Thesis

The effect of partnering, infrastructure gaps and currency weakness on the cost of an infrastructure-building nonmarket strategy in emerging markets

by

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I. Acknowledgements

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I. List of Abbreviations/Acronyms/Definitions

AICD	-	Africa Infrastructure Country Diagnostics
ADF	-	Asymptotic Distribution Free
AMOS	-	Analysis of Moment Structures
BEE	-	Black Economic Empowerment
BBBEE	-	Broad-Based Black Economic Empowerment
CB-SEM	-	Covariance-Based Structural Equation Modelling
CFA	-	Confirmatory Factor Analysis
CFI	-	Comparative Fit Index
CoST	-	Construction Sector Transparency Initiative
CPA	-	Corporate Political Activity
CSR	-	Corporate Social Responsibility
EFA	-	Exploratory Factor Analysis
GFI	-	Goodness-of-Fit Index
JSE	-	Johannesburg Stock Exchange
KMO	-	Kaiser-Meyer-Olkin
LS	-	Least Squares
ML	-	Most Likelihood
MNE	-	Multinational Enterprise
NMC	-	Nonmarket Capability
PPI	-	Private Participation in Infrastructure
RMSEA	-	Root Mean Square Error of Approximation
ROCKS	-	Road Cost Knowledge System
SEM	-	Structural Equation Modelling
SPSS	-	Statistical Package for Social Scientists
SRI	-	Socially Responsible Investment
SRMR	-	Standardized Root Mean Square Residual
US$	-	United States dollar

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Abstract

This study examined effect of partnering, infrastructure gaps and currency weakness on the implementation cost of infrastructure-building nonmarket strategy. Limited knowledge on cost of nonmarket strategy existed, leading to absence of meaningful understanding of the business competitive and performance benefits of its implementation. The study was conducted in the mining sector of the South African emerging market, characterized by unavailable or underdeveloped business aiding infrastructure and ageing physical infrastructure.

Nonmarket strategy has performance and competitiveness benefits from its implementation as reported in previous studies. Other studies examined its integration with market strategy, taxonomies, antecedents, and internationalization. No studies had examined the implementation cost of nonmarket strategy. To address the gap, hypotheses were developed to answer the research question: what are the effects of strategy option, institutional & economic factors on the cost of infrastructure-building nonmarket strategy implementation? A quantitative method embedded in a cross-sectional survey design using a snowball non-probability sampling technique was used to collect data from 239 participants.

Analysis using factor analysis and structural equation modelling showed a positive relationship between a partnering strategy option and cost of implementing infrastructure-building nonmarket strategy likely driven by the absence of: contractual agreements; political ties and networks; project management; regulatory requirement understanding; and capacity building among partners. The relationship with institutional & economic factors was not significant likely driven by the fact that these factors are embedded in the business environment and participants perceived no impact. This study has made significant progress toward the understanding of the cost of implementing nonmarket strategy, as well as providing meaningful understanding of its perceived organizational performance and competitiveness benefits. The study illuminates a surprising observation, where the natural expectation is that partnerships would lower cost of implementing an infrastructure-building nonmarket strategy. Contrary to this expectation the study shows that a partnering relationship increases cost suggesting antecedents that drive the direction of the relationship. Future research can focus on a single set of factors among strategy options, institutional factors, economic factors, as well as examine the antecedents on the relationship with cost of implementing nonmarket strategy.

Keywords: Cost, nonmarket strategy, infrastructure-building nonmarket strategy

Chapter 1: Introduction

1.1 Background

Nonmarket strategy is an important factor and has performance (Breitinger, 2009) and competitiveness benefits from its implementation (Bach & Allen, 2010; Holburn & Bergh, 2006; Majumdar & Chang, 2010). Such benefits have been reported in previous research that focused on the performance outcomes of organizations' political actions (Blumentritt & Nigh, 2002; Bonardi, Hillman, & Keim, 2005; Breitinger, 2009; Funk & Hirschman, 2017; Liedong, Rajwani, & Mellahi, 2017).

Prior research has also empirically validated the business performance benefits through integration with market strategy (Baron, 1995, 1997, 1999; He, 2006) while focusing on specific taxonomies (Blumentritt, 2003; Meznar & Nigh, 1995; He, Tian & Chen, 2007; Hillman & Hitt, 1999; Hillman, Keim, & Schuler, 2004; Marquis & Raynard, 2015; Rajwani & Liedong, 2015). Furthermore, the drivers of nonmarket strategy (Doh, McGuire, & Ozaki 2015) have also been empirically validated and scholars have focused on an important element of nonmarket strategy, corporate social responsibility and sustainability (Öberseder, Schlegelmilch, Murphy, & Gruber, 2014; Wang, Tong, Takeuchi & George, 2016), with recent trends concentrating on the internationalization of nonmarket strategy (Doh et al., 2015).

Most prior research on nonmarket strategy has been conducted in the developed world (Bach & Allen, 2010; Baron, 1995, 1997, 1999; Holburn & Bergh, 2006), creating a dearth of contextual knowledge in emerging markets. The contextual differences between the developed market and emerging market present an opportunity for theory testing (Wright, Filatotchev, Hoskisson, & Peng, 2005) and expansion in the latter market. In addition, much scholarly attention focuses on emerging markets as they posit as locations for future growth and expansion of organizations (Marquis & Raynard, 2015; Rajwani & Liedong, 2015; Xu & Meyer, 2013). Many emerging market studies have been conducted, mainly in Asia (Aggarwal, 2001; He, 2006; He et al., 2007; Liao, Chang, Wu & Katrichis, 2011). However, despite similarities in these emerging market nations the lack of knowledge on the costs of nonmarket strategy implementation prevails. Little is known of the effect of strategy option, institutional & economic factors on the cost of an infrastructure-building nonmarket strategy, leading to absence of meaningful understanding of perceived benefits of nonmarket strategy.

The development of emerging markets scholarship over the past few years has pointed out notable differences between the economies of countries in Latin America, Africa, Eastern Europe and the Middle East (Marquis & Raynard, 2015). These country contextual differences and variation of markets among emerging market nations (Meyer, Estrin, Bhaumik, & Peng, 2009) create opportunities to further broaden the emerging market story in uncharted Africa (Rajwani & Liedong, 2015).

Given the above research streams and calls for theory extension, there is limited understanding of the costs, benefits and trade-offs of nonmarket strategy (Dorobantu, Kaul, & Zelner, 2017). It can be argued that there is many studies that have explored the benefits and trade-offs of nonmarket strategy (Mellahi, Sun, & Siegel, 2016). However, lack of knowledge on the costs of nonmarket strategy implementation prevails. Little is known of the effect of strategy option, institutional & economic factors on the cost of an infrastructure-building nonmarket strategy, leading to absence of meaningful understanding of the business competitive and performance benefits from implementing nonmarket strategy. To address the gap, this study examined the effect of partnering, infrastructure gaps and currency weakness on the cost of an infrastructure-building nonmarket strategy.

Infrastructure-building nonmarket strategy is part of Marquis and Raynard's (2015) proposed taxonomy of nonmarket strategy made up of relational, infrastructure-building and social-cultural bridging. This taxonomy was developed through a meta-synthesis of various fields of studies related to nonmarket strategy that includes institutional strategy, CPA studies, collective action, resource dependence, and stakeholder corporate social responsibility studies. Their taxonomy which is the most recent and all-encompassing and integrative nonmarket strategy taxonomy moved away from 'action'-based strategies into more generalized categories that spoke to the nonmarket environment actors. It encompasses the different arrays of strategy and tactics used in the nonmarket environment and as such one of its taxonomies, infrastructure-building nonmarket strategy, which speaks to the salient characteristics of emerging markets was used for this study.

Business competitive and performance benefits boil down to the various drivers and implementing infrastructure-building nonmarket strategy is one of them. Without knowledge of cost impact, a business will be reluctant to enter the nonmarket arena. Crafting strategy requires a lot of

intelligence from the business environment. An approach that considers strategy option, institutional factors, and economic factors (macro and micro) gives business decision makers the confidence to move the business in a certain direction. Absence of such intelligence masks the competitive and performance benefits of nonmarket strategy. Nonmarket literature has not examined the cost impacts of implementing nonmarket strategy, and one could argue that the costs lie outside the scope of nonmarket strategy. However, there is a thin line between market and nonmarket strategy, and actions carried out in the nonmarket arena can easily drive activity in the market arena and vice versa. There is an opportunity to create a basis of nonmarket strategy costs that will be used to expand nonmarket strategy literature into a particularly important domain that will give businesses the intelligence they need as they navigate their environment.

According to Canuto and Liu (2013), implementing an infrastructure-building nonmarket strategy, which involves developing social, technological and physical infrastructure or upgrading underdeveloped social, technological and physical infrastructure (Marquis & Raynard, 2015), is expensive and can be achieved through partnering. Hoskisson, Eden, Lau, and Wright (2000) and Peng and Heath (1996) also argue that addressing poor infrastructural development in emerging markets requires partnering due to the large capital injections necessary to setup required infrastructure. Bonardi, Holburn, and Vanden Bergh (2006) echo the same sentiments, alluding to the high costs of addressing issues in the nonmarket environment of business. Dorabantu et al. (2017) identified six strategy options that can be used to implement nonmarket strategy (internalisation, partnership, proactive, collective, influence, coalition). Partnering in nonmarket strategy is a form of inter-organizational mechanism (Mair & Marti, 2009) that involves one or more businesses coming together and this is synonymous to a collective strategy, as well as a coalition strategy. Partnership strategy option is complemented by influence making it an ideal factor to include in the current study due to its integration and complementarity. A partnering strategy option stands out as widely accepted due to the theoretical evidence that supports it. Naturally the theorized expectation is that partnering should lower the costs of implementing nonmarket strategy. This theory assertion is almost saturated calling for empirical validation.

