that the extension of solar renewable energy grid integration into the information and communication technology value chain is essential for better management of energy systems to support a complex micro grid operation that brings optimal efficiency, power quality and reliability, and addresses the costly manual system fault diagnosis which is no longer relevant, especially that smart-grid technology requires real time information for exchange in the smart grid infrastructure. It is the view of this study that for renewable energy SMEs to grow and remain sustainable, a significant funding investment is required to support the smart-grid integration development through the extended value-chain in the form of cluster development that will have a primary focus on the capabilities for solar industry technology development to ensure SME growth and competitiveness.

5.3.4. Impact of funding on revenue and market growth

The previous chapter has indicated according to the variables' mean statistics' disparity that suggested the funding appears to have a minimal impact, however there is a more significant impact on revenue and less on market share growth. Indeed, revenue generation justifies the existence of any form of business, however, this does not translate into sustainability. While there are many contributing factors affecting SMEs sustainability, Padmanathan et al. (2018) concurred that for better

management of energy systems to ensure efficiency and reliability, factors like the costly manual system fault diagnosis is no longer relevant in the smart-grid technology, this would imply transforming the system into smart-grid technology is required to ensure effective cost structure assisting business to be profitable. Also drawing on the analogy of circular economy, Curtis et al. (2021) point out that the adoption of the value-chain extension into resource recovery and secondary market opportunities has the potential to expand the revenue stream and profitability by leveraging repair, reuse, and recycling of the solar PV chain system.

Essentially, the renewable energy SMEs need to assess their capabilities to compete and grow in the competitive market, as Yaqoot et al. (2016) alluded to a lack of skilled manpower and adequate training on operations and maintenance that are the most critical hinderances to development. In order for SMEs to secure market growth, it is vital to attract investment to support key skills development in line with capabilities required for competitiveness. Sweeney et al. (2020) concurred that statistical forecasting skills development is key to demand planning, business development and sales and marketing, especially that the reliance on data science brings about the algorithms to predict the long-term energy forecasting. The researcher would like to highlight the challenges for solar PV SMEs, such as, the insufficient funding that can be seen as important for development and sustainability, however in agreement with other studies, SMEs need to focus their effort on skills and business development tools like forecasting, secondary market opportunities, and cost measures, including the technology to better position themselves for increased revenue and industry growth opportunities through the value chain extension into peripheral links.

5.4. Proposed solution development to the research problem(s)

This chapter has discussed the findings in line with the research objectives and the theoretical objectives. While it is evident that funding is significant to developmental practices' growth on some of the variables, *Figure 5.1* outlines the proposed enablers for sustained development.

