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Critical Success Factors for IPP bankability in a volatile economy

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A research article submitted to the Faculty of Commerce, Law and Management, University of the Witwatersrand, in partial fulfilment of the requirements for the degree of Master of Business Administration

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DECLARATION

I, Denny Mwasiswebe, declare that this research article is my own work except as indicated in the references and acknowledgements. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration in the Graduate School of Business Administration, University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in this or any other university.

Denny Mwasiswebe

Signed at Witwatersrand Business School

On the 31th day of March 2019

DEDICATION

This thesis is dedicated to my late father, Thompson Mwasiswebe whose name never had the chance to be written.

ACKNOWLEDGEMENTS

Lots of love to my wife, Tambu, and two beautiful children, Darrell and Darlene, for making this journey meaningful and enjoyable.

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† Including abstract references, etc.

Abstract

Background: The majority of licensed Independent Power Producers (IPPs) are struggling to reach bankability. Published literature has provided evidence that a critical success factor (CSF) approach is a useful tool to differentiate between IPPs that have succeeded and those that failed.

Aim: The aim of the study is to identify CSFs in order to improve IPP bankability performance in Zimbabwe.

Setting: A deductive research approach was used to investigate why some IPPs succeeded in achieving bankability, while others have failed. Zimbabwe is experiencing incessant power shortages due to ageing electricity generating infrastructure. The policymakers realised the need for private investors and IPPs to provide the additional electricity generating capacity.

Methods: The study is based on a new venture creation framework. Quantitative statistical methods were used for hypothesis testing, comparisons, and correlations.

Results: The CSFs for improving IPP bankability performance were: environmental risks and challenges; organisational factors; and entrepreneurial behaviours.

Conclusion: The study has defined a conclusive framework for IPP bankability performance and it consisted of three CSFs and 19 success factors. This study has recommended that the key stakeholders should use the proposed framework as a starting point, to ensure that unsuccessful private investment outcomes for IPPs are minimised.

Keywords: Independent power producer, Critical success factor, Bankability, Power sector, Static framework, Volatile economy, Zimbabwe

1 Introduction

Chapter 1 has been structured to include the research context, the problem definition, the conceptual framework, the research question and objectives and the structure of the research article.

The chapter has looked at the social and scientific aspects of the research, in order to correctly articulate and contextualise the problem, before stating the problem in a single question, accompanied by four clear objectives.

1.1 Social value

Low industrial activities and high unemployment rates of about 85% have left Zimbabwe with no means of maintaining the ageing electrical infrastructure (Rusvingo, 2014) and the effects are showing in the form of huge electricity shortfalls managed through incessant electricity rationing, and partly offset by imports from neighbouring countries (ZPC, 2018).

According to Shamir (2013, p.6) as cited in Lee and Usman (2018), “The electricity grid is a maker of groups and a generator of political and economic difference among groups and individuals”. Mzezewa and Murove (2017) agree and describe how access to electricity in Zimbabwe continues to widen the gap of inequality. Elsewhere in Africa, communities have been mobilising political and legal structures for access to electricity (Hall, Lobina & Motte, 2005), which is a cause for concern. The social benefits of IPPs to provide what the government has failed for years to do, cannot be over-emphasised to ensure social stability.

1.2 Scientific value

1.2.1 What is known about the problem?

The policymakers realised that private investors and IPPs could provide the additional electricity generating capacity, and so they introduced the Independent Power Producer policy framework with investment incentives to support this sector (ZERA, 2015). However, to date, out of 30 IPPs licenses that have been issued by the Zimbabwe Energy Regulatory Authority (ZERA), only 40% of the IPPs are now

supplying the grid, and this low performance has been attributed to the failure by IPPs to access funding for their projects (ZERA, 2015).

There are several reasons that have been cited for the poor investment outcomes for IPPs in Africa. Comparable studies have looked at country and project CSFs for IPPs in Sub-Saharan Africa (Gratwick & Eberhard, 2008; Eberhard & Gratwick, 2011), poor performance of IPPs in Zimbabwe in reaching bankability (Zunguze, 2016) and the poor investment success and participation in Sub-Saharan Africa caused by privatising electrical supply (Marais, 2016).

There are also lessons to be learnt from developing countries which rushed to privatise the power sector (Bayliss & Hall, 2000) and, for some, electricity came at a price, threatening political stability (Meyer, Eberhard & Gratwick, 2018).

1.2.2 What is the gap?

While all the issues discussed are valid, these studies have failed to acknowledge the entrepreneur's personality and strategy as key factors in explaining entrepreneurial outcomes (Urban et al., 2017).

The question is: Why were 40% of IPPs successful in accessing funding. Chance has mere residual value because it is not a requirement in the entrepreneurial process (Bouchikhi, 1993). There is a compelling case for a framework that can characterise IPP investments in Zimbabwe, and can provide a basis to bring consensus among key stakeholders, and direct IPPs to attend to the important things for better investment outcomes. The aim of this study is to fill that gap in literature.

1.3 Conceptual framework

A conceptual framework in Figure 1 shows the relationship between new venture creation elements and bankability performance. The conceptual framework was formulated from the new venture creation framework (Gartner, 1985) and the impact of structural theory on outcomes (Bouchikhi, 1993) to provide a systematic way to find the CSFs (Rockart & Bullen, 1981) for IPP bankability performance in Zimbabwe. Figure 1 shows my own framework adopted from Gartner (1985) and Bouchikhi (1993).

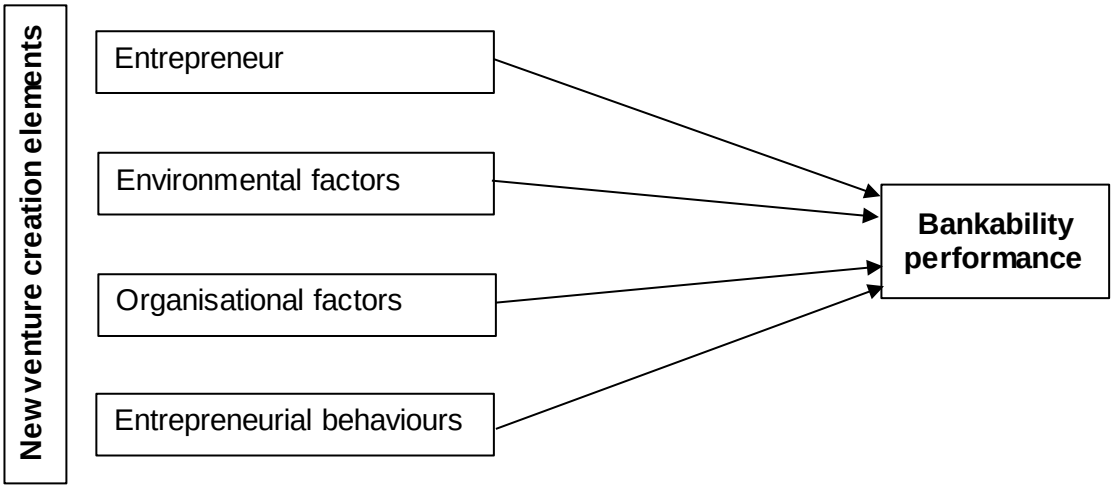


Figure 1: Conceptual framework (Own framework)

1.4 Research question and scope

What are the CSFs for improving IPP bankability performance in a volatile economy?

The scope of the study was focused on defining CSFs that influenced bankability performance for licensed IPPs in Zimbabwe. Licensed IPPs were differentiated from other IPPs because of policies, regulations and Acts that govern the issuing of permits and licenses to potential IPPs. A conceptual framework provided the departure point for the literature review. Opinions of key stakeholders actively involved with IPPs, that is, policymakers and financiers were considered during this study.

1.4.1 Research aim and objectives

The aim of this research was to identify those CSFs that influence IPP bankability performance in a volatile economy, and seek to understand how these CSFs correlated with IPP bankability performance.

The objectives of the research were:

1. to identify CSFs that influence IPP bankability performance in Zimbabwe;
2. to determine the correlation between the CSFs and IPP bankability performance in Zimbabwe;
3. to define a conclusive framework to improve bankability performance for licensed IPPs in Zimbabwe; and

4. to provide recommendations to the stakeholders to improve IPP bankability in Zimbabwe.

1.5 Structure of the research article

The structure and presentation of the research article was adopted from the work of Dedasaniya (2013) and Marais (2016). The structure include the following aspects:

- Problem definition.
- Identification of research scope, relevant sector, relevant stakeholders and analysis.
- Research framework integrating mapping, work plan and analysis
- Appropriate conceptual framework grounded on theory.
- Literature review
- Research questions
- Hypothesis testing
- Analysis, interpretation and discussion guided by results
- Recommendations to stakeholders.

The research framework has outlined the scope, mapping, work plan and analysis in Figure 2

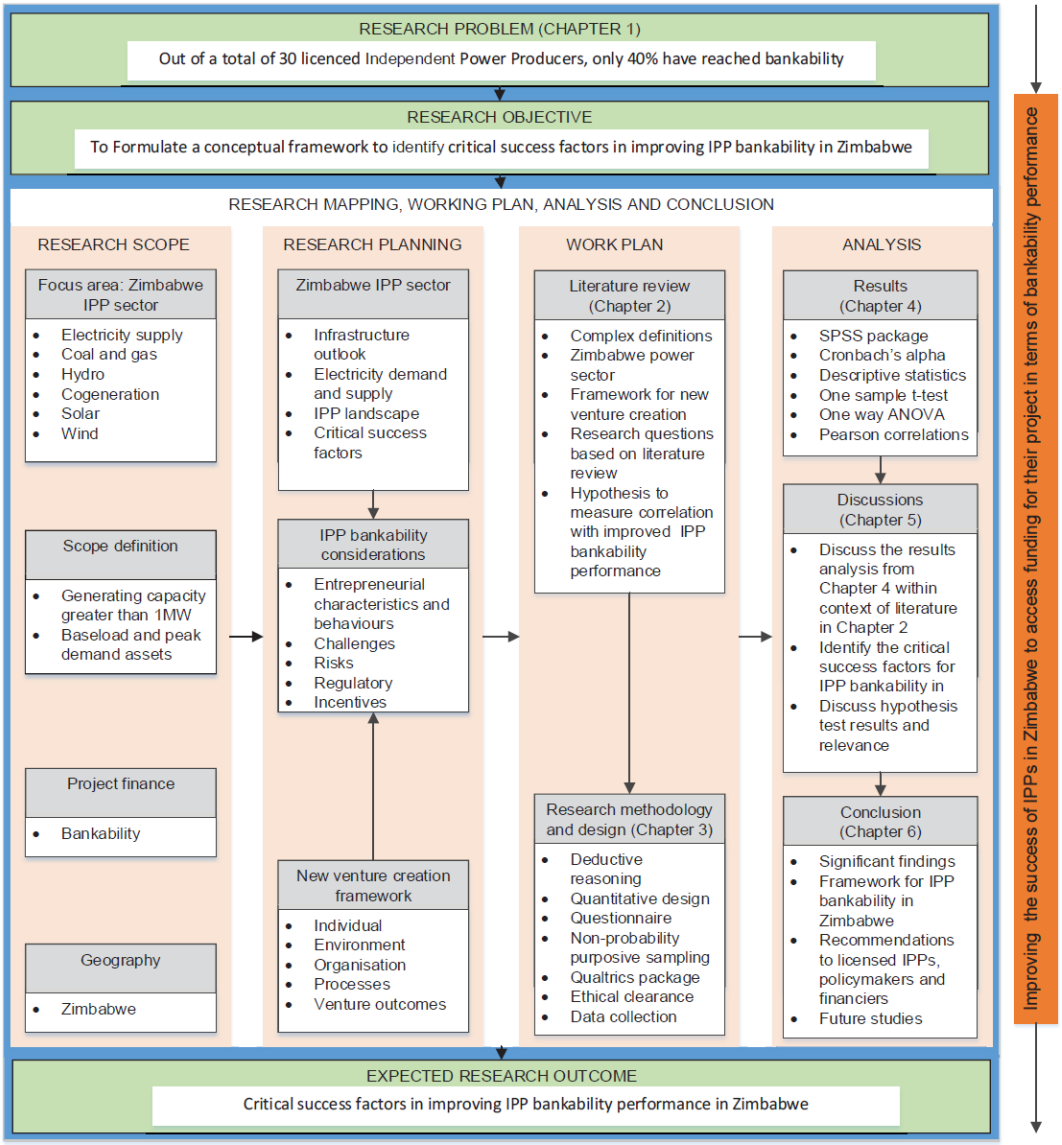


Figure 2: Structure of the research article adopted from the work of Dedasaniya (2013)

1.6 Summary of the chapter

Chapter 1 has contextualised, articulated and defined the problem that will be resolved during this study. The aim and objectives have been defined. A detailed breakdown of the research article has been developed to assist the research to meet the expected outcome. A conceptual framework has also been proposed to identify CSFs for improving IPP bankability performance in Zimbabwe.

2 Literature Review

2.1 Introduction

Chapter 2 has been structured to include complex definitions, the Zimbabwe power sector, the new venture creation theory, the sub-hypotheses and the main hypothesis.

The literature review has looked at the Zimbabwe situation and the lessons learnt from other IPPs. A conceptual framework has been presented and used to select the management theories that are applicable to the research problem leading to the formulation of sub-hypotheses and the main hypothesis.

2.2 Definition of terms

2.2.1 Critical success factors

According to Rockart and Bullen (1981, p.3), “CSFs are few key areas of activity in which favourable results are absolutely necessary for a particular manager to reach his or her goals”. The CSFs for this study were those statistically significant factors that were highly ranked to consider for improving IPP bankability performance in Zimbabwe.

2.2.2 Independent power producer (IPP)

The emergence of IPPs has its origin in the United States, around the 1970-1980 era, following the successful unbundling of monopolies in natural gas sector (Tuttle et al., 2016). An IPP in this study is defined as a licensed entity that builds, owns and operates a Greenfield plant for the purposes of sells selling electricity to the main utility via a PPA and is currently involved in any phase of project development from pre-feasibility to operational.