The availability of infrastructure is important for the implementation of an infrastructure-building nonmarket strategy. Infrastructure gaps impact the implementation of nonmarket strategy (Arnold & Quelch, 1998) as business-aiding resources are not readily available, and requires more resources from the organizations to cater for the missing and underdeveloped infrastructure. This study was conducted in an emerging market context and one of the glaring characteristics of most

emerging markets is the absence of business aiding infrastructure and ageing of most of the colonial era infrastructure. This has a great impact on the communities surrounding businesses and ultimately organizational competitiveness and performance. Infrastructure gaps stood out as an important institutional factor that formed part of this study.

Currency weakness that relates to the continual loss of value in relation to other currencies (Towbin & Weber, 2013) is common in most emerging countries. A weak currency has many implications for a country's economy and at the micro level on infrastructure-building nonmarket strategy. Increasing costs of imported inputs increase the costs of implementing nonmarket strategy. Currency weakness affects the cost of capital used in infrastructure development and as such the cost in implementing an infrastructure building nonmarket strategy (Bahmani-Oskooee & Gelan, 2013; Miyajima, Mohanty, & Chan, 2015). Currency valuation has a major economic impact both at the micro and macro level. Continual loss of value of emerging market currencies is a salient characteristic of these economies and its impact on nonmarket strategy is unequivocal.

The study has focused on three diverse factors, strategy option which the business has direct control over, institutional factors, which a business has no direct control but can influence to a certain extent, and lastly economic factors mainly driven by policy makers. The three factors present a broad spectrum to investigate the cost implications on the implementation of an infrastructure building nonmarket strategy. As indicated earlier this study aimed at creating a baseline for future nonmarket strategy cost studies.

1.2 Problem Statement

Nonmarket strategy exists, together with its performance and competitiveness benefits. However, its prevalence is hampered by lack of knowledge about the costs of implementation (Dorobantu et al., 2017; Mubila, Moolman, & Van Zyl, 2014), leading to absence of meaningful understanding of perceived benefits (Dorobantu et al., 2017). Mubila et al., (2014) argue further that strategy options centred on improving organizational competitiveness and ultimately the competitiveness of emerging market economies is hampered by the unavailability of information that supports implementation of an infrastructural building strategy. Developing infrastructure is a prime way to boost economic growth, improve the social wellbeing of populations, and improve organizational performance on a global scale (Fourie, 2006). In addition, availability of social, technological and physical infrastructure is critical in its contribution to an organization achieving appropriate levels

of performance (Agénor & Moreno-Dodson, 2006). However, without knowledge on costs of various infrastructure developments that forms part of an organization's infrastructure-nonmarket strategy, participation in the nonmarket arena will not be realized.

The scope of existing studies and resources related to cost of infrastructure development has been limited to identifying the cost of infrastructure developments undertaken as part of national government's mandate to enhance local economic growth. Existing resources include knowledge bases like the Road Cost Knowledge System (ROCKS), Construction Sector Transparency Initiative (CoST), the Africa Infrastructure Country Diagnostics (AICD) and the Private Participation in Infrastructure (PPI) databases (AFRICON 2008; Alexeeva, Queiroz & Ishihara, 2008, 2011; Collier, Kirchberger & Söderbom, 2015). These databases contain information that relates mostly to road construction and energy provision, and the main participant is national government. This created a knowledge gap for both private and public organizations wishing to implement nonmarket strategy.

Many organizations are involved in infrastructure-building strategies and have developed various infrastructures. There is significant data in public and private organizations, which can provide insights on the costs involved in infrastructure developments that are part of an organization's infrastructural building nonmarket strategy. This data can be evaluated, leading to meaningful knowledge of perceived cost and benefits (Dorobantu et al., 2017) that can influence organizations and governments to scale up much needed infrastructure development and ultimately competitiveness and economic growth.

The absence of literature on the cost of nonmarket strategy could have been caused by lack of evidence or existing practices in the nonmarket arena. However, many organizations are now implementing nonmarket strategies given that the classic concepts governing traditional business competitiveness for the past 20 to 30 years no longer suffice for sustainability (Farndale, Scullion, & Sparrow, 2010). In the current environment characterized by extensive competitive boundaries, increased societal pressures, rapid change in business models, and new technology, competitive advantages are created that in a short time are lost or cease to be advantages (Farndale et al., 2010). The reality of the modern business environment is forcing organizations continuously to think of strategies that complement existing competencies and ensure growth and effectiveness is sustained (Waiganjo, Mukulu, & Kahiri, 2012). Nonmarket strategy is bridging this gap and as

such has become prevalent, making key organizational members rich sources of data for analysis and examination.

Several streams of literature have highlighted that implementing nonmarket strategy is expensive (Canuto & Liu, 2013; Hoskisson et al., 2000; Peng & Heath, 1996) due to the large capital injections necessary to set up required infrastructure. None of the literature on nonmarket strategies has examined the costs involved, and the effect of implementation strategies and contextual emerging market characteristics, leaving organizations unwilling to participate in the nonmarket arena due to cost uncertainties. The findings in this study provide essential information that organizations plying the emerging market can use to make informed decisions to participate in nonmarket strategies.

The knowledge gap indicated above required addressing and was justified by reflecting on the background and overview of the study above. First, nonmarket strategy exists, together with its performance and competitiveness benefits. However, its prevalence is hampered by lack of knowledge on the costs of implementation. Little is known of the effect of strategy option, institutional & economic factors on the cost of an infrastructure-building nonmarket strategy, leading to absence of meaningful understanding of perceived benefits. Second, the prevalence of nonmarket strategy implementation means that there is significant data in the private and public space that can be examined, if collected, to give an indication of the behaviour of costs involved in implementing nonmarket strategy. Third, the findings from the study would provide baseline information for future implementation of an infrastructure-building nonmarket strategy in an emerging market context with a set of empirically validated data that can be used by both private and public organizations to inform their implementation journey. Fourth, given that several streams of literature have highlighted that implementing nonmarket strategy is expensive because of the large capital injections necessary to set up required infrastructure, most organizations would be reluctant to venture into activities that earlier research has found to be expensive. To address the knowledge gap, this study examined the effect of partnering, infrastructure gaps and currency weakness on the cost of an infrastructure-building nonmarket strategy.

1.3 Purpose Statement

Nonmarket strategy exists, together with its performance and competitiveness benefits. However, its prevalence is hampered by lack of knowledge on the cost of implementation, leading to absence of meaningful understanding by organizations and governments of the perceived

benefits. To address the above gap, this study examined how the cost of an infrastructure-building nonmarket strategy is affected by partnering, infrastructure gaps and currency weakness.

1.4 Objectives of the Study

The primary goal of this study was to answer the following research question:
What are the effects of strategy option, institutional & economic factors on the cost of nonmarket strategy implementation?

To answer the primary research, question the following sub-questions were formulated:

1. What is the effect of partnering on the cost of implementing an infrastructure-building nonmarket strategy?
2. What is the effect of infrastructure gaps on the cost of implementing an infrastructure-building nonmarket strategy?
3. What is the effect of currency weakness on the cost of implementing an infrastructure-building nonmarket strategy?

Overall the study sought to achieve the following primary objective:
Understand the effects of strategy option, institutional & economic factors on the cost of implementing infrastructure-building nonmarket strategy.

The study also sought to achieve the following secondary objectives:

1. Provide a basis for meaningful understanding of the perceived organizational performance and competitiveness benefits of implementing infrastructure-building nonmarket strategy through empirical examination of the cost effects of partnering, infrastructure gaps and currency weaknesses.
2. Provide a basis for organizations and governments to make decisions to implement infrastructure-building nonmarket strategy by providing knowledge of the cost effects of partnering, infrastructure gaps, and currency weakness.

To answer the research questions and achieve the set objectives, the study was conducted in three phases. The first part involved an extensive literature review on nonmarket strategy. The second part involved examining the effect of partnering, currency weakness, and infrastructure gaps on the cost of implementing an infrastructure-building nonmarket strategy. The third part involved testing hypothesized relationships using data collected through a survey questionnaire

from South African mining organizations. The final part of the study discussed the findings, practical implications, theoretical implications and future study.

1.5 Definition of terms and scope

This section provides relevant definitions on nonmarket strategy, infrastructure-building nonmarket strategy, implementation costs, partnering, infrastructure gaps, and currency weakness.

1.5.1 Nonmarket strategies

According to Baron (1995), "the environment of business is composed of market and nonmarket components and any approach to strategy formulation must integrate both market and nonmarket considerations" (p. 47). The market environment is made up of customers, suppliers and competitors (Bach, 1995; Doh, Lawton, & Rajwani, 2012). Decisions and actions centred on creating superior customer value, maximizing value from suppliers and attaining superior organizational performance compared to competitors, are termed market strategies (Baron, 1995). The nonmarket environment consists of the social, political and legal arrangements that structure the firms' interactions outside of, and in conjunction with, markets (Baron, 1995). In line with the above definition Boddewyn (2003) suggests that "nonmarket refers to internal and external organizing and correcting factors that provide order to market and other types of institutions and organizations so that they may function efficiently and effectively as well as repair their failures" (p. 299). "A concerted pattern of actions taken in the nonmarket environment to create value by improving a firm's overall performance" (Baron, 1997, p. 146) is known as nonmarket strategy.