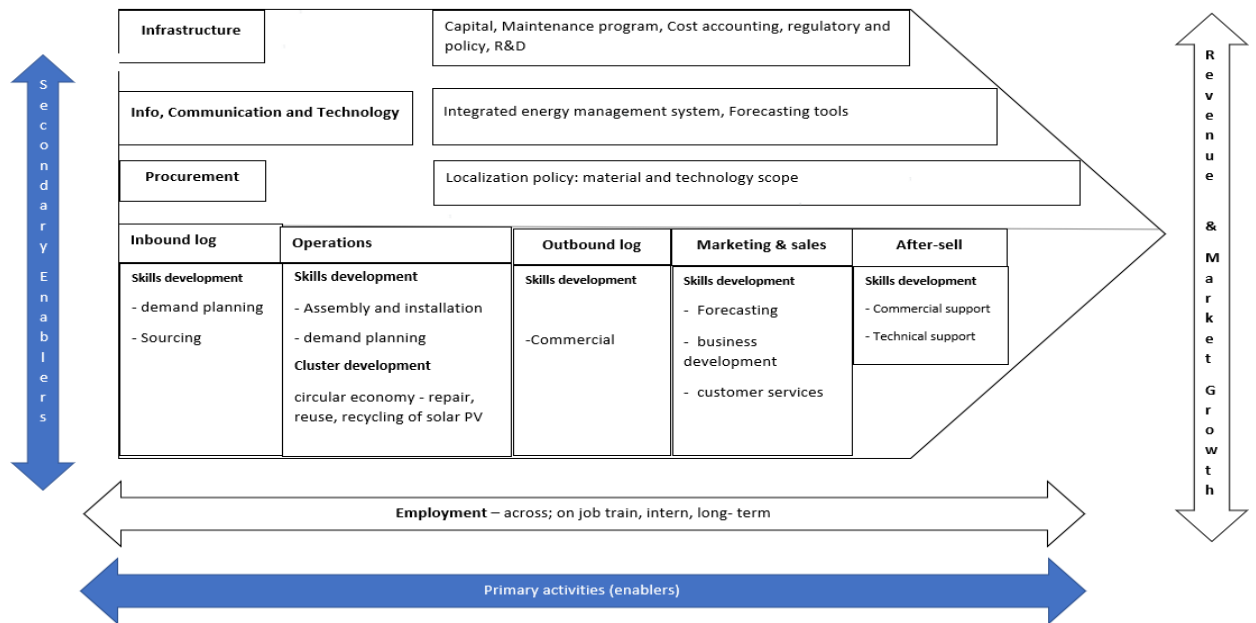


Figure 5.1. Porter's Value chain – Development enablers

Source: Researcher's compilation 2023

Employment

While the various studies, such as Rungani and Potgieter (2018) and Byubyukan and Sofia (2020) have argued that employment is halted not only by capital but many factors such as the lack of emphasis on the crucial areas that enhance the success rate and sustainability of SMEs is recorded as a major challenge for the sectors. McKinsey (2020) concurred that lack of corporate involvement is a hindering factor for SMEs to drive growth and create employment among youth and spearhead innovation. Based on the finding's discussion, *figure 5.1*'s proposed solution is that solar renewable energy SMEs should adopt the Value Chain theory to enable employment across all the areas of value-added activities; it can be in the form of on-the-job training, internships and long-term, thus this will ensure sustained employment. Essentially, according to the CSV theory, the DBSA infrastructure capital investment would make a sustainable employment impact.

Skills development

The skills development has been linked to multiple factors by many researchers, Mckinsey (2020) alluded to the lack of a sustainable relationship between

government and corporates limits access to essential resources, such as capital, limiting skills and capabilities growth in the SME sector, and the lack of supplier development on a long-term scale, and the lack of development plans has potentially failed the effort to build supplier capability and skills gaps. Morris et al. (2021) concurred that in the advent of green energy, the IPP-projects office should encourage beneficiary sourcing from first tier suppliers and the localisation of value added services, including developing manufacturing enterprises, essentially providing the platform for skills development, and Baker (2016) earlier supported the argument with the view that the technology supply for renewable energy projects has been led by foreign big companies with the expertise in project development; this has deprived the local skills upliftment platform for the South African energy industry, and the commercialisation of renewable energy from SMEs required the IPPs to sell their power to Eskom (South Africa's state owned power utility). Curtis et al. (2021) mentioned that storage warehousing can be repurposed into value-chain extension for resource recovery and secondary market opportunities that has the potential to expand the revenue stream and profitability through repair, reuse, recycling of the solar PV chain system. Based on the finding's discussion, this research proposes as per *figure 5.1* above, that solar renewable energy SMEs should adopt the Value Chain theory to enable skills development by utilising the capital infrastructure provided from the secondary enablers, to source the necessary technology required, strengthening localisation policies, a strong maintenance programme, to implement skills development practices across all the primary enablers; inbound logistics to after-sales, as per the findings' discussions; such skills include demand planning and sourcing, assembly and installation of solar PV systems, forecasting, business development, customer service, commercial and technical support. All these skills are found to be significant and necessary for sustained business growth.