2.2.3 IPP Bankability

The term bankability originated in the finance sector and describes projects that have a return on investment (ROI) or positive net present value (NPV). Bankability is also subject to objective opinions, hence the source of funding and the perspectives of key stakeholders involved, become critical (Ellis & Pillay, 2017). Bankability in this

study is defined as a shared view among key stakeholders on the CSFs that influence IPP bankability performance in Zimbabwe.

2.2.4 Volatile economy

A volatile environment is a business environment that is uncertain, unpredictable and experiences instability of both market and technology factors (de Amorim Carvalho & Muniz, 2019). A volatile economy in this study describes what is currently being experienced in Zimbabwe. Zimbabwe is faced with numerous micro and macro environmental challenges including hyperinflation (Muli, 2013; Mamvura, 2015), a speculative environment (Pigou, 2019), inadequate infrastructure and lack of modern technology in most industries (Muli, 2013), and political instability (Mouafo Piaplie, 2019; Magaisa, 2019).

2.2.5 Comparative studies and frameworks for studying CSFs affecting IPPs

Eberhard and Gratwick (2011) investigated 20 IPPs in Sub-Saharan Africa in order to understand their investment experiences at country and project levels. The data was collected directly from the specific projects. The study concluded several CSFs at country level and project level but excluded Zimbabwe.

Zunguze (2016) investigated the poor performance of IPPs in Zimbabwe to reach financial closure using the same methodology as that of Eberhard and Gratwick (2011). A mixed method approach was used. Zunguze (2016) concluded the top five CSFs were: ability to pay debt; a transparent and cost reflective tariff system; bankable contracts; reasonable return on equity; and a bankable feasibility study.

Marais (2016) investigated the poor investment success and participation caused by privatisation of the power sector in Sub-Saharan Africa using a mixed method approach. Marais (2016) concluded on several CSFs but excluded Zimbabwe.

2.3 Zimbabwe

According to the World Economic Forum report, Zimbabwe showed a marginal improvement on the 2017-2018 Global Competitiveness Index rankings from number 126 to 124, but still remains in the bottom 10% position of the competitive countries in the world (Schwab, 2017). However, Zimbabwe has done a considerable amount

in an attempt to comply with international standards and practices on private investments (ZIA, 2018).

2.3.1 State of the power sector

The impact of ageing and maintenance challenges for the Zimbabwe utility is reflected in the installed vs. re-rated vs. operating capacities. Table 1 presents the status of the Zimbabwe power utility.

Table 1: Status of the Zimbabwe power utility; Own table with information sourced from ZPC (2018)

Power Station	Date Commissioned	Technology	Installed Capacity MW	Re-rated Capacity MW	Operating Capacity MW
Hwange	1983	Coal fired	920	920	310
Kariba South	1959-1962	Hydro	750	750	833
Harare	1942-1955	Coal fired	135	60	15
Bulawayo	1947-1957	Coal fired	120	90	25
Munyati	1946-1957	Coal fired	120	100	13
Total			2045	1920	1196

2.3.2 Institutional framework for IPPs

ZERA was established under the Ministry of Energy and Power Development (MERP). ZERA has been mandated to regulate the Zimbabwe Electricity Transmission and Distribution Company (ZETDC), the Zimbabwe Power Company (ZPC), IPPs, and any activity in electricity for commercial purposes in excess of 100kW (ZERA, 2018).

2.3.3 Regulatory framework for IPPs

There are several policies, regulations and Acts that govern the issuing of permits and licenses to potential IPPs. The permits and licenses listed in Table 2.

Table 2: Policies, regulations and Acts governing IPPs (Own table)

Permit or Licence	Policy, Regulation or Act	Issuing Authority
Lease agreement or title deed for the land	Fast-Track Land Reform Programme	Ministry of Lands and Rural Resettlement
Site access and development rights		Local Authorities
Environmental Impact Assessment (EIA) Certificate	Environmental Management Act	EMA
	Environmental Impact Assessment and Ecosystems Protection Regulations	
Independent Power Producer (IPP) Generation licence	Electricity (Licensing) Regulations	ZERA
	Energy Regulatory Act	
Renewable Energy Feed-in Tariff (REFiT) – currently published for up to 10MW	Zimbabwe Energy Policy	ZERA
Power Purchase Agreement (PPA)	Electricity Act	ZETDC
Grid Connection Agreement	Electricity (Grid Code) Regulations	ZETDC
Investment licence (non-residents)	Zimbabwe Investment Authority Act	ZIA

2.4 Lessons learnt for IPPs

State-owned utilities have maintained a dominant power generation position, doubling-up as the single buyer of electricity and hindering progress on IPP investments (Eberhard et al., 2008).

Uganda price hikes and blame games (Meyer et al., 2018) could have been avoided through a better stakeholder consultative processes. In some countries, communities have mobilised polical and legal structures to push for accesss to affordable electricity (Hall et al., 2005). There is a threat that the governments might eventually resort to publicly financed large scale projects instead of IPPs for political stability.

The regulators have faced many challenges to balance huge debts carried by state utilities, economical efficient pricing, and regulations protecting low income protection (Gardiner & Montpelier, 2000) while avoiding highly politicised process that ignores cost structures (Bayliss & Hall, 2000).

Mangi (2018) discussed various ways to approach project finance to mitigate finance risks and to provide flexibility for varying project requirements. Figure 3 shows an efficient allocation of risk through an IPP Special Purpose Vehicle (SPV).

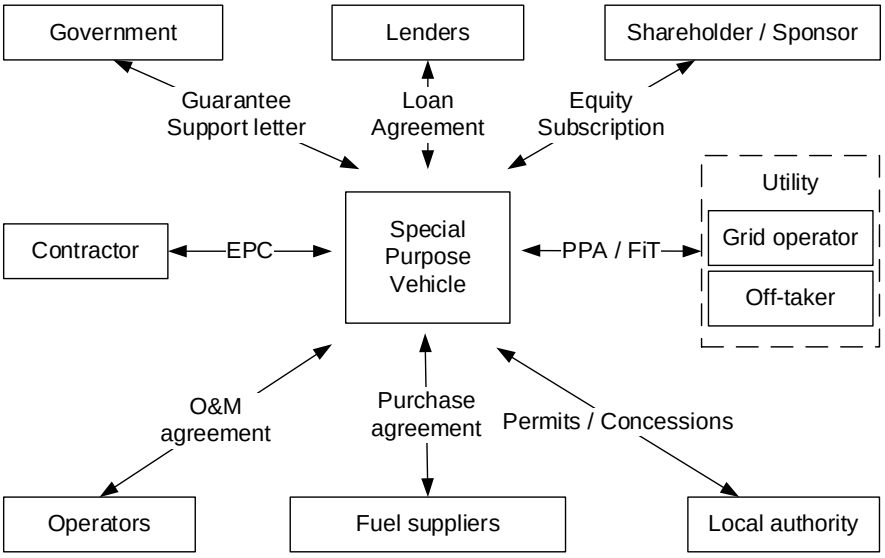


Figure 3: Allocation of risk through an IPP SPV (Own diagram)

2.5 Framework for new venture creation

Venture creation is the process of turning an idea into a business that investors are willing to fund. The difference among entrepreneurs and their ventures is as significant as the process and environment that created them (Gartner, 1985).

Gartner (1985) proposed a framework integrating four major elements: entrepreneurial characteristics; environment; organisation; and entrepreneurial process. Other variations of the Gartner's original framework has been the integrative model (Morris, Kuratko & Schindehutte, 2001) and the framework of frameworks (Kuratko et al., 2015) but they still carry the four major elements. The structural framework (Bouchikhi, 1993) helped to define venture performance as emergent of the interaction of the entrepreneur, the environment, the organisation and the entrepreneur behaviour.

The most recent critics of Gartner's framework have been Moroz and Hindle (2012) and Salamzadeh (2015) who have attempted to push for Shane's model because of a process view approach. The issue is whether to go for performance outcomes or stage development (Storey, 2016). There is still no consensus, and Moroz and Hindle (2012) found that all 32 extant models on entrepreneurship which they evaluated were heavily fragmented and could not be synthesised into a single harmonised model.

The frameworks of Gartner (1985) and Bouchikhi (1993) have characteristics for a more robust framework that could be useful for classifying and generalising new ventures and their performances.

2.6 Individual(s) entrepreneur

Successful entrepreneurs are characterised by voluntarism (Bouchikhi, 1993) and entrepreneurial motivations and cognitions (Urban et al., 2017). Gartner, Starr and Bhat (1999) emphasised that an entrepreneur's knowledge and abilities should be relevant to the functions of the new venture and not broad knowledge. The way the entrepreneur or team builds a new venture can also send signals to potential investors and partners (Barringer & Ireland, 2015).

Small companies need to have management with substantial industry experience (Siegel, Siegel & Macmillan, 1993) because they cannot afford a wider pool of talent like larger companies. Without good education, entrepreneurs start blaming their failures on bureaucracy (Vantenja, 2018).

A study on SMEs from Russia and Finland proposed that continuous competence renewal is critical in order to avoid competence traps (Taipale-Eravala, Lampela & Heilmann, 2015). Competency traps can severely hinder the ambidexterity of business (Heracleous, Papachroni, Andriopoulos & Gotsi, 2017).

The discussion on entrepreneurial characteristics leads to the first sub-hypothesis:

Aligning with key entrepreneurial characteristics has a positive influence on the decisions to fund an IPP in Zimbabwe.

2.7 Environment

The environment should be carefully considered because it can facilitate or constrain entrepreneurial efforts (Bouchikhi, 1993). Studies on CSFs for IPPs in Sub-Saharan Africa (Gratwick and Eberhard, 2008; Eberhard and Gratwick, 2011), the poor performance of IPPs in Zimbabwe to reach bankability (Zunguze, 2016) and the poor investment outcomes due to privatisation (Marais, 2016) have all concluded that environmental factors are critical to the facilitation of entrepreneurial efforts.

A major concern is credit worthiness of the off-taker (Hilmarsson, 2010) and credit enhancements provide ways to mitigate some of this risk (Eberhard, Gratwick, Morella & Antmann, 2017), but their use in Africa has so far been limited (Hilmarsson, 2010). The traditional route of an investment grade business model may now be obsolete for the IPP sector being forced to sell electricity to struggling state utilities. This requires radical policy reforms to reallocate the risk for the investors (Blyth, McCarthy & Gross, 2015).

The government should be seen to be transparent and supportive of the new IPP sector through complementary assets (Polzin, 2017) rather than hindering the reallocation of funds. Zimbabwe has reported a project to refurbish a half decade ageing Harare power station at a total cost of US$52 million to add another 60MW to the national grid (ZPC, 2019), when these funds could have been reallocated to assist the struggling IPP sector. Joint transparent consultative processes between the private sector and government can provide reliable and effective policy reforms (Polzin, 2017).

The discussion on environment factors leads to the second sub-hypothesis:

Addressing key environmental risks and challenges has a positive influence on decisions to fund an IPP in Zimbabwe.

2.8 Organisation

Entrepreneurs need to mobilise a support structure, resources and commitments from key stakeholders, and they must go through a list of organising activities like the business plan and application for financing (Gartner, 1985).

The importance of a clearly defined business model have been highlighted by Barringer and Ireland (2015) to create profitable ventures (Karakaya, Nuur & Hidalgo, 2016) and to define customers, key resources, key partnerships and firm customer interfacing (Barringer & Ireland, 2015).

Investors want to understand the financial position of a business to forecast its future prospects (Graham, Winfield & Miller , 2016). Many financial indicators are used by IPPs and they include revenue requirement (RR), net present value (NPV), levelised cost of energy production (LCOE) and sometimes debt service coverage ratio. ZERA

Tariff code (ZERA, 2013) has a revenue requirement calculation which provides for costs recovery and a reasonable return for the IPP.

Fiscal and non-fiscal incentives (MMPIP, 2017) as policy instruments can significantly affect the bankability of projects by decreasing the upfront cost of IPP installations (Crago & Koegler, 2018).

The discussion on key organisation factors leads to the third sub-hypothesis:

Aligning with key organisational factors has a positive influence on decisions to fund an IPP in Zimbabwe.

2.9 Entrepreneurship behaviours

Causation is a traditional model of entrepreneurship, and refers to the principle of "cause and effect" where the outcome is defined, and the entrepreneur proceeds to mobilise resources within an uncertain but predictable future (Fisher, 2012). Causation is target-oriented, focusing on maximising profits and using the best strategy that brings the highest returns. Revenues and risks have to be estimated to ensure that sufficient resources are mobilised; the entrepreneur is focused on the upside-potential (Mannes, 2013).

Effectuation embodies the principles of flexibility, experimentation, pre-commitments and affordable loss (Mannes, 2013). The entrepreneur identifies and leverages available resources in an uncertain and unpredictable environment (Fisher, 2012). The entrepreneur is not bound by a defined outcome, but recognises the financial position and the worst case scenarios and therefore only invests what he/she can afford to lose; the entrepreneur limits the downside-potential (Mannes, 2013).

Bricolage involves the principle of "making do" where the entrepreneur identifies the resources in hand and creates something new in a resource-constrained environment (Fisher, 2012). The entrepreneur is not bound by a defined outcome, neither are there any pre-commitments. Bricolage has a "hands on" approach to manage resources better, and this is particularly useful for ventures operating in hostile environments (Azadegan, Patel & Parida, 2013).

The discussion on key entrepreneurial behaviours leads to the fourth sub-hypothesis:

Adopting key entrepreneurial behaviours has a positive influence on decisions to fund an IPP in Zimbabwe.

2.10 Main Hypothesis

2.10.1 Hypothesis background

Given that 60% of licensed IPPs in Zimbabwe are struggling to secure funding, a conceptual framework was used to develop a theoretical base and to identify CSFs that could improve IPP bankability performance.

Hypothesis

Null hypothesis: H_0: $\mu = 3$; the CSF has no influence on IPP bankability performance.

Alternative hypothesis: H_1: $\mu < 3$; the CSF has a positive influence on IPP bankability performance.