According to Marquis and Raynard (2015) institutional strategizing has been termed nonmarket strategy or political strategy as they all encompass organizational behaviour in strategically managing their environments. They have coined nonmarket strategy 'institutional strategy' and define it as "the comprehensive set of plans and actions directed at leveraging and shaping socio-political and cultural institutions to maintain or improve an organization's competitive position" (p. 294). According to Wartick and Mahon (1994), nonmarket strategy is an immediate action or future action that is implemented to resolve an existing issue or anticipated issue and at the same time impacting positively on organizational outcomes. Nonmarket strategies are not only a set of plans to counter social, political, legal and cultural arrangements that constrain business activity,

but also actions around similar arrangements that facilitate business activity (Doh et al., 2012; Doh et al., 2015).

From the above definitions, nonmarket strategy is defined as: a set of plans or actions, in response to existing or anticipated social, political, cultural and legal issues that constrain or facilitate business, aimed at improving an organization's competitiveness and overall performance by capturing rents in both the nonmarket and market environment.

1.5.2 Infrastructure-building nonmarket strategy

Infrastructure-building nonmarket strategy is part of Marquis and Raynard's (2015) nonmarket strategy taxonomies that moved away from the 'action'-based strategies into more generalized categories that spoke to the nonmarket environment actors. The taxonomy is drawn from various streams of research on nonmarket strategy including institutional strategy, corporate political activity (CPA) studies, collective action, resource dependence, and stakeholder corporate social responsibility (CSR) studies. Infrastructure-building nonmarket strategy aims to address gaps in regulation, technology and physical infrastructure that enhance and support business activities (Mair & Marti, 2009; Schneiberg & Lounsbury, 2008). These gaps can be addressed through "collective organization and networks, and formal processes such as developing or following international standards" (Marquis & Raynard, 2015, p. 309).

1.5.3 Nonmarket strategy cost

The cost of nonmarket strategy is a cumulative resource expense in setting out plans and carrying out activities in the nonmarket environment, in response to existing or anticipated economic, social, political, cultural and legal issues that constrain or facilitate business, aimed at improving an organization's performance and competitiveness (Dorobantu et al., 2017). The definition of nonmarket strategy cost contains an economic component that entails activities that are also nested in the market arena.

1.5.4 Partnering

Partnering in nonmarket strategy is a form of inter-organizational mechanism (Mair & Marti, 2009) that involves one or more businesses coming together to address infrastructure voids as part of an infrastructure-building nonmarket strategy. Organizations mobilize resources through these mechanisms to overcome issues that prevent markets from existing and properly functioning.

Partnering is posited as a cost-effective strategy in implementing an infrastructure-building nonmarket strategy, and encompasses both bilateral and multilateral contractual arrangements with other organizations and nonmarket stakeholders such as local communities, government and nongovernmental interest groups (Baron, Neale, & Rao, 2016; Dorobantu et al., 2017). These contractual agreements can be enforced through formal contracts and relational contracts based on operational interests, shared resources and social-business communities (Dorobantu et al., 2017). Partnership allows the parties involved to lessen risk, and share synergies for mutual benefit.

1.5.5 Infrastructure gaps

An infrastructure gap exists where business-aiding infrastructure is absent or underdeveloped or where infrastructure needs are unmet (Arnold & Quelch, 1998; Marquis & Raynard, 2015). Infrastructure gaps include: unavailability of key market information; lack of advertising; lack of adequate market research; poor intellectual property rights; underdeveloped business-aiding infrastructure; and existence of piracy and patent infringements that result in organizations not realizing legitimate revenue, which all threaten viability and competitiveness given the global nature of business today (Marquis & Raynard, 2015; Narayanan & Fahey, 2005; Waiganjo et al., 2012; Xu & Meyer, 2012).

1.5.6 Currency weakness

A weak currency is a currency whose value in relation to other currencies has depreciated over time and continues to depreciate due to many factors (Towbin & Weber, 2013). Factors that drive depreciation include political instability, poor fiscal policies, budget deficits, poor credit ratings and a positive import-to-export ratio (Narayanan & Fahey, 2005; Towbin & Weber, 2013).

1.6 Importance of the study

From a theoretical perspective, the study extends nonmarket strategy theory by providing knowledge on the effect of strategy option, institutional & economic factors on the cost of implementing an infrastructure-building nonmarket strategy. There is limited understanding of the costs, benefits and trade-offs of nonmarket strategy (Dorobantu et al., 2017) as there have been no prior studies on the cost of nonmarket strategy. Past research efforts have focused on political actions of organizations (Blumentritt & Nigh, 2002; Bonardi et al., 2005; Breitinger, 2009; Funk & Hirschman, 2017; Liedong et al., 2017), market strategy and nonmarket strategy integration (Baron, 1995, 1997, 1999; He, 2006), theoretical integration (Dorobantu et al., 2017; Marquis &

Raynard, 2015; Mellahi, Frynas, Sun & Siegel, 2016), developing taxonomies of nonmarket strategy (Engau & Hoffmann, 2011; Marquis & Raynard, 2015; Rajwani & Liedong, 2015), corporate social responsibility and sustainability (Öberseder et al., 2014; Wang et al., 2016), and internationalization of nonmarket strategy (Doh et al., 2015).

The study provides a basis for meaningful understanding of the perceived organizational performance and competitiveness benefits of implementing nonmarket strategy backed by knowledge of the cost effects of partnering, infrastructure gaps, and currency weakness. According to Peng and Heath (1996), Hoskisson et al. (2000), and Bonardi et al. (2006), implementing infrastructure-building nonmarket strategy is expensive and partnering can reduce costs. Currency weakness affects the cost of capital used in infrastructure development and therefore also the unit costs in implementing an infrastructure-building nonmarket strategy (Bahmani-Oskooee & Gelan, 2013; Miyajima et al., 2015). Infrastructure gaps mean increased workarounds and resources to achieve business imperatives, escalating the cost of business activities. A study on the implementation of road infrastructure showed a cost escalation of up to 30% owing to the absence of business-aiding infrastructure (Collier, Kirchberger, & Söderbom, 2015). Empirical evidence from this study will confirm these assertions and extend findings from prior research to an emerging market context.

The study is important to organizations and persons interested in implementing nonmarket strategy and in particular infrastructure-building strategies. This includes heads of organizations, community activists, and researchers interested in this area. For these, the study's findings create a baseline for decision making, policy formulations, and proposals to implement infrastructure-building nonmarket strategy. Implementing this strategy entails developing social, technological and physical infrastructure, which all contribute to organizational performance (Marquis & Raynard 2015) and a country's economic growth.

Infrastructure-building nonmarket strategy stems from Marquis and Raynard's (2015) taxonomy of nonmarket strategy. The taxonomy divides nonmarket strategy into relational strategy, infrastructure-building strategy and socio-cultural bridging strategy. The study provides an empirical comparative analysis on the influence of exogenous variables on infrastructure-building nonmarket strategy. This will extend knowledge on the variability of costs when an infrastructure-building strategy is implemented through a partnership, in an environment characterized by infrastructure gaps and currency weakness.

There is much scholarly attention on African emerging markets as they posit as locations for future growth and expansion of organizations (Wright et al., 2005). Scholarly attention is driven by most prior research that has been conducted in the developed world (Bach & Allen, 2010; Baron 1995, 1997, 1999; Bonardi et al., 2006). Several emerging market studies have been done, mainly in Asia. Despite similarities between emerging market nations, however, these countries have contextual differences (Xu & Meyer, 2012). The development of scholarship in emerging markets has pointed out notable differences among emerging market economies (Marquis & Raynard, 2015) of countries in Latin America, Africa, Eastern Europe and the Middle East. This study extends theory (Wright et al., 2005) to the African emerging market and provide contextual evidence that will guide foreign investors, government, localized entrepreneurs and existing business in navigating the emerging market business landscape as well as creating opportunities for future studies on the cost of nonmarket strategy.

Chapter 2: Research setting and relevance

2.1 Emerging markets

Hoskisson et al. (2000) define emerging markets as “low-income, rapid-growth countries using economic liberalization as their primary engine of growth” (p. 190). According to Hoskisson, Wright, Fitatotchev, and Peng (2013), emerging markets are positioned between developed and developing markets based on economic development, extent of integration into the global market and levels of market liberalization. Emerging markets can be characterized further by decreasing trade barriers, amplified competition and dynamic consumer markets; low to medium unemployment rates, disparities in wealth distribution, trade barriers, and frequent government interference that stifles business flexibility (Narayanan & Fahey, 2005; Waiganjo et al., 2012; Xu & Meyer, 2012). Institutional factors such as politics, legislation, society, culture, and levels of technology influence the business environment of emerging market nations (Hoskisson et al., 2000; Marquis & Raynard, 2015) with government having a strong influence on business through the many state-owned firms that provide essential services like power and other utilities (Douma, George, & Kabir, 2006).

In addition to the aforementioned irregularities, emerging market nations are characterized by political instabilities, a young population that is eager for opportunities and growth, resulting in high levels of urbanization; and potential social turmoil owing to existing inequities in society (Marquis & Qian, 2014; Marquis & Raynard, 2015). These challenges are exacerbated by “greater informality and less developed government and regulatory infrastructures, suggesting that market regulation, corporate governance, transparency, accounting standards, and intellectual property protection may not be as reliable or mature as those in more advanced economies” (Marquis & Raynard, 2015, p. 300). The absence of developed regulatory frameworks and unreliability of market regulations leaves business at the mercy of volatile government regulation, “exposing firms to considerable uncertainty and requiring managers to decide on appropriate strategic postures” (Engau & Hoffman, 2011a, p. 42) that will ensure long-term survival.