Cluster development

Industrialisation development has increased economic growth and innovation over the decades (Vertakova & Plotnikov 2016) as the clusters have become a key input for most policy development around the world because they advocate the concentration of resources and funding in certain areas targeted for high growth and development. As the United Nations Industrial Development Organisation (2013)

earlier mentioned, the evidence from high performing clusters, by disparity have demonstrated that SMEs can achieve high levels of growth, with levels of value-added activities across the chain, while at the same time remaining environmentally friendly, within the social and labour standards. Baker (2016) also argued that regardless of the issue of capital availability, South Africa had a scarcity in terms of technical capability to manufacture and deliver solar technology infrastructure as well as renewable energy equipment, citing a good example by the Department of Trade industry (DTI) about local content regulation, where foreign suppliers would bring in fully imported panels, pack them in boxes and claim local content while the need from financial institutions for technology competitiveness has put local content suppliers in a disadvantageous position. While Curtis et al. (2021) raised an argument that industrialisation should not be based on a direct end-to-end chain but there needs to be an appreciation of value-chain extension into resource recovery and secondary market opportunities that has the potential to expand the revenue stream and profitability through repair, reuse, recycling of the solar PV chain system. Indeed, the funding does have a significant impact on industrialisation, as the results have shown the impact on warehousing for material storage and information and communication technology to support energy management integration systems. It is the view of this research study that, as a proposed solution, according to Resource dependent theory by Drees and Heugens (2013), that solar renewable energy SMEs should procure the external material to expand the value-chain and ensure competitiveness, and adopt the value-chain framework to facilitate their industrialisation practices by leveraging infrastructure investment made to expand into storage facilities that will allow the circular economy to empower local manufacturing practices (repair, reuse, recycle PV materials) to create sustainable jobs and related skills, by also adopting strong local content policies to assist in the process as per figure 5.1 above.

Revenue and market growth

According to the Value-chain theory, *figure 5.1* proposes that, if solar renewable energy SMEs leverage on infrastructure investment received, develop and implement a strong maintenance programme, regulatory and local content policies, information and communication technology, to ensure skills development, including business

development, industrialisation and sustained employment, the business will realise sustainable revenue and market growth.

6. SUMMARY, CONCLUSIONS, LIMITATIONS, AND RECOMMENDATIONS

6.1. Introduction

This chapter summarises the whole project, provides the conclusions and the managerial impacts in the form of recommendations.

6.2. Summary

This study has assessed the impact of the Development Bank of Southern Africa's investments on SME enterprise development in solar renewable energy.

In South Africa, 30% to 90% of SMEs fail due to various factors, including lack of financial support, according to Nemaenzhe (2011). The fundamental cause of SMEs failures includes the lack of financial support from the institutions mandated by the government. Secondly, according to Ramasobana et al. (2017), the SMEs face developmental challenges due to financial management and marketing practices that have been identified as some of the factors limiting small business growth and sustainability. contextually, the lack of capital and financial management is a problem for SMEs' development because little is done to channel the capital investment into good use for shareholder value and other developmental practices, especially the lack of marketing practices seems to contribute significantly to SMEs' failure and sustainability, evidently the findings have shown that little has been done on marketing practices, resulting in a significant impact on growth. Second, from the discussions of the findings that South Africa still has a task to introduce the economical mechanisms, such as the circular economy, to curb landfill pollution due to solar PV disposable materials and the wide scope of solar PV projects to air pollution (carbon emission). The study has applied a quantitative research study, the descriptive statistics, Analysis of variance (ANOVA) to analyse the empirical findings. The solar renewable energy sample of 150 was drawn from the renewable energy sector through IPP-projects office, and 106 members participated. The findings have indicated that funding has a minimal impact on employment, however

it has a more significant impact on long-term employment and less impact on contractual short-term employment. Skills development variables mean statistics' disparity, indicated that funding has a significant impact on solar photovoltaic installation and after-sales support skills. The observations on cluster development variables mean statistics' disparity indicated the funding has a significant impact on the expansion of the value chain into local warehousing for material storage and information and communication technology to support energy management integration systems, and minimal impact revenue and market share growth. Through the application of the management theories such the Resource dependence theory, Corporate shared value theory and the value chain theory, the study was able to envisage proposed solutions to the research problem and questions, effectively indicating the developmental enablers for SMEs growth.