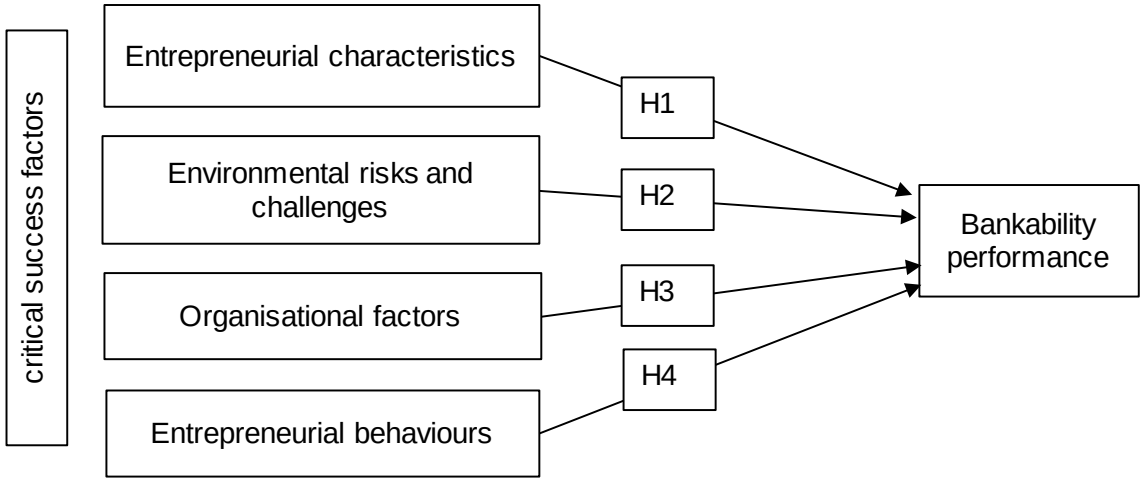


Figure 4: Study concept model (Own model)

2.11 Literature conclusion

The literature review confirmed that there is a power shortage in Zimbabwe and that licensed IPPs among other key role players like the policymakers and financiers have a role to play in ensuring there is additional electricity generating capacity. Other comparative studies have looked more externally to the IPP or individual entrepreneur and failed to explain why some of the licensed IPPs managed to get funding, given

the same country and general project risks. The studies also assumes that all entrepreneurs are the same and thus fails to differentiate one venture from another, one entrepreneur from another, one organisation from another, and even one entrepreneurial process from another. The new venture creation framework has provided a theoretical basis for the sub-hypotheses and main hypothesis questions.

3 Methodology

3.1 Introduction

Chapter 3 has been structured to include a quantitative research approach, a non-probability purposive sampling, a survey instrument, data collection, data analysis tools, and ethical clearance.

The chapter has looked at the quantitative research methodology, the target sample, the research questionnaire, and the reliability and validity of data. Further statistical methods have also been discussed, and they include hypothesis tests, correlations and comparisons.

3.2 Study design

A deductive approach starts with a theoretical basis from which data is used to test the theory in the form of a hypothesis (Kalof, Dan & Dietz, 2008).

3.2.1 Approach to research design

Three consideration proposed by Creswell (2003) were applied to come to a decision on the research approach for this study, and these are set out below.

- The first consideration was the match between the problem and approach and this was based on a postpositive knowledge claim with a critical realism approach between variables and outcomes.
- The second consideration was the personal preference of the researcher given his technical background, familiarity with hypothesis testing and statistical analysis.
- The third factor was to give more confidence on the result by limiting researcher bias.

Following these three consideration, the quantitative research approach was seen to be the best choice.

The advantages and disadvantages to choosing a quantitative research approach were discussed by Rahman (2017) and can be applied to this study:

Advantages:

- Findings can be generalised to the IPPs in volatile economies.
- Data analysis was less time-consuming because of the IBM Statistical Package for the Social Sciences (SPSS).
- The researcher was comfortable with emphasis on quantification.

Disadvantages:

- The method failed to uncover the deeper meaning and explanations for the feedback.
- Only the cross-sectional variables were measured due to limited time and money.
- A large sample was not possible for this study.

Given enough time, the mixed sequential explanatory research design based on a methodology proposed by Ivankova, Creswell and Stick (2006) would have been the best since it provided depth and understanding through interviews (Venkatesh, Brown & Bala, 2013; Creswell & Clark, 2007; Creswell, 2009), and an opportunity to seek clarification when the quantitative phase produced unexpected results (Ivankova et al., 2006).

3.3 Unit of analysis

Kalof et at. (2008) stated that a theory should be clear about the things under focus. The unit of analysis for this study took the form of individuals who responded to the questionnaires. These individuals are actively involved with the IPP sector in Zimbabwe.

3.4 Study population, setting and sampling strategy

The population included all the individuals whose roles influenced private investment in the IPP sector in Zimbabwe. After defining the population (Kalof et al., 2008, p.41), a sample frame was compiled as shown in Table 3. A combination of non-probability purposive sampling and intelligent judgement was used to identify a target sample that is representative.

Table 3: Sample frame

Key stakeholder	Grouping	Target institutions	Target Sample
Policymakers	Government	Ministry of Energy and Power Development Ministry of Industry, Commerce and Enterprise Development	2
	Regulator	Zimbabwe Investment Authority Zimbabwe Energy Regulatory Authority	2
	Utility	Zimbabwe Electricity Supply Authority Zimbabwe Power Company	2
Licensed IPPs*	Post-funding		12
	Pre-funding		18
Financiers	Investors	OEMs, Business owners, Private investors	3
	Advisors	Project developers, Private consultants	2
	Banks / Institutions	African Development Bank Development Bank of Southern Africa International Finance Corporation	4
Totals			45

* Licensed IPPs names and contact details are maintained by the ZERA

3.5 Assumptions for the research

The following assumptions were made to establish a basis for study:

1. Licensed IPPs in Zimbabwe had sound business cases and were actively looking for funding for their projects. No speculative activities or rent seeking were anticipated.
2. Financiers were actively interacting with IPPs and looking for viable projects to fund. No hidden agendas were anticipated.
3. Policymakers were actively involved in the power sector and with IPP to ensure that Zimbabwe is a viable destination for investment.
4. IPP projects could be funded in phases because of the nature of technologies involved, thus eliminating the problem of high initial investments.
5. The main stakeholders influencing funding of IPP projects in Zimbabwe were the licensed IPPs, policymakers and financiers.
6. The target sample was representative of the population.
7. Participants had enough background knowledge and experience to offer their perceptions for the study.
8. Participants had smartphones or computers, and access to an internet service to answer the online survey questionnaire.
9. A minimum of 31 responses were appropriate for quantitative research (Marais, 2016; Park, 2015).

3.6 The research instrument and design

The survey is compiled with some questions from MacMillan, Zemann, and Subbanarasimha (1987), Mannes (2013), and Marais (2016). A copy of the survey questionnaire is attached in Appendix B.

The same questionnaire in terms of questions, response options and order of questions, was sent to all the respondents. The measures used in the study are summarised in Appendix C.

Except for the demographic section, the questionnaire utilised a 5-point Likert-scale for measuring the strength of feelings towards a list of closed-ended statements (Bell, 2014). In this study the lower the category chosen, the stronger the strength of agreement: 1 - strongly agree and 5 – strongly disagree.

Based on the comparisons made by Blaxter (2010, p.79), the advantages of using a survey for this questionnaire included:

- Survey was administered easily using Qualtrics.
- Surveys could be replicated in the future, and would allow for comparisons.

The disadvantages of using a survey for this study included:

- The data did not give deeper meaning or explanations for the characteristics measured.
- The results were based on the accuracy of the instrument.
- A large sample of at least 30 responses was required for the survey.

3.6.1 The survey tools

Qualtrics is a web-based survey administering software. The questionnaire was uploaded on Qualtrics, validated and activated for data collection. The surveys could be accessed via an online link using a smartphone or a computer. The contact details for the respondents were sourced from various social media platforms and government institutions like ZERA. The responses were structured in coded form to protect the anonymity of the respondents.

3.6.2 Accuracy, reliability and validity

Reliability is concerned with repeatability and with keeping the error small; that includes asking several questions on the same construct because (Kalof et al., 2008). A consistency matrix attached in Appendix C was prepared to improve reliability.

Internal validity looks at whether the tool measures what it is supposed to measure (Kalof et al., 2008) and it is also about the accuracy of the instrument (Venkatesh et al., 2013). The research supervisor as a subject expert commented on the questions as proposed by Sivo, Saunders, Chang and Jiang (2006). The questionnaire was also aligned to the literature review through the consistency matrix in Appendix C. The Expert review on Qualtrics also validated the questionnaire and the score was “Good. Classmates, friends and colleagues were invited through email and social media for piloting and further validation.

External validity is the ability to generalise the study to a larger population (Kalof et al., 2008). An expanded view of reliability and validity (Sivo et al., 2006; Marais, 2016) was also applied and is summarised Table 5 and Table 6.

Table 4: Principal factors threatening validity (Own table)

Principal factors threatening validity	
Factor	**Action taken**
Sample selection	The sample represented the population on the basis of their knowledge and role contribution to the IPP sector in Zimbabwe.
History	The research was a cross-sectional study and therefore not impacted by timeline events
Testing	A web-based survey was used and the respondents completed the survey with anonymity.
Mortality	The research was a cross-sectional study and therefore not impacted by timeline issues. The sample frame described job role contribution to the study and was not specific to individuals.
Maturation	The research was a cross-sectional study and therefore not impacted by timeline events.
Ambiguity about causal direction	A conceptual framework was used as the basis for the literature review, research questions and causal relationships. Later during the study, hypothesis testing and correlation analysis were used to confirm the significance, direction and strengths of these relationship.

Table 5: Principal factors threatening reliability (own table)

Principal factors threatening reliability	
Factor	**Action taken**
Participant error	The timing of completing the questionnaire had no effect on the assessment of interest.
Participant bias	A web-based survey was used and the respondents completed the survey with anonymity.
Researcher error	The same questionnaire in terms of structure, content, and order of questions was used for all participants in a web-survey
Researcher bias	A survey questionnaire has reduced researcher bias compared to an interview. The instrument was also reviewed by a subject expert and through pilot testing by knowledgeable classmates, friends and colleagues.

3.7 Research development

The research involved a number of phases – data collection, data reduction, data display, data analysis, and conclusion.

3.7.1 Data collection phase

Altogether 45 questionnaires were sent out to a target sample. Out of the 45 participants, 44 attempted the survey. Thirteen responses were rejected because the information was incomplete and not usable. Cross-sectional variables were collected, with 31 valid responses, and this was equivalent to a response rate of 68,9%.

The low response rate is < 51% (Sivo et al., 2006); Good and very good response rate is > 60% and >70% respectively, according to Babbie (1990) as cited in Sivo et al. (2006, p.359). Despite the comparatively lower response rate to that reported by Zunguze (2016), the problem of non-response bias was minimised because there was no visible differences between respondents and non-respondents on the assessment of interest (Rindfuss, Choe, Tsuya, Bumpass & Tamaki, 2015).

3.7.2 Data reduction phase

Data screening was used to clean the data from surveys and to improve its validity and this followed a methodology used by Gaskin (2018):

1. The data was checked for missing values. Responses which were less than 10% complete were deleted. Missing values making up less than 10% of the survey were imputed with known values. An educated guess was used by observing the respondents' answers to similar questions in a construct; this has nominal non-significant effect on the dataset.
2. Un-engagement was tested by visual inspection and checking the standard deviation for each response; a standard deviation of zero would prove that the respondent was not engaged.
3. Normality checks were done on SPSS by checking for kurtosis and skew-ness and also applying the Shapiro-Wilk test. Values were reviewed and corrected above a kurtosis threshold of ±3,8 (Gaskin, 2018).
4. Data validity and data normality were established before hypothesis testing.

3.7.3 Data display phase

Data was collected via Qualtrics and exported to Excel and SPSS. A numerical coded format was used by Qualtrics and it is summarised in Table 7.

Table 6 Numerical codes for questionnaire questions

Type of organisation you work for	Code
Independent power producer	1
Regulatory authority	2
Power utility	3
Government official	4
Project financier	5
Private investor	6
Advisory service	7
Legal services	8
Project developer	9
Original equipment manufacturer	10

Phases of IPP development involved in	Code
Concept / pre-feasibility	1
Feasibility / proof of bankability	2
Funding	3
Construction	4
Operational	5

Response	Code
Strongly agree	1
Agree	2
Neutral	3
Disagree	4
Strongly disagree	5

Years of experience	Code
0-5 years	1
6 -10 years	2
11-20 years	3
21-30 years	4
>30 years	5

3.7.4 Data analysis phase

After establishing reliability and validity, the dataset was ready for hypothesis tests. According to the Central Limit Theorem, the distribution of a sample mean (e.g. μ_1 and μ_2) is approximately normal when the size is sufficiently large; in practice when $n_1 + n_2 \geq 30$ (Park, 2015). Given that the sample size for this study was greater than 30, the dataset was analysed using parametric methods.

The data for all the 32 variables were assumed to be normally distributed for a two-tailed test; hence, the sample mean could be compared to a hypothetical mean (=3). This was supported by the fact that it's not possible to have extreme responses on a 5-point Likert scale (Park, 2015; Marais, 2016).

SPSS version 25 was used for the statistical analysis. The data analysis included descriptive statistics (mean and standard deviation), hypothesis testing (one-sample t-test), correlations (Pearson coefficient) and comparisons (one-way ANOVA).

3.7.5 Conclusion phase

The results of hypothesis testing and correlations were used to evaluate whether the identified CSFs improved IPP bankability performance, and the strengths of the relationships.

3.8 Ethical Considerations

Ethical clearance from Wits Business School was required before conducting data collection involving human participants (WBS, 2018) and the necessary documents were submitted for approval. The research met the requirements of the ethics protocol (Stacey & Stacey, 2012) and a protocol number was given by the Ethics Committee.

As part of the survey, participants were informed of their rights to complete the survey voluntarily and the conditions for participating. A copy of this letter is attached in Appendix A. Qualtrics was used for data collection enabling the collection of responses with the protection of anonymity, but without losing the context and referential information needed for the study.

4 Results

4.1 Introduction

Chapter 4 has been structured to include results on demographics, dataset validity, descriptive statistics, one-sample t-tests, one-way ANOVA tests and Pearson correlations.

In this chapter, hypothesis testing has been done to identify CSFs which influences IPP bankability performance, followed by the correlation tests to confirm the strength of these relationships. Comparison tests have also been done to see if there are statistically significant differences of opinions among the key stakeholder groups.