The emerging market illustrated above is contextually different from the developed market presenting an opportunity for theory testing (Wright et al., 2005) and extension in the later market. Emerging markets are increasingly becoming the focus of scholarly attention, especially in the business environment with organizations seeking to grow and expand their operations in these markets (Marquis & Raynard, 2015; Rajwani & Liedong, 2015; Xu & Meyer, 2013). Asia is in the

forefront regarding emerging market studies (Aggarwal, 2001; He, 2006; He et al., 2007; Liao et al., 2011), but the country contextual differences still posit emerging markets as ideal research locations. Scholarly attention on emerging markets over the past few years has pointed out notable differences among emerging market economies of countries in Latin America, Africa, Eastern Europe and the Middle East (Marquis & Raynard, 2015; Meyer et al., 2009). These salient differences further create opportunities to broaden the emerging market story in uncharted Africa (Rajwani & Liedong, 2015).

2.2 Infrastructure in emerging markets

Developing infrastructure is a prime way to boost economic growth, improve the social wellbeing of populations, and improve organizational performance in emerging markets (Marquis & Raynard, 2015). In addition, availability of social, technological and physical infrastructure is critical in helping an organization achieve appropriate levels of performance. However, most emerging markets are characterized by poor infrastructure development and missing or underdeveloped key commercial, technological, and physical infrastructures (Marquis & Raynard, 2015). In such situations savvy, global businesses step in and build these infrastructures as well as adding to the existing infrastructure stock (Dorobantu et al., 2017). As such, one of the focal areas in emerging market studies examines institutional infrastructure that aids business activities but which is absent, underdeveloped or not standardized (Mair, Martí, & Ventresca, 2012). This has been driven by the complex competitive nature of the modern global economy, which requires organizations profitably to navigate institutionally different contexts characterized by diverse challenges and opportunities. Absence of infrastructure and prevalence of underdeveloped social, technological, and physical infrastructure forces organizations to implement strategies that address the specific institutional environment and to dedicate resources to address the gaps that hinder business continuity and competitiveness. This widely accepted response by organizations to address gaps in regulation, technology and physical infrastructure that enhance and support business activities (Dorobantu et al., 2017) made the emerging market an ideal location for this study.

2.3 The South African emerging market

The study was conducted in the mining sector of the emerging market of South Africa. As with most emerging market nations, South Africa is characterized by infrastructure that aids business being either unavailable or underdeveloped (Narayanan & Fahey, 2005; Waiganjo et al., 2012; Xu & Meyer, 2012), which impacts negatively on business performance and competitiveness.

Where major cities and towns are built around mining activities the expectation is that proper infrastructure is in place. Most South African mining operations, however, are located in remote areas of the country characterized by underdeveloped or missing business-aiding infrastructure (Marquis & Raynard, 2015). Organizations need to formulate strategies to address the missing and underdeveloped infrastructure to ensure business sustainability (Dorobantu et al., 2017).

South Africa has substantial mineral reserves and there is scope for business continuity and expansion which will generate revenue for investors as well as much needed export earnings (Eberhard, 2011). One of the biggest challenges for organizations in the South African mining sector is the ageing physical infrastructure, with rail infrastructure at the forefront (Eberhard, 2011). This constrains the movement of products between the mines and the markets and ultimately impacts on their competitiveness. Most of the ageing infrastructure promotes economic activity and includes roads, highways, railroads, airports, sea ports, electricity, telecommunications, water supply and disposal (Fourie, 2006). Savvy businesses need to step in and address the infrastructure challenges (Arnold & Quelch, 1998) by adding to or rehabilitating the existing infrastructure (Dorobantu et al., 2017).

In addition to the missing, underdeveloped and ageing infrastructure, is the increasing pressure to develop social infrastructure for the communities surrounding business activities (Eweje, 2006). The South African government is one of the pressure groups, and through sets of legislation, governance guidelines, and macro-economic policies, organizations are being asked to play a role in infrastructure development. The legislative requirements, governance guidelines and policies include the following: King III/ IV corporate governance guidelines, black economic empowerment (BEE), broad based black economic empowerment (BBBEE); and the Johannesburg Stock Exchange (JSE) Socially Responsible Investment (SRI) index. As part of ensuring sustainable relationships with stakeholders and the broader South African community, most mining organizations are heeding the call for developing and rehabilitating social infrastructure. Social licences have been acquired and are being acquired by most mining organizations as they address the demands and expectations of key stakeholders (Esteves & Barclay, 2011). Conforming to a social licence entails organizational participation in the nonmarket arena and includes community engagement (Gordon, Schirmer, Lockwood, Vanclay, & Hanson, 2010), empowering the local community through employment, supporting entrepreneurial activities, and assisting in the development and upkeep of local infrastructure.

The above country-specific characteristics are a stimulus for implementing nonmarket strategy, in particular an infrastructure-building nonmarket strategy. This stimulus means that there is considerable activity in the South African mining nonmarket environment. South Africa was therefore an ideal location for the study because of the rich data sources in key organizational informants in the mining sector.

Chapter 3: Literature review

3.1 Introduction

The literature review explores the concept of nonmarket strategy as well as current trends in nonmarket strategy research. This is followed by a discussion on the need for infrastructure-building nonmarket strategy. The theoretical basis for examining the effect of strategy option, institutional & economic factors on the cost of an infrastructure-building nonmarket strategy is unpacked. The section further reviews studies on the cost of nonmarket strategy and the relationships with partnering, infrastructure gaps and a weak local currency. The section concludes with the conceptual model and the hypotheses that guided the study.

3.2 Nonmarket strategy

Organizations employ a number of strategies to navigate institutionally diverse environments to capture rents outside the conventional marketplace. These strategies are termed nonmarket strategy and are defined by Doh et al. (2012) as consisting of "social, political, legal and cultural arrangements that constrain or facilitate firm activity" (p. 23). According to Baron (1997) nonmarket strategy is a "concerted pattern of actions taken in the nonmarket environment to create value by improving a firm's overall performance" (p. 146). The nonmarket environment consists of the social, political and legal arrangements that structure the firms' interactions outside of, and in conjunction with, markets (Baron, 1995).

In line with the above definition, Boddewyn (2003) suggests that "nonmarket refers to internal and external organizing and correcting factors that provide order to market and other types of institutions and organizations so that they may function efficiently and effectively as well as repair their failures" (p. 299). According to Wartick & Mahon (1994), nonmarket strategy is an immediate action or future action that is implemented to resolve an existing issue or anticipated issue and at the same time impacting positively on organizational outcomes. Nonmarket strategies are not only sets of plans to counter social, political, legal and cultural arrangements that constrain business activity, but also actions around similar arrangements that facilitate business activity (Doh et al., 2012; Doh et al., 2015). Marquis and Raynard (2015) have defined nonmarket strategy under the umbrella of institutional strategies and define it as "the comprehensive set of plans and actions directed at leveraging and shaping socio-political and cultural institutions to maintain or improve an organization's competitive position" (p. 294).

From the above definitions, a business case for nonmarket strategy is clearly presented and organizations have implemented these strategies to improve competitiveness. Over time organizations have employed disparate types of strategies to capture rents in the nonmarket environment, heralding different streams of research focusing on different types of nonmarket strategy tactics.

Early streams of literature have focused on the performance outcomes of political actions of organizations (Blumentritt & Nigh, 2002; Bonardi et al., 2005; Breitinger, 2009; Funk & Hirschman, 2017; Liedong et al., 2017); ways of integrating market strategy and nonmarket strategy (Baron, 1995, 1997, 1999; He, 2006); nonmarket strategy and firm competitiveness (Bach & Allen, 2010; Baron, 1995, 1997; Boddewyn, 2003; Bonardi et al., 2006; Majumdar & Chang, 2010; Shoham, Rose, & Kropp, 2005). Other research streams have focused on developing taxonomies to group strategy options that firms have when engaging in the nonmarket arena (Meznar & Nigh, 1995; Blumentritt, 2003; Engau & Hoffmann, 2011; He et al., 2007; Hillman & Hitt, 1999; Hillman et al., 2004; Marquis & Raynard, 2015; Rajwani & Liedong, 2015).

Recently literature has focused on streamlining the drivers of corporate political strategy (CPA) (Doh et al., 2015), identifying mediating and moderating factors that influence implementation and mechanisms firms employ to roll out strategy. In addition to these streams of literature, scholarship has focused on an important element of nonmarket strategy, corporate social responsibility and sustainability, with current research focusing on the internationalization of nonmarket strategy (Doh et al., 2015) and theoretical integration (Dorobantu et al., 2017; Mellahi et al., 2016). However, given the above research streams, there is still much that is not known about nonmarket strategy, including the effects of partnering, infrastructure gaps, and currency weakness on its cost of implementation.

3.3 Current trends in nonmarket strategy research

There is increasing awareness of the need to synthesize the disparate streams of research done on nonmarket strategies to shape a way for future research. Current research is focusing on fusing the diverse findings from previous research to identify an integrated finding. Systematic reviews have been carried out recently on the impact of corporate political activity (CPA) on organizational performance (Rajwani & Liedong, 2015). The findings suggest a positive relationship between firm performance and CPA. Another important finding from this Meta study

points out the importance of context in nonmarket strategies where relational nonmarket strategies are commonly used in emerging markets compared to the developed markets (Marquis & Raynard, 2015; Rajwani & Liedong, 2015). As much as this shows the prevalent use of relational strategies in an emerging market context, there is no mention of implementation costs or the effects of strategy option, institutional & economic factors. This presented a gap that was the findings from this study addressed.