6.3. Conclusion

Capital investment on SMEs is of vital importance to the growth and sustainability of small businesses and the economy of South Africa. While the findings have shown little impact of funding on some of the variables, unfortunately, drawing from the study's assumption that the post-positive knowledge claim presumes that the causes determine the outcomes or effects, the areas that could not show the funding's significant impact are linked to the absence of the model or framework that will guide the use of funding on the value-added activities, particularly, revenue and market growth did not show the positive impact due to the lack of business development skills and marketing practices. To realise the effectiveness of capital investment, the adoption of the value chain framework in figure 5.1 will be beneficial for both the investor and SMEs, which will ensure the infrastructure capital is used to create investor value, while developmental practices are implemented across the primary chain to enable job creation, provide the skills development, and create clusters to advance revenue and growth for solar PV businesses.

6.4. Limitations

- ❖ Due to time constraints, the researcher was unable to cover more participants, however the response rate is deemed satisfactory and reliable.
- ❖ Due to limited access to data, the research only focused on SMEs based in Gauteng, within the IPP-projects office and partners, presenting a geographical limitation, however the findings are still reliable and representative of the solar PV population.
- ❖ Another limitation is that, in South Africa, little has been researched in terms of the utilisation of solar PV storage and recycle-reuse- repair which presents the need for further development in the area of study. However, this did not affect the findings and interpretation of the study.

6.5. Implications for future studies

To realise the effectiveness of infrastructure investment as a source of funding to enable solar renewable energy SMEs growth within the study variables, to create employment for both short-term and long-term contracts, skills development across the value chain would require the future studies and funding institution (DBSA) to introduce a mandatory contractual obligation and measurement instrument for skills development and job creation within the value chain framework.

Equally, using the infrastructure capital to introduce the solar PV circular economy through the repair-reuse-recycle solar PV to add a source of revenue for SMEs, and to foster environmental, social and governance “ESG” programmes to address environmental pollution from carbon emission and landfills, would require the future studies to introduce a measurement instrument to ascertain the effectiveness of funding as the investors need to generate a profit while doing good, both socially and environmentally.

6.6. Recommendations

While the research focused on the SMEs in the renewable solar PV industry, further research could be conducted to assess the impact of investments on cluster development involving that solar PV circular economy, policies for re-use,

recycle, repair of PV system materials to justify the implication on the environment and socio-economic levels.

In addition, the research focused on presenting a value-chain framework that could assist SMEs and investors in the renewable energy solar PV industry to implement a value-add framework to enable job creation and skills development across the chain. The framework might be scalable to other renewable energy industries. However, the measurement instruments must be defined to make the framework workable.

6.7. Final Conclusion

In order for renewable energy solar PV SMEs to grow successfully, business leaders and the Investor (DBSA) should become more focused on financial management and business development practices. By continuously working on value, both primary and secondary enablers of the value chain, the chances of success are increased.

In conclusion, the researcher is of the opinion that for small medium enterprises to successfully realise the growth and developmental practices, the adoption of the right framework and enablers must be a primary focus, such as the value chain model where developmental activities are applied end-to-end (from in-bound logistics to aftersales). The Investor must enforce contractual obligations and policies that mandate enterprises to foster employment, skills development and innovation on industrialisation. Most importantly, the implementation of measurement mechanisms is vital to signify the effectiveness of the investment on the socio-economic account. As literature and empirical discussions suggested, in many instances, other than the capital, the small business failure is attributed to the nature of the business model, financial management and business development practices.

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