4.2 Survey Response rate

The response rate was 68,9% as discussed in Section 3.7.1

4.3 Demographics.

The respondents were requested to give some of their personal information during the survey

4.3.1 Job roles of respondents

Figure 5 shows the organisation sectors which contributed to the study. There was good representation from IPPs, policymakers and financiers.

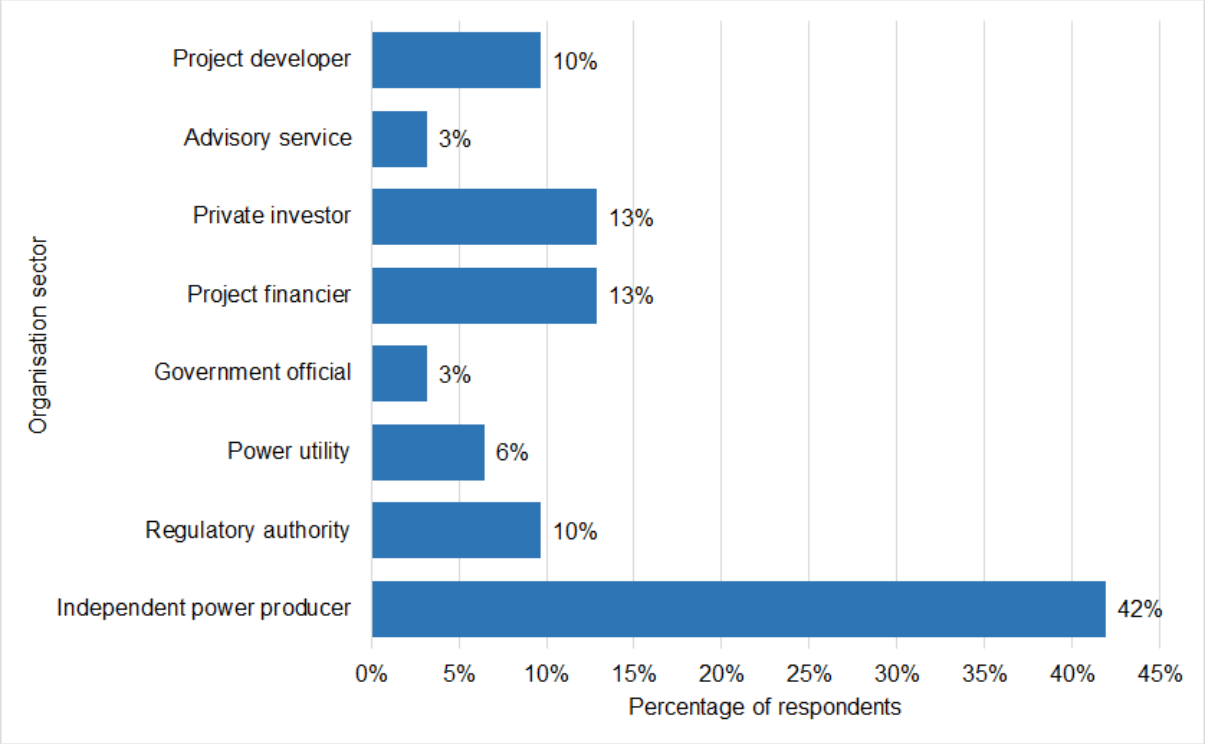


Figure 5: Respondents from organisation sectors involved with IPPs in Zimbabwe

4.3.2 Categorisation of respondents

Figure 6 shows the stakeholder groups for the study. They were financiers, policymakers and IPPs (with sub-groups IPPs pre-funding and IPPs post-funding. The IPPs made the majority with about 51%.

4.3.3 Years of experience of respondents

Figure 7 shows the total years of experience and relevant IPP experience of the 31 respondents. This was a relatively senior group of people in terms of total experience (average = 16 years), but the low IPP sector experience (average = five years) reflected the IPP sector's relatively "infancy" status in Zimbabwe.

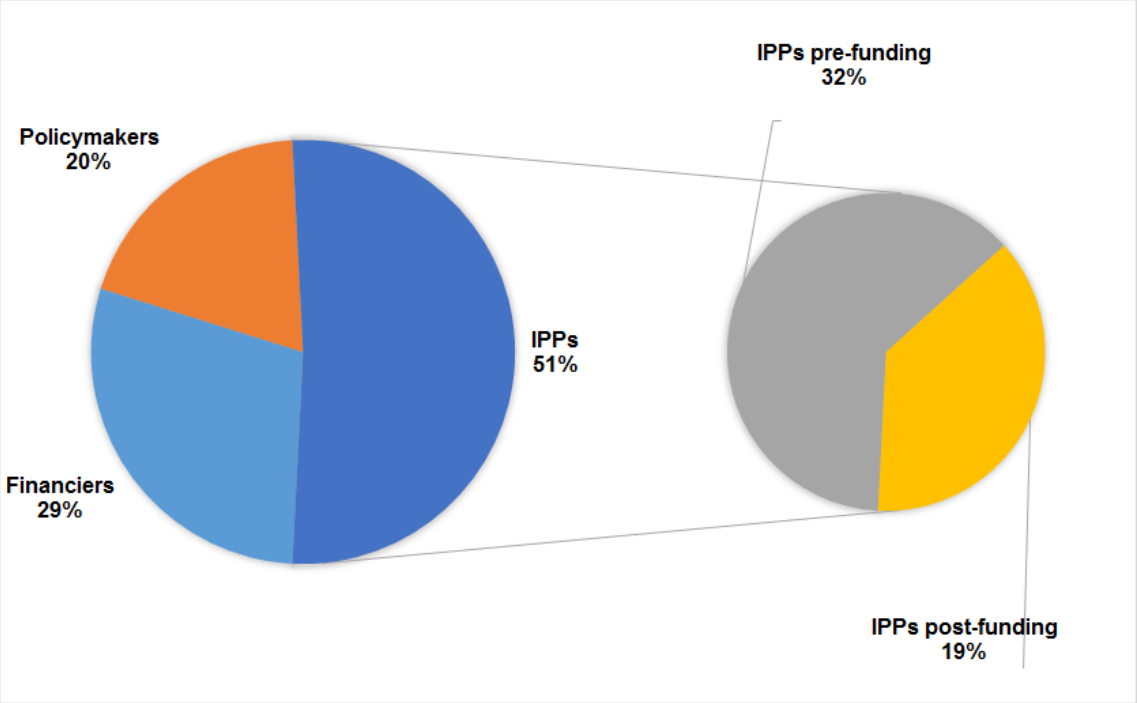


Figure 6: Stakeholder groups involved with IPPs in Zimbabwe

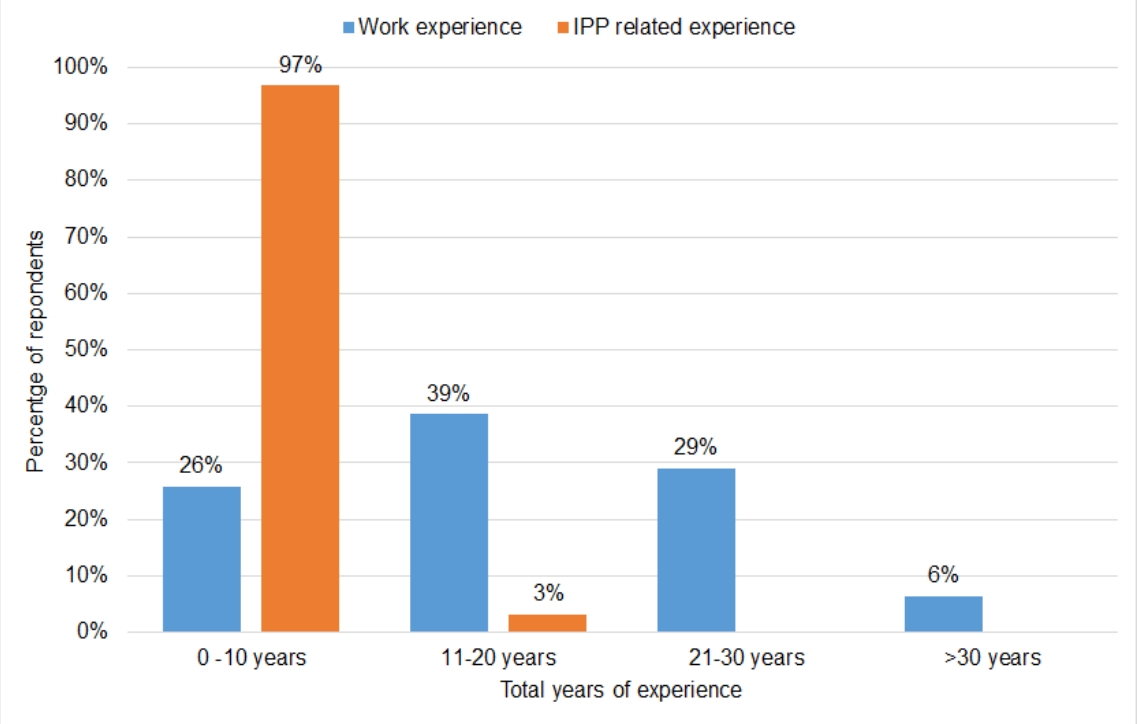


Figure 7: Respondents' years of experience

4.3.4 IPP project development experience of respondents

Figure 8 shows the areas of project development in which respondents have been involved. Respondents were able to choose multiple options to reflect their experience. The bulk of the IPPs were stuck in the pre-funding phases.

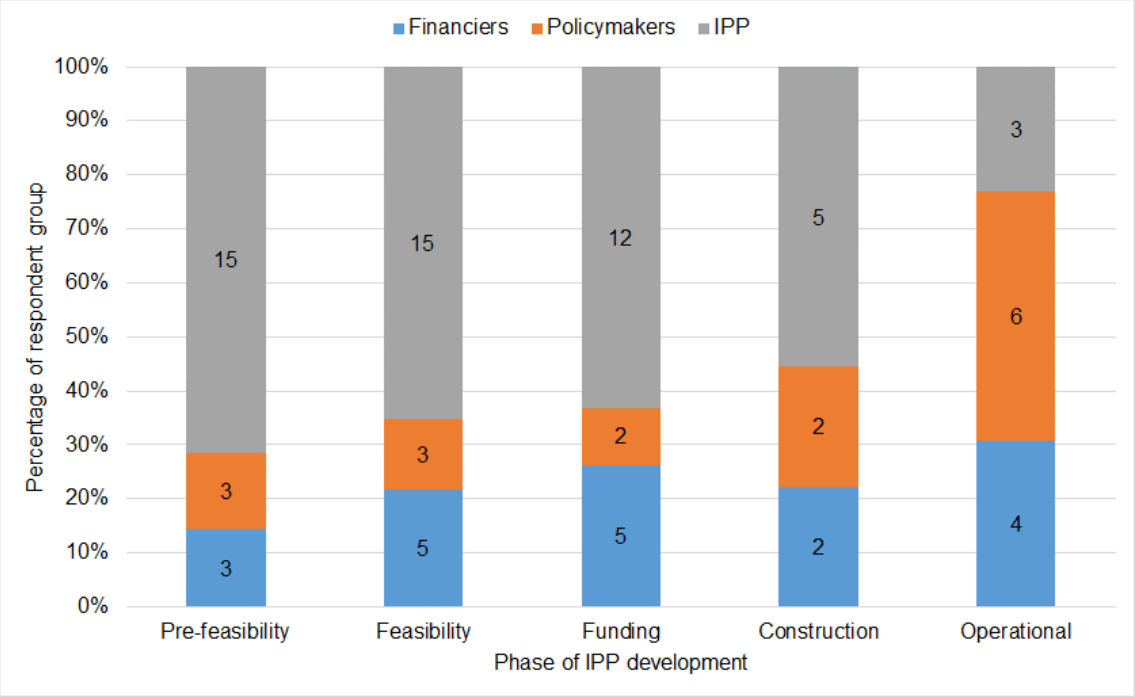


Figure 8: IPP project development experience

4.4 Test of reliability

Cronbach's alpha for the research instrument was 0,739. This is within the accepted range of between 0,6 – 0,8 according to Zaiontz (2013) as cited in Marais (2016, p.50).

4.5 Analysis of CSFs for IPP bankability performance in Zimbabwe

4.5.1 One-sample t-test

Hypothesis testing was done to determine if the variables' means were significantly larger or smaller than the hypothetical mean, the midpoint of the Likert scale (=3).

Null hypothesis: H_0: $\mu = 3,0$; the variable has no effect on the decision to fund IPPs in Zimbabwe.

Alternative hypothesis: H_1: $\mu < 3,0$; the variable has a positive effect on the decision to fund IPPs in Zimbabwe.

The null hypothesis was rejected for a p value < 0,05. The lower the mean, the stronger the strength of agreement; 1 - strongly agree and 5 – strongly disagree.

The null hypothesis was also rejected for |t-value| > critical t-value. The critical t-value from the statistical tables (t, 30, 005) was 2,040.

4.5.2 First sub-hypothesis results

The p-values in Table 8 were less than 0,05, and the absolute t-values were greater than 2,04. The null hypothesis was rejected in favour of the alternative hypothesis. Aligning with key entrepreneurial characteristics, has a positive influence on the decisions to fund an IPP.

Table 7: Key entrepreneurial characteristics influencing the decision to fund an IPP

Descriptive statistics					One-sample t-test	
Rank	**Question 5 :** Key entrepreneurial characteristics influencing the decision to fund an IPP in Zimbabwe	N	Mean	Standard deviation	t-value	p-value
1	Sustained intense effort to court potential financiers for funding.	31	1,609	0,988	-6,753	<0,001
2	A drive that seeks to make Zimbabwe a better country; beyond just making money.	31	1,652	0,832	-7,772	<0,001
3	Functional competency to articulate and mitigate risks in the electricity sector in Zimbabwe to potential funders.	31	1,792	1,141	-5,187	<0,001
4	An internal locus of control; taking accountability for bad decisions and lessons learnt.	31	1,870	0,869	-6,240	<0,001
5	Sufficient age and education, with previous working experience and testimonies to make a successful venture.	31	2,083	0,018	-4,412	<0,001

4.5.3 Second sub-hypothesis results

The p-values in Table 9 for variables ranked 1-8 were less than 0,05, and the absolute t-values were greater than 2,04. The null hypothesis was rejected in favour of the alternative hypothesis, except for variables ranked 9 and 10. Addressing key environmental risks and challenges has a positive influence on the decisions to fund an IPP.