Another current trend in nonmarket strategy is the merging of the different tactics used by organizations into specific taxonomies that combine similar tactics under a single category. Taxonomies have evolved from Hillman and Hitt's (1999) three distinct strategies (information strategy, financial incentive strategy and constituency-building strategy), each made up of a number of actions or tactics. Their taxonomies are developed from the seminal work done by Ansoff (1967) and Freeman (1983). According to Hillman and Hitt (1999) information strategy is used to affect public policy through decision makers by providing policy positions and potential pros and cons of outcomes from a decision (Hillman & Hitt, 1999). A financial incentive strategy uses inducements to influence political decision makers to enact favourable public policy (Hillman & Hitt, 1999). Constituency building strategies targets political decision makers through mobilization of firm stakeholders that in turn pressurize decision makers into passing public policy favourable to the business (Hillman & Hitt, 1999).

A number of scholars (Blumentritt, 2003; He et al., 2007; Hillman et al., 2004; Meznar & Nigh, 1995) expanded the politically skewed taxonomy of Hillman and Hitt (1999) and categorized nonmarket strategies into buffering and bridging. "Buffering implies that a firm is either trying to insulate itself from the external environment or to actively influence it," and "bridging occurs as firms seek to adapt organizational activities so that they conform with external expectations" (Meznar & Nigh, 1995, p. 976). An organization can buffer itself from the pressure that comes from institutional actors, whose compliance affects key business activities or outcomes and at the same time undertake bridging activities to comply with other institutional pressures that do not directly impact on important business imperatives (Blumentritt, 2003). Organizations can use a mix of buffering and bridging or either one of the two to address issues from the nonmarket environment.

Engau and Hoffmann (2011a) identified 13 different strategies from literature, which they grouped into avoid, reduce, adapt and disregard strategies (Engau & Hoffmann 2011b). Regulatory

uncertainty, an important factor in nonmarket strategy formulation, is defined as “an individual’s perceived inability to predict the future state of the regulatory environment” (Hoffman, Trautmann, & Schneider, 2008, p. 714). The taxonomy proposed by Engau and Hoffman (2011a, 2011b) broadened the narrow approach of buffering and bridging nonmarket strategies. Avoid strategies are used when organizations completely prevent being exposed to regulatory uncertainty (Engau & Hoffmann, 2011b). Reduce strategies are used when an organization proactively seeks to understand its environment and imminent changes (Engau & Hoffmann, 2011b). In adapt strategies organizations respond to changes in the regulatory environment that can neither be reduced nor avoided (Engau & Hoffmann, 2011b). Disregard strategies are employed by organizations that choose to continue with business without considering the uncertainty of the regulatory environment; however, this does not exonerate them from the full exposure of the uncertainty (Engau & Hoffmann, 2011b).

Rajwani and Liedong (2015) summarized nonmarket interventions that specifically address political and economic risk into financial, relational and informational strategies. Financial strategies are tactics that gain access to politically affluent persons by providing them with financial incentives and thereby achieve policy decisions that speak to organizational interests. Relational strategies are tactics that build organizational links with politicians or government or both through involving them in business operations and having important shareholders taking part in political activities. These links will ensure organizations have access to policy decision making and influence the impact on business activities. Informational strategies are used to influence important governmental agencies that initiate and draft policies. Tactics here are combined business actions that include lobbying, petitioning and commenting.

Through a synthesis of various fields of studies related to nonmarket strategy, Marquis and Raynard’s (2015) proposed taxonomy of nonmarket strategy made up of relational, infrastructural building and social-cultural bridging. Marquis and Raynard’s (2015) taxonomy moved away from ‘action’-based strategies into more generalized categories that spoke to the nonmarket environment actors. The taxonomy is drawn from various streams of research on nonmarket strategy that includes institutional strategy, CPA studies, collective action, resource dependence, and stakeholder corporate social responsibility studies. Marquis and Raynard’s (2015) nonmarket strategy taxonomy is the most current that encompasses the different arrays of strategy and tactics used in the nonmarket environment. This study used the infrastructure-building nonmarket

strategy of Marquis and Raynard (2015) to examine the output unit costs involved in implementing nonmarket strategy.

Internationalization of nonmarket strategy driven by multinational companies whose markets are global has also been a focus of current research. According to Kobrin (2015), technological changes and digital revolution coupled with open borders that have allowed the flow of labour, technology, exchange of goods and global investments, have resulted in an integrated international economy. However, the nonmarket environment remains institutional or country specific (Doh et al., 2012; Marquis & Raynard, 2015), making it difficult to extend nonmarket strategy to different contexts. As attractive and cost effective as it is for the multinational enterprise (MNE), an international nonmarket strategy is difficult to implement owing to the different "social, political, legal and cultural arrangements that constrain or facilitate firm activity" (Doh et al., 2012, p. 23). These arrangements can only be harmonized with the existence of a global nonmarket environment which is not feasible in the foreseeable future. The biggest obstacle in internationalizing nonmarket strategy is the cost implication of having to navigate diverse markets with different cost implications owing to the characteristics of their nonmarket environment (Doh et al., 2015; Kobrin, 2015).

The differences between developed markets and emerging markets mean that nonmarket strategy cannot be simply implemented in operational sites of a multi-national organization. A need to understand the cost implications of strategy option, institutional & economic factors on the implementation of infrastructure-building nonmarket strategy was clearly imperative. This study examined the effects of partnering, infrastructure gaps, and currency weakness on the cost of nonmarket strategy.

The firms' nonmarket capability (NMC) as a moderator to nonmarket strategy implementation has also been the subject of current research. Nonmarket capability is defined as "a firm's ability to influence the position of regulators, elected officials, and other stakeholders on a particular issue" (Poisson-de Haro & Bitektine, 2015, p. 328). NMC is an important moderator in nonmarket strategy implementation, with potential to prevent capturing of rents in the nonmarket environment. Capabilities in the nonmarket environment have the potential to affect competitiveness among companies within the same industry due to strategy choices influenced by individual nonmarket capabilities. Without an indication of the cost implication on nonmarket

strategy, organizations cannot even start to assess their nonmarket capabilities, question their capabilities or build synergies to improve them.

Current trends indicate a focus shift in nonmarket strategy research to emerging markets. The shift to emerging markets has been driven by their increasing strength in the global economy, their positioning as locations for future growth and expansion of organizations (Marquis & Raynard, 2015; Rajwani & Liedong, 2015; Xu & Meyer, 2013), diversity and differences presented by their institutions that bring new difficulties compared to those encountered in the developed context (Doh et al., 2015). In addition, the shift in scholarly attention is driven by most prior research that has been conducted in the developed world (Bach & Allen, 2010; Baron, 1995, 1997, 1999; Holburn & Bergh, 2006). Global trends and contextual differences between the developed market and emerging market present an opportunity for theory extension (Wright et al., 2005). The aforementioned provided further support for the choice of South Africa as the study location.

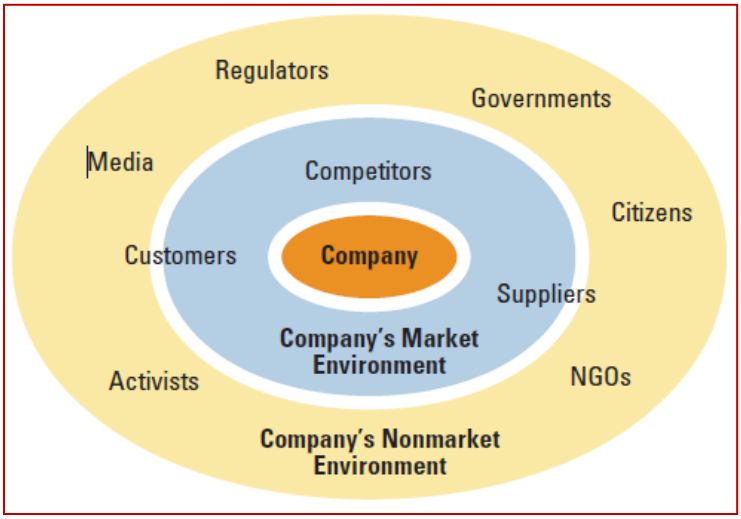
3.4 The need for Infrastructure-building nonmarket strategy in the business environment

The importance of infrastructure-building nonmarket strategy is unequivocal, where 'infrastructure-building nonmarket strategy' encompasses actions and activities taken to address marginally developed markets, and underdeveloped social, technological and physical infrastructures (Mair & Marti, 2009; Marquis & Raynard, 2015; Schneiberg & Lounsbury, 2008). Infrastructure-building nonmarket strategy is part of Marquis and Raynard's (2015) nonmarket strategy taxonomies that also include relational strategy and socio-cultural bridging strategy.

Developing infrastructure is a prime way to boost economic growth, improve the social wellbeing of populations, and improve organizational performance on a global scale (Fourie, 2006). In addition, availability of social, technological and physical infrastructure is critical in its contribution to an organization achieving appropriate levels of performance (Kobrin, 2015); however most emerging markets are characterized by poor infrastructural development, "thus, where key commercial, technological, and physical infrastructures are missing or underdeveloped, savvy global businesses may step in and build these infrastructures in ways that create competitive advantage" (Marquis & Raynard, 2015, p. 312). For these savvy global businesses, the challenge is the absence of knowledge on cost behaviour related to implementing infrastructural-building nonmarket strategy (Kobrin, 2015).

To illuminate further the need for infrastructure-building nonmarket strategy, the modern business environment was analysed and found to be increasingly accommodating issues from the nonmarket environment to enhance market performance (Baron,1995; Lux, Crook, & Woehr, 2011). As organizations mature in their markets they begin to realize the importance of incorporating nonmarket issues to further shape market decisions and performance implications. This has resulted in an integrative conceptualisation of the constructs of the modern business environment as depicted in Figure 1.

Figure 1: Constructs of the modern business environment from Bach and Allen (2010)



According to Lux (2008), market maturity results in limited competitive advantage from merely addressing market issues. Lux (2008) argues further that as organizations realize the diminishing urge from exploiting market opportunities they turn to the nonmarket environment to maintain that competitive edge (Baron,1995; Lux et al., 2011). In addition, although classic concepts governing market oriented business have been proven to work for the past 20 to 30 years, in the current environment – characterized by extensive competitive boundaries, increased societal pressures, rapid change in business models, and new technology – competitive advantages are created and within a limited time lost or cease to be advantages (Farndale et al., 2010). The reality of the modern business environment forces organizations continuously to think of strategies that complement existing competencies to ensure growth and effectiveness are sustained (Waiganjo et al., 2012).

Nonmarket strategy and in particular infrastructural building nonmarket strategy is bridging this gap. Infrastructure-building strategies aim to address gaps in regulation, technology and physical infrastructure that enhance and support business activities. These gaps can be attended to through developing social, technological and physical infrastructure (Dorobantu et al., 2017). Technological and physical infrastructure promotes economic activity and helps business, and includes roads, highways, railroads, airports, sea ports, electricity, telecommunications, and water supply and disposal (Fourie, 2006). Social infrastructure caters for health needs, education and cultural beliefs, all directly or indirectly affecting the quality of life of the emerging market population and productivity of the organization (Fourie, 2006). Social infrastructure will include institutions that have public use such as schools, libraries, universities, clinics, hospitals, courts, museums, theatres, playgrounds, parks, fountains and statues (Fourie, 2006).

Infrastructure development as part of an infrastructural building nonmarket strategy is core to addressing most of the systemic challenges inherent to emerging markets that include absence of market data, poor distribution systems, and underdeveloped physical, social and commercial infrastructure (Narayanan & Fahey, 2005; Marquis & Raynard 2015; Waiganjo et al., 2012; Xu & Meyer, 2012). Without an infrastructure that supports business, organizations will find it difficult to retain or improve competitiveness in light of an increasingly globalized market (Farndale et al., 2010). According to Agénor and Moreno-Dodson (2006) and Fourie (2006), infrastructure impacts on business competitiveness in several ways:

1. Availability of human resources
2. Creation of visible legacies
3. Creation of efficient infrastructure that limits interruptions and shortages so businesses and factories can work unimpeded and at minimal input costs
4. Increased productivity of workers, basic utilities available, and simplified movement of workers to the workplace,
5. Maintenance and running of developed infrastructure after implementation creates long-term job opportunities and potential increase in customer base
6. Creation of natural monopolies
7. Ease of delivery of public goods
8. Social Infrastructure development has a strong bearing on education and health outcomes: good health and high education of labour force induce organizational competitiveness through increased productivity and availability of a highly skilled labour pool.

Organizations need to address most of the systemic infrastructure development challenges inherent to emerging markets by implementing infrastructure-building nonmarket strategy, which will ensure survival and competitiveness. Emerging markets are characterized by unavailability of key market information, lack of advertising; lack of adequate market research, poor intellectual property rights, underdeveloped business-aiding infrastructure, and existence of piracy and patent infringements that result in organizations not realizing legitimate revenue (Arnold & Quelch, 1998). In summary, Arnold & Quelch (1998) note that in emerging economies "there is little or no reliable market data, non-existent or poorly developed distribution systems, relatively few communication channels, and both a lack of regulatory discipline and a propensity to change business regulations frequently and unpredictably" (p. 9). These characteristics create uncertainty for organizations plying the emerging market environment. In most emerging markets "where key commercial, technological, and physical infrastructures are missing or underdeveloped, savvy global businesses may step in and build these infrastructures in ways that create competitive advantage" (Marquis & Raynard, 2015, p. 312). Thus, responding to these challenges can enhance organizational social licences and legitimacy in the eyes of important stakeholders (Esteves & Barclay, 2011), and ultimately competitiveness.

Despite the need for Infrastructure-building nonmarket strategy in the business environment highlighted above, its prevalence in the corporate world is hampered by the lack of knowledge of its cost, benefits and trade-offs (Dorobantu et al., 2017). Lack of knowledge of nonmarket strategy cost, the effects of strategy option, institutional & economic factors involved in implementing nonmarket strategy, has slowed down the development of infrastructure in many sectors. The slow development of the field in practice has been exacerbated by prior studies that have blanketed nonmarket strategy, concealing the rich vein of knowledge that could be extracted by delving into the specific approaches and exploring the cost and implications of its drivers. Infrastructure-building nonmarket strategy is important to economic development as already alluded to, but considering the high costs involved (Bonardi et al., 2006) it was necessary to examine the effects of partnering, infrastructure gaps, and currency weakness on the cost.

3.5 Theory for evaluating the cost of an infrastructure-building nonmarket strategy

According to the resource-based view (Barney, 1991, 2001; Barney & Hansen 1994), the internal source of sustainable competitive advantage comes from acquiring and controlling valuable, rare,

inimitable and non-substitutable resources and capabilities and an absorption capacity that allows application. The objective of this study was to evaluate a rare and valuable resource (knowledge about the impact of strategy option, institutional & economic factors on the cost of implementing an infrastructure-building strategy) that can be used by organizations that possess nonmarket capabilities to plan implementation of strategies to capture rents in the nonmarket environment. The findings from this study can be acquired and used by organizations that seek to gain a competitive advantage by participating in the nonmarket environment. Organizations can build on the study findings to leverage their information base compared to competitors.

Scholars use resource dependency theory to explain how organizations reduce uncertainties in the business environment. It acknowledges the different contexts in which business operates and how contextual factors influence organizational behaviour driven by managers as they try to reduce uncertainties (Ulrich & Barney, 1984). The study was conducted in South Africa, an emerging market economy characterized by considerable uncertainty driven by inefficient and corrupt governance. In this environment, sound policies are rarely fully implemented, regulations deter business growth, commodity prices have fallen, and there is negative international publicity caused by civil unrest (Marquis & Raynard, 2015; Narayanan & Fahey, 2005; Waiganjo et al., 2012; Xu & Meyer, 2012). Organizations that seek to reduce uncertainty and dependency on the local setting actively participate in the nonmarket arena to try and create a favourable business environment. Resource dependency theory highlights how managers can influence or change the uncertainty of the business environment. Partnering to address some of the contextual factors that hamper business continuity becomes vital for these managers because of the high costs involved (Bonardi et al., 2006). Findings from this study provide knowledge of the cost effects of strategy option, institutional & economic factors on infrastructure-building nonmarket strategy. This information is imperative for planning and managerial decision making.

The institutional-based view is seen as the leading theory in strategic management (Peng & Delios, 2006; Peng, Sunny, Brian, & Hao, 2009). Institutions are defined by Peng, Sunny, Brian, and Hao (2009) as the “rules of the game” (p. 64) and by Scott (1995) as “regulative, normative, and cognitive structures and activities that provide stability and meaning to social behaviour” (p. 33). According to North (1991) “institutions are the humanly devised constraints that structure political, economic and social interaction. They consist of both informal constraints (sanctions, taboos, customs, traditions, and codes of conduct), and formal rules (constitutions, laws, property rights)” (p. 97). North (1991) argues further that institutions determine the success of

organizations partaking in economic activities. In such institutions, managers need to adapt to the institution, transform or improve it (Dorobantu et al., 2017). For example, the advent of King 3 corporate governance guidelines, legislative measures such as BEE scorecards in the case of South Africa, Turnbull corporate governance guidelines in European markets, and pressure from the wide array of investors realized through globalization of business and public listing, has forced organizations to consider key institutional requirements and pressures that have a great bearing on the success of the organization (Hamann, 2004). The organization has a mandate not only to maximize earnings for shareholders but to serve the interests of institutional stakeholders (Bowen, Newenham-Kahindi, & Herremans, 2010; Lee, 2011). However, without knowledge of the cost involved in implementing nonmarket strategy the organizational mandate is threatened and becomes uncertain. Organizations find themselves in a predicament due to punitive measures and legitimacy issues arising from not taking part in nonmarket activities.

3.6 Cost of implementing infrastructure-building nonmarket strategy

The challenge for most emerging market organizations is the absence of knowledge on the cost related to implementing infrastructure-building nonmarket strategy (Dorobantu et al., 2017). Existing resources that include comparable knowledge bases include the Road Cost Knowledge System (ROCKS), Construction Sector Transparency Initiative (CoST), the Africa Infrastructure Country Diagnostics (AICD) and the Private Participation in Infrastructure (PPI) databases. These databases contain much information that needs to be arranged systematically to be of any value. In addition, the scale and scope of the information contained in these databases is beyond the specific needs of organizations engaging in nonmarket strategies that involve infrastructure development. These databases contain information related mostly to road construction and energy provision and the main participants are government and private entities (AFRICON 2008; Alexeeva et al., 2008, 2011; Collier et al., 2015) that implement these projects as part of their core business.