Table 8: Key environmental risks and challenges influencing the decision to fund an IPP

Descriptive statistics					One-sample t-test	
Rank	**Question 6 :** Key environmental risks and challenges influencing decision to fund an IPP in Zimbabwe	N	Mean	Standard deviation	t-value	p-value
1	Political risks are a significant consideration and may prevent IPP investment in Zimbabwe.	31	1,291	0,550	-15,216	<0,001
2	Power sector regulatory reform should be a joint effort between private investors and regulatory bodies.	31	1,417	0,881	-8,809	<0,001
3	Uncertainty in macroeconomic conditions outweighs off-taker agreements and prevent IPP investment.	31	1,583	0,830	-8,365	<0,001
4	Partnering with a local government partner, trusted local partner, etc. is a key consideration for sustainable investment in Zimbabwe.	31	2,167	1,167	-3,498	0,002
5	Risks associated with supply of electricity to the grid are addressed for the duration of the investment lifespan.	31	2,208	1,021	-3,800	0,009
6	Project execution risks are adequately addressed with low probability that investment failure resides in the project execution.	31	2,208	1,062	-3,651	<0,001
7	Current power sector regulation in Zimbabwe requires significant reform.	31	2,291	1,268	-2,738	0,012
8	Regulation in the power sector has improved and is more conducive for private investment.	31	2,500	1,063	-2,304	0,031
9	Governments are the sole driver of regulatory reform in the power sector of Zimbabwe.	31	2,708	1,197	-1,194	0,245
10	Risk mitigation mechanisms for power sector projects, like those provided by the World Bank, are adequately utilised to reduce risk.	31	2,750	1,152	-1,064	0,299

4.5.4 Third sub-hypothesis results

The p-values in Table 10 were less than 0,05, and the absolute t-values were greater than 2,04. The null hypothesis was rejected in favour of the alternative hypothesis. Aligning with key organisational factors has a positive influence on the decisions to fund an IPP.

Table 9: Key organisational factors influencing the decision to fund an IPP

Descriptive statistics					One-sample t-test	
Rank	**Question 7 :** Key organisational factors influencing decision to fund an IPP in Zimbabwe	N	Mean	Standard deviation	t-value	p-value
1	The opportunities for additional power projects are substantial.	31	1,583	0,881	-7,882	<0,001
2	The demand for electricity and IPPs is sustainable for the foreseeable future.	31	1,708	0,859	-7,369	<0,001
3	Rate of return is the most important financial indicator used for entering into IPP ventures in Zimbabwe.	31	1,792	0,509	-11,630	<0,001
4	Tax incentives are a significant consideration to improve the investment returns and may even result in restructuring the IPPs to benefit from these tax incentives.	31	1,792	0,884	-6,699	<0,001
5	Supplying affordable electricity to support a sustainable power sector is as important as maximising investment returns.	31	1,958	0,955	-5,346	<0,001
6	Financial indicators take preference over other sustainability indicators like carbon emission reductions, job creation, etc. in Zimbabwe.	31	2,000	0,932	-5,254	<0,001
7	Generation capacity/potential is a key consideration, i.e. the larger the proposed generation capacity, the more lucrative the setting for IPPs.	31	2,375	1,135	-2,698	0,013

4.5.5 Fourth sub-hypothesis results

The p-values in Table 11 were less than 0,05, and the absolute t-values were greater than 2,04. The null hypothesis was rejected in favour of the alternative hypothesis. Adopting key entrepreneurial behaviours has a positive influence on the decisions to fund an IPP.

Table 10: Key entrepreneurial behaviours influencing the decision to fund an IPP

Descriptive statistics					One-sample t-test	
Rank	**Question 8 :** Key entrepreneurial behaviours influencing decision to fund an IPP in Zimbabwe	N	Mean	Standard deviation	t-value	p-value
1	The IPP mitigate against uncertainties with key stakeholders (suppliers, customers, developers, original equipment manufacturers, etc.) by completing pre-commitment agreements to improve chances of funding	31	2,042	0,806	-5,822	<0,001
2	The IPP locate different electricity production opportunities and analyse them before choosing the best option with the best returns for funding.	31	2,083	0,776	-5,791	<0,001
3	The IPP business model remains "flexible"; continuously evolving to adapt actions to the available resources as opportunities emerge - on grid, off grid, direct customer, etc. to improve chances for funding.	31	2,083	0,881	-5,100	<0,001
4	The IPP goes through an iterative cycle of "experimentation" to come up with the best business model that can attract funding	31	2,167	0,816	-5,000	<0,001
5	The IPP maximise available resources and government incentives by "making do" with what is freely available to reduce the costs of funding.	31	2,167	0,963	-4,239	0,0003
6	The IPP only commit and risk funds that it can "afford to lose" to put some "skin in the game" as a measure to attract further funding	31	2,167	1,050	-3,890	0,0007

4.6 Main hypothesis

Following the confirmation of the four sub-hypotheses, the main hypothesis test was done to evaluate whether the CSFs improved IPP bankability performance.

Null hypothesis: H_0: $\mu = 3,0$; the CSF has no influence on IPP bankability performance in Zimbabwe.

Alternative hypothesis: H_1: $\mu < 3,0$; the CSF has a positive influence on IPP bankability performance in Zimbabwe.

The null hypothesis was rejected for a p value < 0,05. For the constructs with high statistical significance (p value < 0,05). The lower the mean, the stronger the strength of agreement; 1 - strongly agree and 5 – strongly disagree.

The null hypothesis was also rejected for |t-value| > critical t-value. The critical t-value from the statistical tables (t, 30, 005) was 2,040.

The p-values in Table 12 were less than 0,05, and the absolute t-values were greater than 2,04. The null hypothesis was rejected in favour of the alternative hypothesis. Thus, it can be concluded that the CSFs have a positive influence on IPP bankability performance.

Table 11: Performance of IPP bankability characterised by CSFs

Descriptive statistics					One-sample t-test	
Rank	**Question 9 :** Performance of IPP bankability characterised by CSFs	N	Mean	Standard deviation	t-value	p-value
1	An environment with mechanisms to address current challenges, risks and uncertainties referred in Q6 will result in improved IPP bankability.	31	1,417	0,504	-15,402	<0,001
2	Adopting an entrepreneurial process that is aligned to the behaviours referred in Q8 will result in improved IPP bankability.	31	1,500	0,590	-12,460	<0,001
3	Entrepreneurs who are aligned with the characteristics of successful entrepreneurs referred in Q5 will result in improved IPP bankability.	31	1,625	0,576	-11,699	<0,001
4	An organisation that is aligned with defined factors referred in Q7 will result in improved IPP bankability.	31	1,667	0,565	-11,568	<0,001

4.7 Correlations

Following confirmation of the main hypothesis, Pearson correlation tests were used to investigate the strength and direction of the relationships (Dedasaniya, 2013). According to Cohen (2013) Pearson correlation can be weak (0 – 0,29), moderate (0,30 – 0,49), or strong (0,50 – 1) (Cohen, 2013).

The Pearson correlation in Table 13 of 0,194 is above zero, and the p-value of 0,331 is greater than 0,05. The relationship was weak and insignificant.

Table 12: Relationship between entrepreneurial characteristics and IPP bankability performance

Correlations		Improved IPP bankability performance in Zimbabwe
Key entrepreneurial characteristics	Pearson Correlation	0,194
	Sig. (2-tailed)	0,331
	N	31

The Pearson correlation in Table 14 of 0,416 is above 0,30, and the p-value of 0,031 is less than 0,05. The relationship was moderate and statistically significant.

Table 13: Relationship between environmental risks and challenges and IPP bankability performance

Correlations		**Improved IPP bankability performance in Zimbabwe**
Key environmental factors	Pearson Correlation	0,416
	Sig. (2-tailed)	0,031
	N	31

The Pearson correlation in Table 15 of 0,458 is above 0,30, and the p-value of 0,016 is less than 0,05. The relationship was moderate and statistically significant.

Table 14: Relationship between organisational factors and IPP bankability performance

Correlations		**Improved IPP bankability performance in Zimbabwe**
Key organisational factors	Pearson Correlation	0,458
	Sig. (2-tailed)	0,016
	N	31

The Pearson correlation in Table 16 of 0,618 is above 0,50, and the p-value of 0,016 is less than 0,05. The relationship was strong and statistically significant.

Table 15: Relationship between entrepreneurial behaviours and IPP bankability performance

Correlations		**Improved IPP bankability performance in Zimbabwe**
Key entrepreneurial behaviours	Pearson Correlation	0,618
	Sig. (2-tailed)	<0,001
	N	31

4.8 Comparisons

The one-way ANOVA test was used to evaluate whether there were statistically significant differences of opinions (means) among the key stakeholders on the CSFs influencing IPP bankability performance.

Null hypothesis: H_0: $\mu_1 = \mu_2$; all the different group's means are equal.

Alternative hypothesis: H_1: $\mu_1 \neq \mu_2$; at least one group's mean is different.

The null hypothesis was rejected for a p value < 0,05. The lower the mean, the stronger the strength of agreement; 1 - strongly agree and 5 – strongly disagree.

The null hypothesis was also rejected for f-value > critical f-value. The critical f-value from the statistical tables (f, 30, 005) was 1,697.

The p-value in Table 17 of 0,817 is greater than 0,05, and the f-value of 0,311 was less than 1,697. The null hypothesis was not rejected. There were no statistically significant difference in group's means. Stakeholders agreed.

Table 16: Comparison of opinions on first sub-hypothesis

Dependant variable	**Position**	**Descriptive statistics**		
Entrepreneurs who are aligned with the characteristics of successful entrepreneurs stated in Table 8 will result in improved IPP bankability performance.		N	Mean	Standard Deviation
	IPPs (pre-funding)	10	1,71	0,488
	Policymakers	6	1,67	0,516
	Financiers	9	2,00	1,069
	IPPs (post-funding)	6	1,67	0,816
	Total	31	1,78	0,751
	ANOVA			
		Degrees of freedom	f-value	p-value
	Between Groups	3	0,311	0,817
	Within Groups	27		
	Total	30		

The p-value in Table 18 of 0,877 was greater than 0,05, and the f-value of 0,226 was less than 1,697. The null hypothesis was not rejected. There were no statistically significant difference in group's means. Stakeholders agreed.

Table 17: Comparison of opinions on second sub-hypothesis

Dependant variable	Position	Descriptive statistics		
An environment with mechanisms to address current challenges, risks and uncertainties stated in Table 9 will result in improved IPP bankability performance.		N	Mean	Standard Deviation
	IPPs (pre-funding)	10	1,57	0,535
	Policymakers	6	1,50	0,548
	Financiers	9	1,50	0,535
	IPPs (post-funding)	6	1,33	0,516
	Total	31	1,48	0,509
	ANOVA			
		Degrees of freedom	f-value	p-value
	Between Groups	3	0,226	0,877
	Within Groups	27		
	Total	30		

The p-value in Table 19 of 0,897 was greater than 0,05, and the f-value of 0,197 was less than 1,697. There were no statistically significant difference in group's means. Stakeholders agreed.

Table 18: Comparison of opinions on third sub-hypothesis

Dependant variable	Position	Descriptive statistics		
An organisation that is aligned with defined factors stated in Table 10 will result in improved IPP bankability performance.		N	Mean	Standard Deviation
	IPPs (pre-funding)	10	1,86	0,378
	Policymakers	6	1,67	0,516
	Financiers	9	1,88	0,835
	IPPs (post-funding)	6	1,67	0,816
	Total	31	1,78	0,641
	ANOVA			
		Degrees of freedom	f-value	p-value
	Between Groups	3	0,197	0,897
	Within Groups	27		
	Total	30		

The p-value in Table 20 of 0,611 was greater than 0,05, and the f-value of 0,617 was less than 1,697. There were no statistically significant difference in group's means. Stakeholders agreed.

Table 19: Comparison of opinions on fourth sub-hypothesis

Dependant variable	Position	Descriptive statistics		
Adopting an entrepreneurial process that is aligned to the behaviours stated in Table 11 will result in improved IPP bankability performance.		N	Mean	Standard Deviation
	IPPs (pre-funding)	10	1,57	0,535
	Policymakers	6	1,83	0,753
	Financiers	9	1,75	0,886
	IPPs (post-funding)	6	1,33	0,516
	Total	31	1,63	0,688
	ANOVA			
		Degrees of freedom	f-value	p-value
	Between Groups	3	0,617	0,611
	Within Groups	27		
	Total	30		

4.9 Summary of hypotheses results

The hypotheses results were supported by empirical evidence. Environmental risks and challenges, organisational factors and entrepreneurial behaviours were confirmed as CSFs, and they have moderate to strong influence on IPP bankability performance in Zimbabwe. There were also no statistically significant differences of opinions between the different stakeholder groups. The results are summarised in Table 21.

Table 20: Hypotheses results

Major elements	IPP bankability performance	Strength of relationship
Key entrepreneurial characteristics	Improved	Weak and insignificant
Key environmental risks and challenges	Improved	Moderate
Key organisational factors	Improved	Moderate
Key entrepreneurial process	Improved	Strong

5 Discussion of Results

5.1 Introduction

Chapter 5 has been structured to include discussions on the results from Chapter 4 within context of hypotheses questions in Chapter 2. The basis of this analysis is grounded on a primary dataset collected from 31 respondents.

The chapter has discussed key findings from Chapter 4, and how they relate to the literature review. The research has conclusively identified CSFs for improving IPP bankability performance in Zimbabwe.

5.2 Key findings

Clearly there is a considerable amount of work that will be required to correct the low performance by IPPs in accessing funding for their projects. This study has made the following contributions:

1. The study has identified the CSFs for improving IPP bankability performance in Zimbabwe: environmental risks and challenges, organisational factors, and entrepreneurial behaviours.