This research seeks to contribute to the recent concerted effort in collating data on costs involved in developing different types of infrastructure done only as part of an organization's infrastructure-building nonmarket strategy (AFRICON 2008; Alexeeva et al., 2008, 2011; Collier et al., 2015). Without knowledge of the cost involved in infrastructure-building strategies most organizations would be reluctant to venture into activities that are outside their core business.

As alluded to earlier there are no studies, let alone empirical studies, that look at the cost, benefits and trade-off of implementing nonmarket strategy (Dorobantu et al., 2017). The study addressed this gap by examining the effect of partnering, infrastructure gaps, and currency weakness on the cost of an infrastructure-building nonmarket strategy. Previous studies have focused on the cost involved in road construction (Alexeeva et al., 2008, 2011; Collier et al., 2015; Mubila et al., 2014) with one study broadening the cost involved to other infrastructure developments (AFRICON 2008); however, the examined infrastructure developments were not part of an organization's nonmarket strategy and showed great variability. The study took an approach of examining how the cost of infrastructure-building nonmarket strategy is impacted by strategy option, institutional & economic factors of an emerging market.

Mubila et al. (2014), from their study on 172 road infrastructure developments, concluded that the cost of road infrastructure development could not be established because of design variability. In line with AFRICON (2008), the variability on specific costs of nonmarket strategy can be overcome by examining the cost effects of strategy option, institutional & economic factors. The cost effect transcends the variability.

Collier et al. (2015) in their study on the cost of road infrastructure in low- and middle-income countries found that the cost of infrastructure development is increased by up to 30% depending on contextual characteristics that include terrain ruggedness, proximity to markets, and host country conflict.

A review of the above literature on cost of infrastructure development had important implications for the current study. The earlier studies created a baseline from which the cost of infrastructure-building nonmarket strategy was examined. This study extends AFRICON's 2008 work to infrastructure development in the nonmarket environment and expands the assertions made by Dorobantu et al. (2017) on the absence of an understanding of cost, benefits, and trade-offs of nonmarket strategy.

3.7 Partnering and infrastructure-building nonmarket strategy

To examine the output unit costs involved in implementing an infrastructure-building nonmarket strategy the study focused on partnering, which is an inter-organizational mechanism (Mair & Marti, 2009) that involves one or more businesses coming together for the purposes of implementing infrastructure-building nonmarket strategy. Through these mechanisms

organizations mobilize resources to overcome issues that prevent markets from continual existence and proper functioning (Marquis & Raynard, 2015; Dorobantu et al., 2017).

The focus on partnering is motivated by the high costs involved in implementing nonmarket strategy (Bonardi et al., 2006) and scarcity of resources in most emerging markets for infrastructure development (AFRICON 2008; Alexeeva et al., 2008, 2011; Collier et al., 2015). According to Canuto and Liu (2013), implementing an infrastructure-building nonmarket strategy, which involves developing infrastructure or upgrading underdeveloped social, technological and physical infrastructure (Marquis & Raynard, 2015), is expensive (Bonardi et al., 2006) and can be achieved through partnering (Dorobantu et al., 2017). Partnering among private organizations usually involves businesses in the same industry or in the same area that stand to benefit (Dorobantu et al., 2017) from the infrastructure development. Where such partnering is formed and infrastructure development is achieved as part of an infrastructure-building nonmarket strategy there is significant spread of risk and costs on the output infrastructure.

Another driver of partnering stems from weak emerging market institutions, which compels organizations to create value with others by enhancing or changing the existing institutional environment (Dorobantu et al., 2017). In pursuit of business growth, survival and competitiveness, organizations are forced to operate in emerging markets that are typified by disruptive technologies, politically influenced policies, large gaps in physical infrastructure, decreasing trade barriers, amplified competition and dynamic consumer markets, low to medium unemployment rates, disparities in wealth distribution, trade barriers, and frequent government interference that stifles business flexibility (Narayanan & Fahey, 2005; Waiganjo et al., 2012; Xu & Meyer, 2012). These contextual characteristics make transactions costly in the business market place (Dorobantu et al., 2017). In these environments organizations are forced to implement strategies that address the specific institutional environment and dedicate resources to address the gaps that hinder business continuity and competitiveness (Dorobantu et al., 2017).

Organizations can respond in a number of ways to address gaps in regulation, technology and physical infrastructure that enhance and support business activities (Marquis & Raynard, 2015). These include value creation within the confines of existing infrastructure, augmenting or improving existing infrastructure, and developing new or additional infrastructure (Dorobantu et al., 2017). To implement this, organizations need to come up with cost effective frameworks and mechanisms that ensure business continuity and competitiveness (Ferguson & Voth, 2008;

Fisman, 2001; Johnson & Mitton, 2003; Khwaja & Mian, 2005). Partnering allows the parties involved to lessen risk and share synergies for mutual benefit and also posits as a cost-effective mechanism and encompasses bilateral and multilateral contractual arrangements with other organizations (O'Faircheallaigh, 2015), nonmarket stakeholders such as local communities (Dorobantu & Odziemkowska, 2016; Marquis & Battilana, 2009), government (Capron & Gatignon, 2015), and nongovernmental interest groups (Baron et al., 2016; Dorobantu et al., 2017).

Government partnership with private organizations is commonly known as Public Private Partnerships (PPP). South Africa makes use of public-private partnerships to address underdeveloped and missing business-aiding infrastructure. A study by Pottas (2009) revealed that the National Treasury had 25 partnerships with private organizations with a private investment value of R13.8 billion in 2009 alone. Partnerships with government appeal to private organizations (Capron & Gatignon, 2015) because of the level of agreements, which include management and lease contracts and concessions that allow the private entity to own the developed infrastructure and benefit from its use while it is being run or managed by government. Some organizations partner with government at conception of the infrastructure development or after its development, to ensure maintenance and continued running (Pottas, 2009).

Partnering with government in implementing infrastructure-building nonmarket strategies that benefit the organization and the public makes good business sense owing to the competitive advantages (Ferguson & Voth, 2008; Fisman, 2001; Johnson & Mitton, 2003; Khwaja & Mian, 2005) highlighted earlier. Partnering allows funds and other requirements to be put in place quickly in addition to risk spreading (O'Faircheallaigh, 2015). Infrastructure development or upgrade of underdeveloped infrastructure or both carry commercial, public and political risks, making it vital for the correct partnerships need to be in place before implementation. Where organizations operate in equally constrained areas of infrastructure development and where outlay costs to remedy infrastructure gaps are exorbitant (Bonardi et al., 2006), private entity partnerships can be formed to develop the missing or underdeveloped infrastructure.

According to Hoskisson et al. (2000) & Peng and Heath (1996), addressing poor infrastructural development in emerging markets requires informal partnering owing to the large capital injections necessary to set up required infrastructure. Partnering reduces the cost of capital in cases where an organization borrows to facilitate infrastructure development; the cost of capital is reduced and

spread among the partners (Dorobantu et al., 2017). In addition, partnering allows access to networks (Zuckerman & Sgourev, 2006) that can provide information and discounted inputs, and allow access to required inputs (Henisz & Delios, 2004), and also expedite decision making processes.

As such Hypothesis 1 is made and sub hypotheses H_{1a} and H_{1b}

Hypothesis 1: *There is a negative relationship between partnering and the cost of implementing an infrastructure-building nonmarket strategy*

H_{1a}: *There is a negative relationship between setting up of private partnerships and the cost of implementing an infrastructure-building nonmarket strategy*
H_{1b}: *There is a negative relationship between setting up of public private partnerships and the cost of implementing an infrastructure-building nonmarket strategy*

3.8 Infrastructure gaps and infrastructure-building nonmarket strategy

Emerging markets are characterized by underdeveloped business-aiding infrastructure such as poor distribution systems, insufficient communication technology, inadequate transportation infrastructure, and poor energy generation capabilities (Hitt, Dacin, Levitas, Arregle, & Borza, 2000) that result in organizations not realizing legitimate revenue. Arnold and Quelch (1998) note that in emerging economies “there is little or no reliable market data, non-existent or poorly developed distribution systems, relatively few communication channels, and both a lack of regulatory discipline and a propensity to change business regulations frequently and unpredictably” (p.9). The substantial thrust of existing research work shows that most emerging markets are void of infrastructure that supports commercial activities (Dorobantu et al., 2017; Marquis & Raynard, 2015).

Compared to developed markets, emerging markets lack infrastructure that formalizes regulation, creating uncertainty that threatens business competitiveness and survival. Developed markets are characterized by advanced social, technological and physical infrastructure that allows commercial activity to thrive (Marquis & Raynard, 2015), contrary to emerging markets, making business activities more challenging. The differences in infrastructure between developed and emerging markets means that the rules that apply in the former are different in the latter. In such instances, existing global standards that foster application of tried and tested practices do not

exist. In developed markets, it is easier and cost effective to take part in the nonmarket arena; in emerging markets the absence of an enabling environment and adopting practices from developed markets makes participation and activity in the nonmarket arena very costly.

Emerging markets are characterized by "underdeveloped physical and commercial infrastructures, such as inadequate communication technology, transportation infrastructure, power generation capabilities, distribution channels, and accounting standards" (Marquis & Raynard, 2015, p. 310). Organizations in such environments need to overcome these infrastructure gaps (Dorobantu et al., 2017), which make it difficult to participate in the nonmarket arena and conduct normal business activities. Overcoming these gaps requires collectivism, increased workarounds, resources and resource time that escalates the cost of business activities (Mair & Marti, 2009; Schneiberg & Lounsbury, 2008). Collier et al. (2015) in their study on the cost of road infrastructure in low- and middle-income countries found that infrastructure gaps that limits access to markets increase development costs by up to 30%.