2. This study has also defined a conclusive framework for improving IPP bankability.

3. In this study the new venture creation theory by Gartner (1985) has been used for the first time to try to understand why some IPPs in Zimbabwe are able to access funding, while others fail to do so.

5.2.1 Benefits of framework

The conclusive framework was developed based on empirical evidence. Figure 9 shows the three CSFs and 19 success factors for improving IPP bankability in Zimbabwe.

The framework can be applied using three simple rules set out below.

1. The centre circle is the objective of the IPPs.

2. The three partitions have three CSFs clearly labelled on the outside.
3. The success factors were listed in the three partitions, with the highly ranked factors in the middle and decreasing in the order of importance towards the outside.

The benefits of the framework include the following:

- It provides a basis for policymakers, IPPs and financiers to work from one framework to minimise the chances of unsuccessful investment decisions.
- It provides a checklist or priority list to the different key stakeholders for planning purposes.
- It ensures that a risk is allocated to the part that can efficiently and effectively mitigate the risk.
- It provides a reference point for change management processes as and when they are needed to meet new requirements.

5.2.2 Applicability of the conceptual framework

The framework could be part of a memorandum of understanding between key stakeholders mandating a taskforce to prioritise the funding of IPPs to clear the backlog. Zimbabwe is experiencing an acute shortage of electricity and a taskforce with a clear mandate could be the solution to delivering electricity from IPPs sooner.

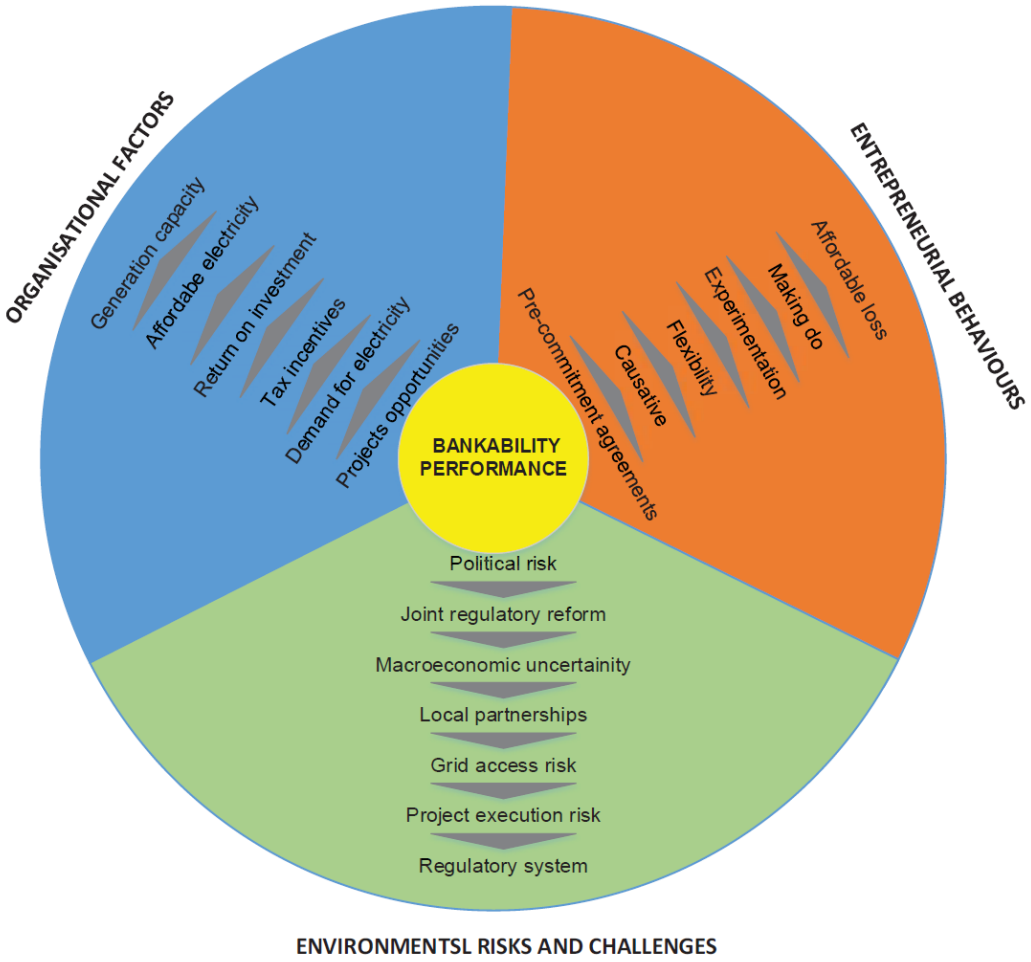


Figure 9: CSFs for IPP bankability performance in Zimbabwe

5.3 Discussion of key findings

5.3.1 First sub-hypothesis

The discussion was based on the results from Table 8 and Figure 10. Figure 10 shows the respondent's opinions on the first sub-hypothesis, and the variables are ranked from the lowest mean score to the highest mean score. The results show that most of the respondents agreed that the characteristics given influenced a decision to fund an IPP in Zimbabwe.

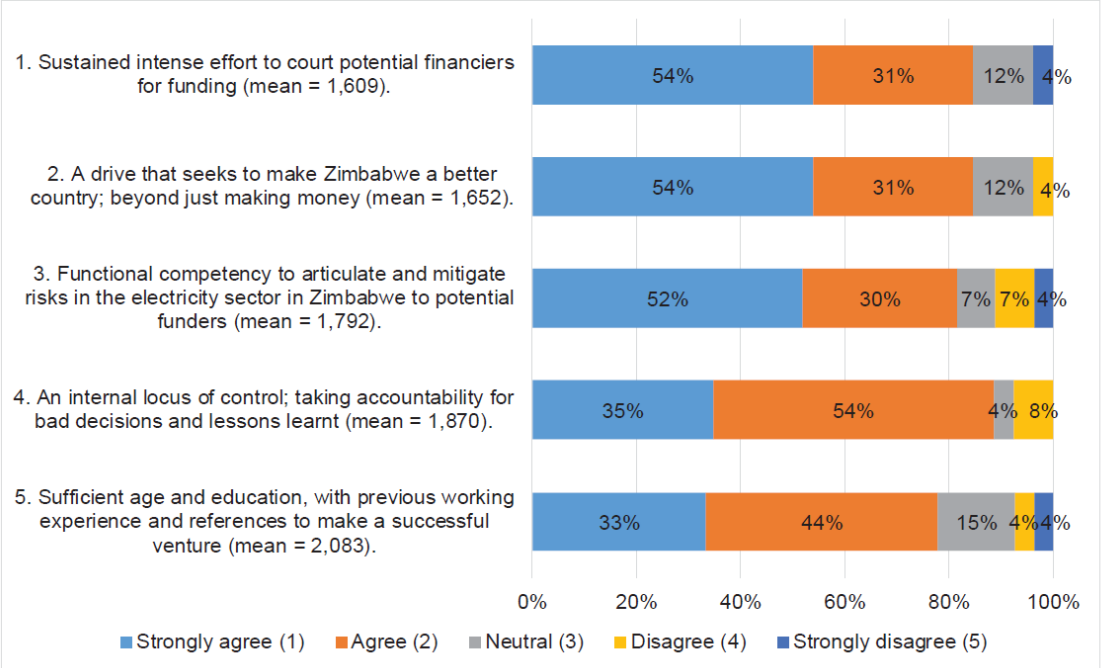


Figure 10: Respondent's opinions on the first sub-hypothesis

According to the respondents' feedback, sustained intense effort to court potential financiers for funding was highly ranked at variable 1. This is in agreement with Bouchikhi (1993), who also confirmed that successful entrepreneurs are characterised by voluntarism. Others have defined the same characteristics as entrepreneurial motivation (Urban et al., 2017), hard work and perseverance (Wadhwa et al., 2009) and focused effort (Siegel et al., 1993).

Sufficient age and education with previous experience and testimonies to make a successful venture was last at variable 5. This did not take away the fact that a majority still agree that this is key in the decision to fund an IPP in Zimbabwe. Vantenja (2018) explains that for the lack of knowledge, entrepreneurs start blaming their failures on bureaucracy. This also refers to competency (Taipale- Eravala et al., 2015). Not knowing how to achieve a successful venture can severely hinder business ambidexterity (Heracleous et al., 2017).

5.3.2 Second sub-hypothesis

The discussion of results was based on Table 9 and Figure 11. Figure 11 shows the respondent's opinions on the second sub-hypothesis, and the variables are ranked from the lowest mean score to the highest mean score. The results show that most

of the respondents agreed that the risks and challenges given influenced a decision to fund an IPP in Zimbabwe. Variables 9 and 10 were found to be statistically insignificant.

Given what has been happening in Zimbabwe, it was not surprising to see variables 1 and 3 so highly placed. Political risks and uncertainty hinder private investment (Marais, 2016). In an uncertain and unpredictable environment, unrecoverable sunk costs influence the decision to invest, with many investors opting for a “wait and see” scenario (Zunguze, 2016). There is however a trade- off with opportunity costs, and this emphasises the importance of favourable policies and incentives to increase opportunity costs for investors.

On the issues of regulatory reform on variables 2, 7, 8 it is evident that most of the policies, regulation and Acts that support IPPs today have been passed in the last decade or so. The conclusive framework presented in this study provides a basis to ensure that key issues identified can be addressed first.

Variables 4, 5 and 6 were not ranked higher maybe because they are influenced by political risks, and addressing political risks and uncertainty have a significant and positive influence on these variables.

The respondent’s feedback on variable 9 was not statistically significant, maybe because it is evident from the discussion, that the Government could not have made so much progress in terms of regulatory reform and setting the agenda for private investment without including key stakeholders.

The respondents’ feedback on variable 10 was not statistically significant. The same trend of results was observed by Marais (2016) who argued that the reason could be that these instruments are not yet being utilised in Sub-Saharan Africa, or that the Special Purpose Vehicle already addresses these risks in the contractual agreements. A mixed sequential explanatory research approach would have assisted in getting an explanation why the results were like this (Ivankova et al., 2006).

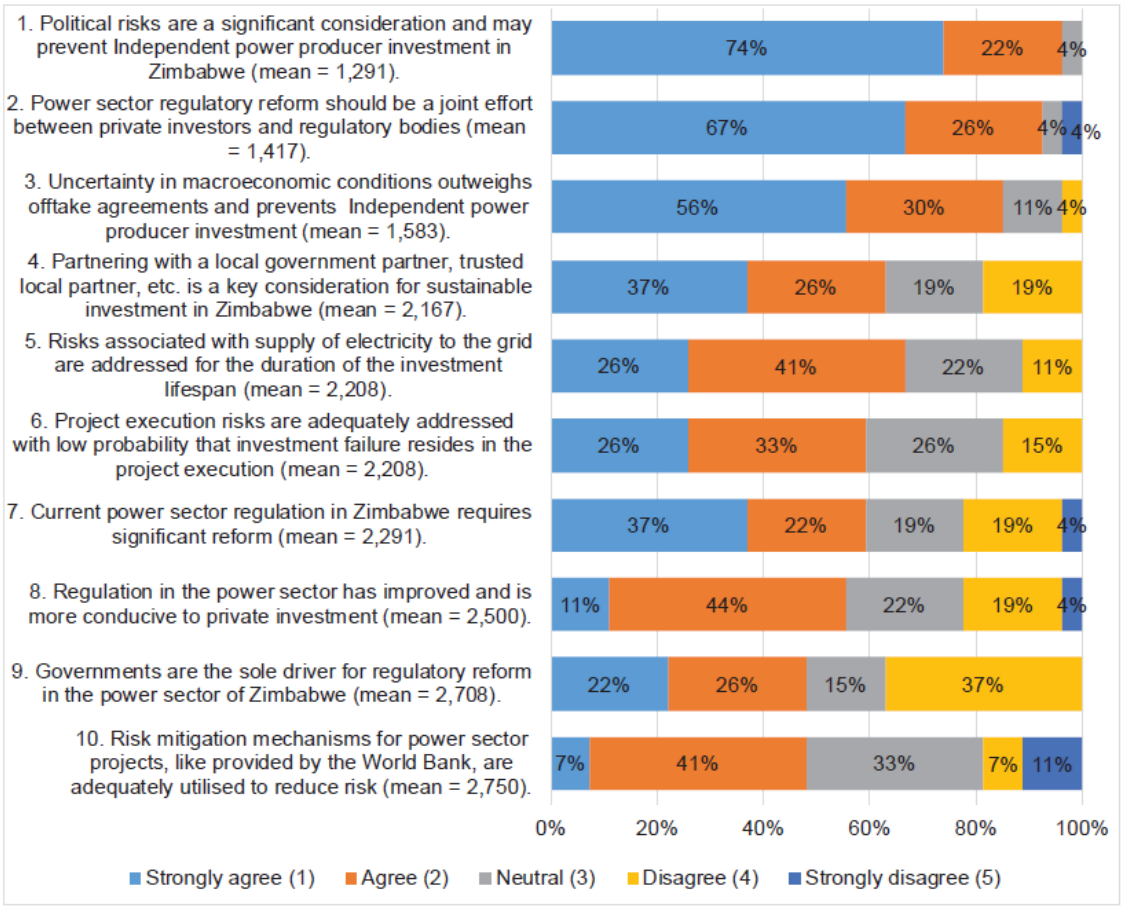


Figure 11: Respondent's opinions on the second sub-hypothesis

5.3.3 Third sub-hypothesis

The discussion of results was based on Table 10 and Figure 12. Figure 12 shows the respondent's opinions on the third sub-hypothesis, and the variables are ranked from the lowest mean score to the highest mean score. The results show that most of the respondents agreed that the organisational factors given influenced a decision to fund an IPP in Zimbabwe.

A similar survey on the indicators used for private investment in SSA (Marais, 2016) ranked generation capacity highly at number 1 for a similar set of variables, while it came last in this study. The 180 degrees swing between Zimbabwe and the rest of SSA provides some useful insight into what has been happening in Zimbabwe that might be different from the rest of Sub-Saharan Africa. Elsewhere where funding is not as constrained as Zimbabwe, IPPs were excited to take on

large power plants because higher sales translated into higher revenues. Lack of funding is a reality for IPPs in Zimbabwe (ZERA, 2015) and therefore the large generating capacity project has been replaced by a number of smaller projects possibly to increase the chances of finding an interested investor. This is confirmed by looking at the top three ranked variables 1, 2 and 3. These three variables provide a useful strategy to implement smaller and low investment projects in a phased fashion.

Variables 4, 5 and 6 sit in the middle possibly because these factors are known at country level without much requirement for an IPP tactical approach to influence the decision to access funding. Competitive electricity prices have been achieved through competitive bidding programmes (Eberhard, Kolker & Leigland, 2014). Variable 6 indicated that Zimbabwe has yet to implement emissions reduction credits or tax incentives for IPPs (INDC, 2015), unfortunately losing an opportunity to improve financial performance of IPP investment (Marais, 2016).

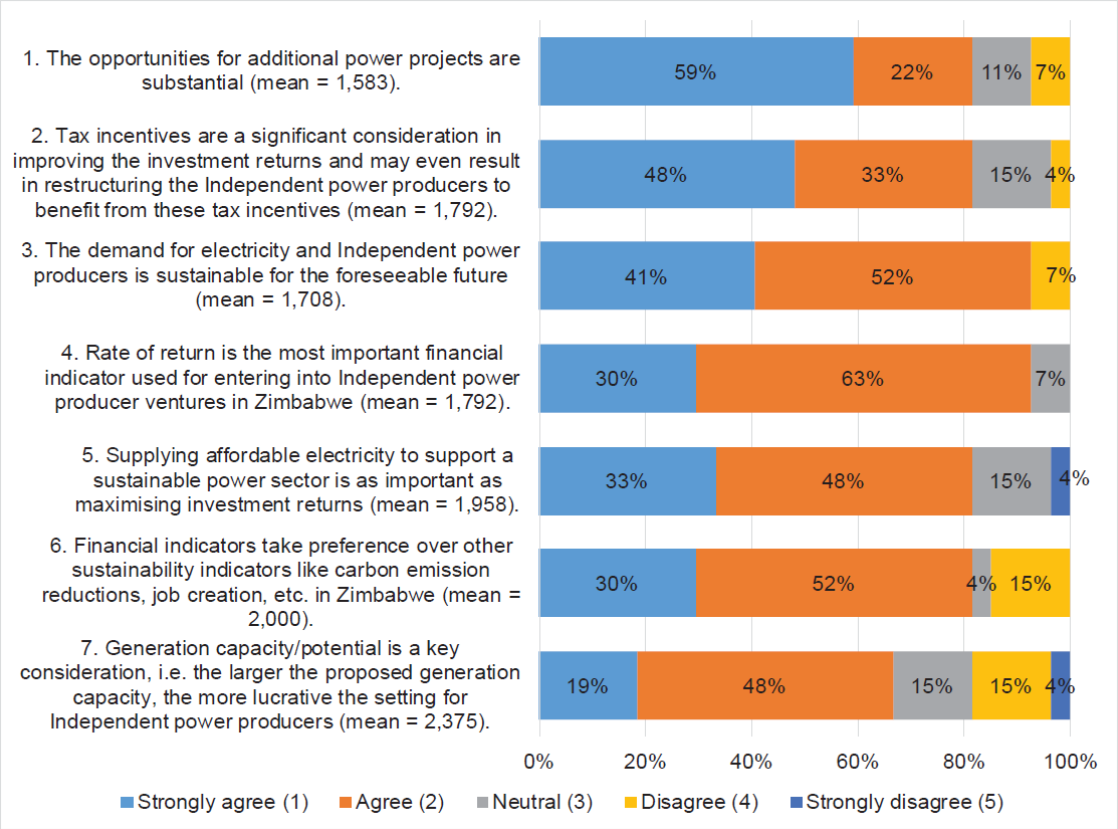


Figure 12: Respondent's opinions on the third sub-hypothesis

5.3.4 Fourth sub-hypothesis

The discussion of results was based on Table 11 and Figure 13. Figure 13 shows the respondent's opinions on the fourth sub-hypothesis, and the variables are ranked from the lowest mean score to the highest mean score. The results show that most of the respondents agreed that the entrepreneurial behaviours given influenced a decision to fund an IPP in Zimbabwe.

The entrepreneurial behaviours at variable 1 and 2 reflected a lack of entrepreneurial innovation to improve bankability performance. The concept of pre-commitment agreements is already part of an IPP SPV (Mangi, 2018) while the causative model describes the classical form of entrepreneurship (Fisher, 2012). The causative model works better in an uncertain but predictable economy, but Zimbabwe is a volatile economy (Muli, 2013; Mamvura, 2015; Pigou, 2017; Mouafo Piaplie, 2019; Magaisa, 2019). Effectuation would be more suited to a volatile environments (Mannes, 2013). However the respondents'

feedback relegated flexibility, experimentation and affordable loss to the middle and lower ranks. Effectuation would demand a lot of work from the entrepreneurial team, and maybe with limited funding and small teams, these IPP teams are hugely constrained. Let alone without a full business running, some could be full time employees attempting to leave the corporate world.

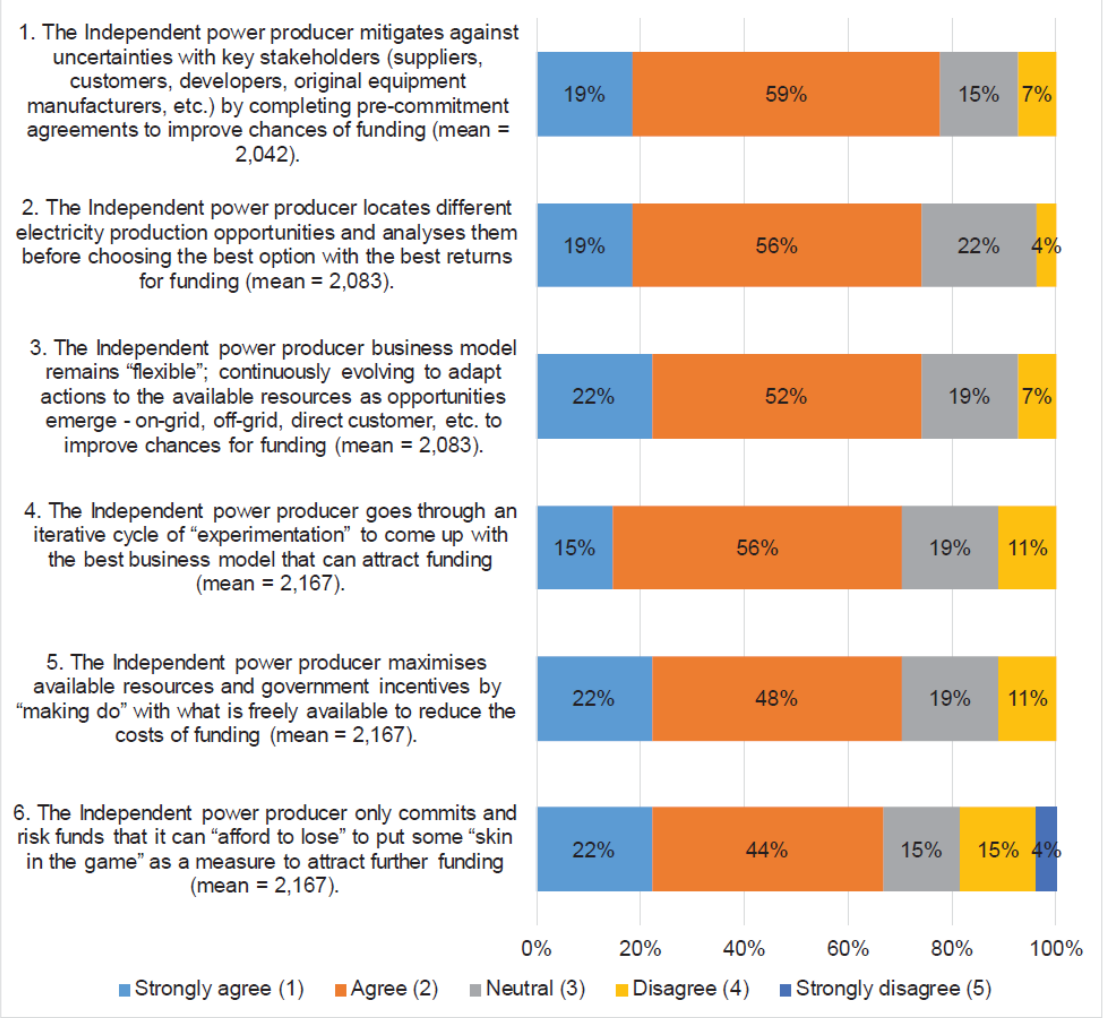


Figure 13: Respondent's opinions on the fourth sub-hypothesis

5.3.5 Main hypothesis

The discussion of results was based on Table 12, Figure 14, Section 4.6 and Section 4.7 and Table 21. Comparison tests confirmed that there were no statistically significant difference in group's means, concluding that all stakeholders groups agreed that the CSFs identified influenced IPP bankability performance in Zimbabwe.

Correlation tests confirmed that relationships existed between environmental risks and challenges, organisational factors and entrepreneurial behaviours and IPP bankability performance in Zimbabwe, except for the entrepreneurial characteristics. Although Bouchikhi (1993) reduced the four elements to only endogenous or exogenous effects because of overlapping influences, the intention during this study was to use the previous four elements to make the feedback easier to discuss and make recommendations. The relationship between entrepreneurial characteristics and IPP bankability performance might be weak and insignificant according to Pearson correlation, but its influence was established using the t-tests.

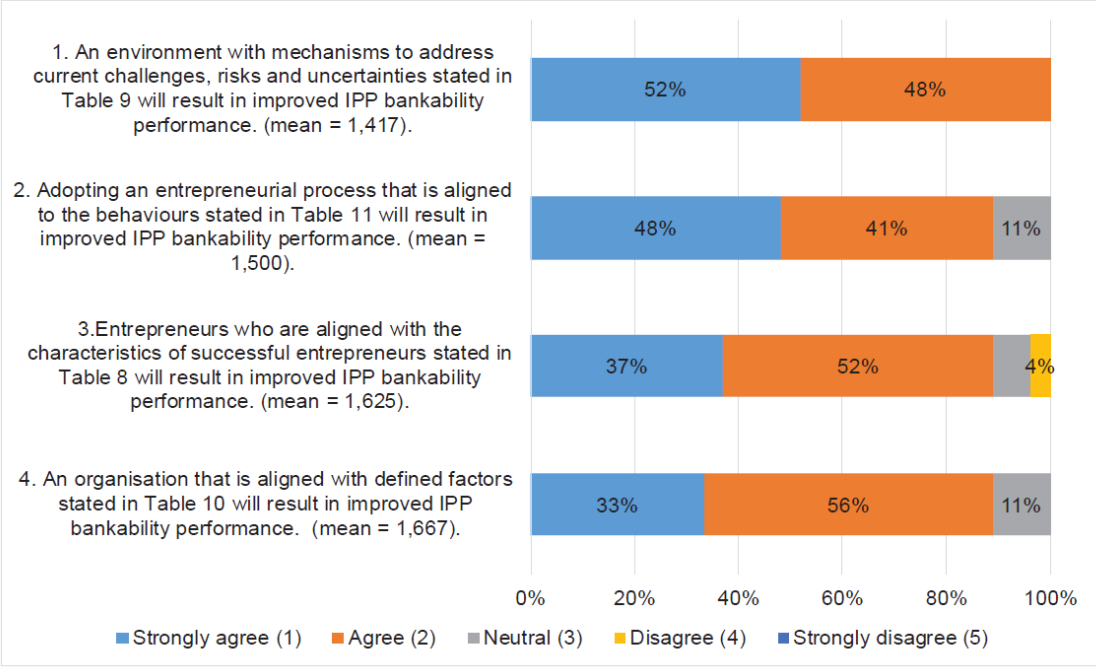


Figure 14: Respondent's opinions on the main hypothesis

5.4 Strengths, limitations and delimitations

5.4.1 Research strengths

The following strengths were noted given limited time and money for a cross sectional study.

1. The preparation for contacting the target samples was useful in getting responses in a short space of time.

2. SPSS is a very powerful tool and it made data analysis less time consuming.

5.4.2 Research Limitations

The following limitations were noted during the study:

1. The results might not be representative and generalisable to the whole population (Hürlimann & Bengoa, 2017) because of the sampling method applied and the size of the target sample used.
2. The discussion of results was limited by the unavailability of comparable information on the same constructs; there are limited peer reviewed papers about IPPs in Zimbabwe.
3. The variables did not have the power to differentiate opinions between the stakeholder groupings, and either there were no significant differences, or the chosen research methods were limited.

5.4.3 Research delimitations

The following delimitations were noted during the study:

1. The research boundary is geographically limited to Zimbabwe, and it attempted to bring lessons learnt from other countries in the region especially Sub-Saharan Africa.
2. The data was collected using a non-probability purposive approach because of the knowledge and experience background required to answer the questions.

3. The research is based on a conceptual framework formulated from new venture creation and structural theory.

5.5 Recommendations to policymakers

The study has conclusively highlighted the political risks and the uncertainty in Zimbabwe, and hence a need for risk mitigation instruments. Policymakers need to provide a conducive environment for these instruments to be utilised to assist IPPs to access international funding. Joint regulatory and business reforms between policymakers and private investors is commended and should continue. The policymakers should also adopt the proposed framework to facilitate positive outcomes for IPPs looking for investors and investors trying to enter the country.

5.6 Recommendations to financiers

IPPs have been struggling to access funding for their projects because financiers requirements were not being met. The study has conclusively found no evidence that financiers have different opinions on factors influencing decisions to fund IPPs in Zimbabwe. So, this brings the same observation as that made by Marais (2016) that financiers should push to co-develop regulatory reforms so that factors beyond the IPPs are included in the government processes; for example risk mitigation instruments to attract international finance. The financiers should also adopt the proposed framework for improving IPP bankability in Zimbabwe to facilitate positive outcomes for IPPs looking for funding.

5.7 Recommendations to IPPs

The IPPs should adopt the proposed framework for IPP bankability in Zimbabwe to ensure that all those factors that need to be considered are attended to when applying for funding. An observation was made during this study when a “cause and effect” entrepreneurial behaviour was highly ranked for an uncertain and unpredictable economy when empirical evidence points to the use of effectuation behaviours – flexibility, experimentation, affordable loss and pre-commitments. IPPs should align their business models and thinking to the realities in Zimbabwe as a volatile economy.

5.8 Recommendations for future studies

This research has conclusively identified the CSFs for improving IPP bankability performance in Zimbabwe. Recommendations for future research are set out below.

1. A study should apply a mixed sequential explanatory research approach to ensure that there is an opportunity to get clarification when quantitative results produce unexpected results.
2. An investigation is needed to see why respondents would prefer to use a “cause and effect” behaviours in a volatile economy when empirical evidence point out they are better off using effectuation behaviours – flexibility, experimentation, affordable loss and pre-commitments.
3. There should launch an investigation to see why there were no significant differences in the opinions of IPPs pre-funding and IPPs post-funding when it is a fact that one group had achieved bankability, and the other was struggling.
4. An investigation as to why feedback from respondents concluded that the relationship between entrepreneur characteristics and venture success was weak and statistically insignificant when literature maintains that the entrepreneur and outcomes have a significantly strong relationship.
5. This is a first attempt at using the new venture creation framework to understand the entrepreneurial issues facing IPPs in Zimbabwe. Although there was a significant amount of literature that was referenced to support this study, additional studies will be required to identify or confirm the most relevant constructs and variables that can distinguish between successful and unsuccessful IPPs in Zimbabwe.
6. This is the first dataset for CSFs for improving IPP bankability performance in Zimbabwe using elements from new venture creation. More datasets will be required to provide a basis for comparisons, to keep refining the proposed framework, and hopefully to reach a better and generalisable framework that can be applied to IPPs in the rest of the world.

5.9 Discussion conclusion

The findings from Chapter 4 were presented and discussed in context with literature review from Chapter 2 leading to a conclusive discussion on the hypothesis questions for this study. The contribution to the study and the recommendations for future studies were also discussed. The research question, and objectives in Chapter 1 have been answered.

Chapter 5 has discussed sufficient evidence in favour of the alternative hypothesis, the strengths of the relationships were established, and it can be concluded that the identified CSFs have a positive influence on IPP bankability performance in Zimbabwe.

6 Conclusion

The conclusions are based on the empirical evidence submitted and discussed in Chapter 5 in relation to the research question and objectives stated in Chapter1.

The study has concluded that environmental risks and challenges, organisational factors, and entrepreneurial behaviours are the three CSFs for improving IPP bankability performance in a volatile economy. There were no statistically significant differences of opinions among policymakers, IPPs and financiers on the choice of CSFs. According to the Pearson correlations, it can been concluded that there were relatively strong relationships between the three CSFs and improving IPP bankability performance in Zimbabwe.

This study has defined a conclusive framework with 19 success factors for improving IPP bankability performance in Zimbabwe. The top six success factors in order of importance are political risk, joint regulatory reform, macro-economic uncertainty, projects opportunities, demand for electricity, and tax incentives.

This study has recommended that a taskforce that brings together representatives from the key stakeholders in the IPP sector in Zimbabwe should be formed. The taskforce should use the framework for improving IPP bankability performance as a starting point, and as a basis for the parties to prioritise and attend to the identified success factors, to ensure that any risk that arise during the joint meetings is allocated to the party that can efficiently and effectively mitigate the risk, and to ensure that unsuccessful funding outcomes for IPPs are minimised in the future.

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Appendix A: Letter of introduction / Letter of consent

The Graduate School of Business Administration
University of the Witwatersrand, Johannesburg
2 St David's Place, Parktown, Johannesburg, 2193, South Africa
PO Box 98, WITS, 2050

To Whom It May Concern: 3/11/2019

SURVEY / INTERVIEW PARTICIPANT INTRODUCTION

Critical success factors for Independent Power Producer bank-ability in a volatile economy

This is to confirm that Mr Denny Mwasiswebe is undertaking a bona fide academic project in partial fulfilment of the requirements of the Master of Business Administration (MBA) degree at the Graduate School of Business Administration, University of the Witwatersrand, Johannesburg (Wits Business School), provided the student can produce a valid student card that confirms his/her current registration.

Wits Business School MBA students are required to carry out an Applied Research Project on a topic of their choice, which typically requires data collection and analysis grounded in academic literature. The final project report will be available to other scholars through the University library.

The project has been approved by the Wits Business School Postgraduate Committee and has been granted ethical clearance.

Your participation in this project is entirely voluntary, and if you choose to participate it is expected to take approximately 10 minutes. You are free to withdraw from the project at any time.

Please note that all responses will remain confidential and will only be used for the purposes of this project.

Should you have any questions regarding the project please contact the student, the project supervisor or the undersigned:

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Yours sincerely.

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Mr Denny Mwasiswebe

Appendix B: Research questionnaire

Part 1: General Information about participant:

Q1. What type of organisation do you work for?

- o Independent power producer
- o Regulatory authority
- o Power utility
- o Government official
- o Project financier
- o Private investor
- o Advisory service
- o Legal services
- o Project developer
- o Original equipment manufacturer

Q2. How many years of work experience to you have (total work experience)?

- o 0-5 years
- o 6-10 years
- o 11-20 years
- o 21-30 years
- o >30 years

Q3. How many years of experience do you have working in /with Independent power producers?

- o 0-5 years
- o 6-10 years
- o 11-20 years
- o 21-30 years
- o >30 years

Q4. Please indicate which phases of Independent power producer development has your organisation been involved in?

- Concept / pre-feasibility
- Feasibility / proof of bankability
- Funding
- Construction
- Operational

Q 5: Entrepreneurial characteristics						
Evaluate the importance / relevance of each of the key entrepreneurial characteristics in influencing the decision to fund an IPP in Zimbabwe. Use a scale of 1-5, where 1 is "strongly agree" and 5 is " strongly disagree" that it is a key consideration for the funding decision.						
Question no	Question / Statement	Strongly agree (1)	Agree (2)	Neutral (3)	Disagree (4)	Strongly disagree (5)
5.1	Sustained intense effort to court potential financiers for funding.					
5.2	A drive that seeks to make Zimbabwe a better country; beyond just making money.					
5.3	Functional competency to articulate and mitigate risks in the electricity sector in Zimbabwe to potential funders.					
5.4	An internal locus of control; taking accountability for bad decisions and lessons learnt.					
5.5	Sufficient age and education, with previous working experience and testimonies to make a successful venture.					

Q 6: Key environmental risks and challenges						
Evaluate the importance / relevance of each of the key environmental risks and challenges in influencing the decision to fund an IPP in Zimbabwe. Use a scale of 1-5, where 1 is "strongly agree" and 5 is " strongly disagree" that it is a key consideration for the funding decision.						
Question no	Question / Statement	Strongly agree (1)	Agree (2)	Neutral (3)	Disagree (4)	Strongly disagree (5)
6.1	Political risks are a significant consideration and may prevent Independent power producer investment in Zimbabwe.					
6.2	Power sector regulatory reform should be a joint effort between private investors and regulatory bodies.					
6.3	Uncertainty in macroeconomic conditions outweighs off-take agreements and prevent Independent power producer investment.					
6.4	Partnering with a local government partner, trusted local partner, etc. is a key consideration for sustainable investment in Zimbabwe.					
6.5	Project execution risks are adequately addressed with low probability that investment failure resides in the project execution.					
6.6	Risks associated with the supply of electricity to the grid are addressed for the duration of the investment lifespan.					
6.7	Current power sector regulation in Zimbabwe requires significant reform.					
6.8	Regulation in the power sector has improved and is more conducive to private investment.					
6.9	Governments are the sole driver for regulatory reform in the power sector of Zimbabwe.					
6.10	Risk mitigation mechanisms for power sector projects, like those provided by the World Bank, are adequately utilised to reduce risk.					

Q 7: Key organisational factors						
Evaluate the importance / relevance of each of the key organisational factors in influencing the decision to fund an IPP in Zimbabwe. Use a scale of 1-5, where 1 is "strongly agree" and 5 is " strongly disagree" that it is a key consideration for the funding decision.						
Question no	Question / Statement	Strongly agree (1)	Agree (2)	Neutral (3)	Disagree (4)	Strongly disagree (5)
7.1	The opportunities for additional power projects are substantial.					
7.2	The demand for electricity and Independent power producers is sustainable for the foreseeable future.					
7.3	Tax incentives are a significant consideration to improve the investment returns and may even result in restructuring the Independent power producers to benefit from these tax incentives.					
7.4	Rate of return is the most important financial indicator used for entering into Independent power producer ventures in Zimbabwe.					
7.5	Supplying affordable electricity to support a sustainable power sector is as important as maximising investment returns.					
7.6	Financial indicators take preference over other sustainability indicators like carbon emission reductions, and job creation, etc. in Zimbabwe.					
7.7	Generation capacity/potential is a key consideration, i.e. the larger the proposed generation capacity, the more lucrative the setting for Independent power producers.					

Q 8: Key entrepreneurial behaviours						
Evaluate the importance / relevance of each of the key entrepreneurial behaviours in influencing the decision to fund an IPP in Zimbabwe. Use a scale of 1-5, where 1 is "strongly agree" and 5 is " strongly disagree" that it is a key consideration for the funding decision.						
Question no	Question / Statement	Strongly agree (1)	Agree (2)	Neutral (3)	Disagree (4)	Strongly disagree (5)
8.1	The Independent power producer mitigates against uncertainties with key stakeholders (suppliers, customers, developers, original equipment manufacturers, etc.) by completing pre-commitment agreements to improve chances of funding.					
8.2	The Independent power producer business model remains “flexible”; continuously evolving to adapt actions to the available resources as opportunities emerge - on-grid, off-grid, direct customer, etc. to improve chances for funding.					
8.3	The Independent power producer locates different electricity production opportunities and analyses them before choosing the best option with the best returns for funding.					
8.4	The Independent power producer goes through an iterative cycle of “experimentation” to come up with the best business model that can attract funding					
8.5	The Independent power producer maximises available resources and government incentives by “making do” with what is freely available to reduce the costs of funding.					
8.6	The Independent power producer only commits and risks funds that it can “afford to lose” to put some “skin in the game” as a measure to attract further funding.					

Q 9: Performance factors of IPPs bankability						
Based on above factors influencing the decision to fund an IPP in Zimbabwe, please evaluate the importance / relevance the results may have in as afar as IPP bankability performance. Use a scale of 1-5, where 1 is "strongly agree" and 5 is " strongly disagree" that it is a key consideration for IPP bankability performance.						
Question no	Question / Statement	Strongly agree (1)	Agree (2)	Neutral (3)	Disagree (4)	Strongly disagree (5)
9.1	An environment with mechanisms to address current challenges, risks and uncertainties referred in Q6 will result in improved Independent power producer bankability.					
9.2	Adopting an entrepreneurial process that is aligned to the behaviours referred in Q8 will result in improved Independent power producer bankability.					
9.3	Entrepreneurs who are aligned with the characteristics of successful entrepreneurs referred in Q5 will result in improved Independent power producer bankability.					
9.4	An organisation that is aligned with defined factors referred in Q7 will result in improved Independent power producer bankability.					

Appendix C: Consistency matrix

What are the CSFs for IPP bankability performance in a volatile economy?						
Construct	**Sub-problem**	**Literature Review**	**Hypotheses or propositions or questions**	**Source of data**	**Dimensions**	**Analysis**
Entrepreneurial characteristics	What are the key entrepreneurial characteristics influencing the decision to fund an IPP in Zimbabwe?	Urban et al., (2017); Wadhwa et al. (2009); Gartner et al. (1999); Taipale-Eravala et al. (2015).	First sub-hypothesis: Aligning with key entrepreneurial characteristics has a positive influence on the decisions to fund an IPP in Zimbabwe.	Questionnaire, Q 5	• Sustained intense effort • Patriotism towards the country • Competency • Internal locus of control • Age, education, experience and references	• Internal consistency Descriptive statistics • One-sample t-test • Pearson correlation • One-way ANOVA test

What are the CSFs for IPP bankability performance in a volatile economy?						
Construct	**Sub-problem**	**Literature Review**	**Hypotheses or propositions or questions**	**Source of data**	**Dimensions**	**Analysis**
Environmental factors	What are the environmental risk and challenges influencing the decision to fund an IPP in Zimbabwe?	Marais (2016); Zunguze (2016); Hilmarsson (2010); Eberhard et al. (2017); Blyth et al. (2015); Polzin (2017).	Second sub-hypothesis: Addressing key environmental risks and challenges has a positive influence on decisions to fund an IPP in Zimbabwe.	Questionnaire, Q 6	• Political risk • Joint regulatory reform • Macroeconomic uncertainty • Local partnerships • Grid access risk • Project execution risk • Regulatory system • Risk mitigation instruments	

What are the CSFs for IPP bankability performance in a volatile economy?						
Construct	**Sub-problem**	**Literature Review**	**Hypotheses or propositions or questions**	**Source of data**	**Dimensions**	**Analysis**
Organisational factors	What are the organisational factors influencing the decision to fund an IPP in Zimbabwe?	Gardiner and Montpelier (2000); Bayliss and Hall (2000); Graham et al. (2016); ZERA (2013); MMPIP (2017); Marais (2016); Zunguze (2016).	Third sub-hypothesis: Aligning with key organisational factors has a positive influence on decisions to fund an IPP in Zimbabwe	Questionnaire, Q 7	• Opportunities for project • Demand for electricity Tax incentives • Investment return • Affordable electricity • Financial indicators • Generation capacity	

What are the CSFs for IPP bankability performance in a volatile economy?						
Construct	**Sub-problem**	**Literature Review**	**Hypotheses or propositions or questions**	**Source of data**	**Dimensions**	**Analysis**
Entrepreneurial behaviours	What are the entrepreneurial behaviours influencing decision to fund an IPP in Zimbabwe?	Fisher (2012); Mannes (2013); Azadegan et al. (2013); Gartner et al. (1999); Esekow (2011).	Fourth sub-hypothesis: Adopting key entrepreneurial behaviours has a positive influence on decisions to fund an IPP in Zimbabwe.	Questionnaire, Q 8	• Pre-commitment agreements • Causative • Flexibility • Experimentation • Making do • Affordable loss	