The absence of business-aiding infrastructure impacts on the implementation of nonmarket strategy. Access to resources and inputs required for the implementation of a nonmarket strategy is difficult mainly due to remoteness of most mining operations and poor distribution systems (Hitt et al., 2000). Distribution systems relate to entire chain of distribution intermediaries among suppliers, organizations and customers. Intermediaries are channels or groups that facilitate the movement of inputs and outputs between suppliers, organizations and customers (Marquis & Raynard, 2015). Distribution systems are made up of these intermediaries and relevant infrastructure that facilitates the function of the channels of distribution. In emerging markets these systems are characterized by absence of good enabling infrastructure, absence of well-established suppliers, high logistical costs and issues, poor access to and provision of market data, and supply chain disruptions, which all negatively impact on business activities in the market and nonmarket arena (Hitt et al., 2000).

While absence of global practices, technological, physical and commercial infrastructure speaks to the uncertainties of conducting business in an emerging market context, social infrastructure speaks to gaining legitimacy and creating an enabling environment that brings human resources to an organization (Esteves & Barclay, 2011; Marquis & Raynard, 2015). Business success and competitiveness is driven by legitimacy in emerging markets as most organizations are reliant on host communities (Dorobantu & Odziemkowska, 2016; Marquis & Battilana, 2009) for market and

nonmarket activities. Absence of legitimacy due to social infrastructure gaps can negatively impact market and nonmarket activities due to lack of support, lack of human resources, lack of human resource commitment, and absence of an enabling environment (Esteves & Barclay, 2011; Marquis & Raynard, 2015).

This leads to Hypothesis 2 with sub hypotheses H_{2a} and H_{2b}:

Hypothesis 2: *There is a positive relationship between infrastructure gaps and the cost of implementing an infrastructure-building nonmarket strategy*

$H_{2a:}$ *There is a positive relationship between absent or underdeveloped physical, social and commercial infrastructure and the cost of implementing an infrastructure-building nonmarket strategy.*

$H_{2b:}$ *There is a positive relationship between poor distribution systems and the cost of implementing an infrastructure-building nonmarket strategy.*

$H_{2c:}$ *There is a positive relationship between poor local business standards compared to global business standards and the cost of implementing an infrastructure-building nonmarket strategy.*

3.9 Weakening local currencies and infrastructure-building nonmarket strategy

Another important factor to be considered when examining the cost of infrastructure-building nonmarket strategy is the weakness of the local emerging market currency. Emerging markets are characterized by currency fluctuations, political instability, volatility in commodity prices, policy decisions that deter investments and growth, social unrest and slow economic growth Arnold and Quelch (1998). These factors reduce demand for the local currency due to deteriorating investor confidence, which leads to the currency weakening.

The focus on a weak local currency is motivated by the myriad of institutional, and economic factors that drive currency weakness. The salient characteristics of an emerging market are all potential drivers of currency fluctuations. This is driven by how markets respond to institutional and economic factors, as well as investor confidence, and general demand of the currency for various micro ad macro-economic activities. The weakening of an emerging market local currency was seen as a manifestation of a number of institutional and economic factors, making it an ideal factor for the study.

Flexible exchange rate regimes, adopted by most emerging market nations, advanced by Friedman (1953) or Mundell (1961) and Fleming (1962) cited in Towbin and Weber (2013) emphasize that the value of a country's currency is determined by inherent market forces, as with any other commodity. Its demand in comparison to other country specific currencies will determine its value in relation to these currencies. The value in relation to other countries changes continually due to a myriad of factors (Towbin & Weber, 2013). Most emerging market currencies are currently weak for many reasons that include reduced demand for commodities and prices thereof (Gruss, 2014), and depressed internal interest rates and financial systems (Aslund, 2013). These deter foreign capital, raising inflation rates due to an imbalance between imports and exports (Fayad & Perrelli, 2014), which in turn increases the cost of manufacturing and ultimately infrastructure-building nonmarket strategy. In addition, political instability (Dabla-Norris, Kochhar, Kyobe & Tchaidze, 2013) and unclear fiscal policies that reduce investor confidence, as well as unstable weather patterns and economic instability lead to poor currency demand among trading partners (Marquis & Raynard, 2015; Narayanan & Fahey, 2005; Waiganjo et al., 2012; Xu & Meyer, 2012).

A weak currency driven by poor demand has several implications for a country's economy and at the micro level on individual infrastructural developments undertaken as part of an organization's infrastructure-building nonmarket strategy. Increasing costs of imported inputs increases the costs (Didier, Kose, Ohnsorge, & Ye, 2016) of implementing nonmarket strategy. Currency weakness affects the cost of capital used in infrastructure development and ultimately the cost of infrastructure-building nonmarket strategy. Currency weakness poses the greatest risk (Towbin & Weber, 2013) as capital used to finance the development of infrastructure-building nonmarket strategy is usually borrowed from international markets or international investors who require payment in currencies that are increasingly stronger. Currency recovery takes a long time especially considering global trends in commodity prices (Gruss, 2014).

Stagnant political regimes in emerging market nations, credit rating downgrades of most emerging nations (Didier, Kose, Ohnsorge, & Ye, 2016), creeping recession and timing of the implementation period of an infrastructure-building strategy (Miyajima et al., 2015) all increase the cost of that strategy. Increase in unit costs is attributed to the aggregate demand and aggregate supply. If aggregate demand is higher than aggregate supply, as is the case in most emerging market nations, the cost of imported inputs increases (Fayad & Perrelli, 2014). This in turn has a ripple effect on internal input costs (Bahmani-Oskooee & Gelan, 2013) and

subsequently the cost of infrastructure-building nonmarket strategy. Emerging markets carry huge foreign currency debts (Didier et al., 2016) and depreciation increases domestic leverage, constraining investments due to increased borrowing costs. The reduction in investments increases aggregate demand (Fayad & Perrelli, 2014) because of a fall in domestic output. This exerts further pressure on the local emerging market currency, leading to increased import costs (Fayad & Perrelli, 2014) that ultimately affect market and nonmarket business activities reliant on imported inputs.

As such Hypothesis 3 with sub hypotheses H_{3a} is made:

Hypothesis 3: *There is a positive relationship between currency weakness and the cost of implementing an infrastructure-building nonmarket strategy.*

H_{3a}: *There is a positive relationship between depreciation of currency and the cost of implementing an infrastructure-building nonmarket strategy.*

3.10 Conceptual Model

The conceptual models in Figure 2 and Figure 3 show the theoretical relationships between partnering, infrastructure gaps, currency weakness and the cost of an infrastructure-building nonmarket strategy. Organizations and governments in emerging markets do not have meaningful understanding of the perceived competitive benefits (Dorobantu et al., 2017) of nonmarket strategy due to lack of knowledge on the cost of nonmarket strategy (Dorobantu et al., 2017; Mubila et al., 2014). This lack of knowledge hampers the prevalence of infrastructure-building nonmarket strategy implementation despite the unequivocal competitive benefits of nonmarket strategy (Bach & Allen, 2010; Breitinger, 2009; Holburn & Bergh, 2006; Majumdar & Chang, 2010). To address this, the study examined how partnering, infrastructure gaps, and currency weakness impact the cost of an infrastructure-building nonmarket strategy.

Figure 2 High level relationship between partnering, infrastructure gaps, currency weakness and the cost of an infrastructure-building nonmarket strategy.

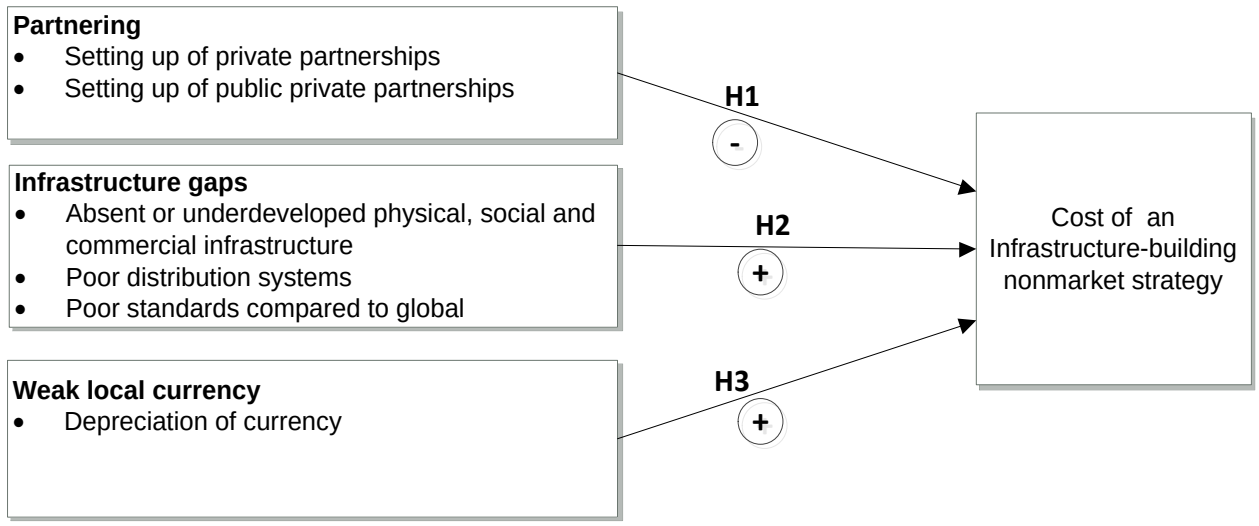
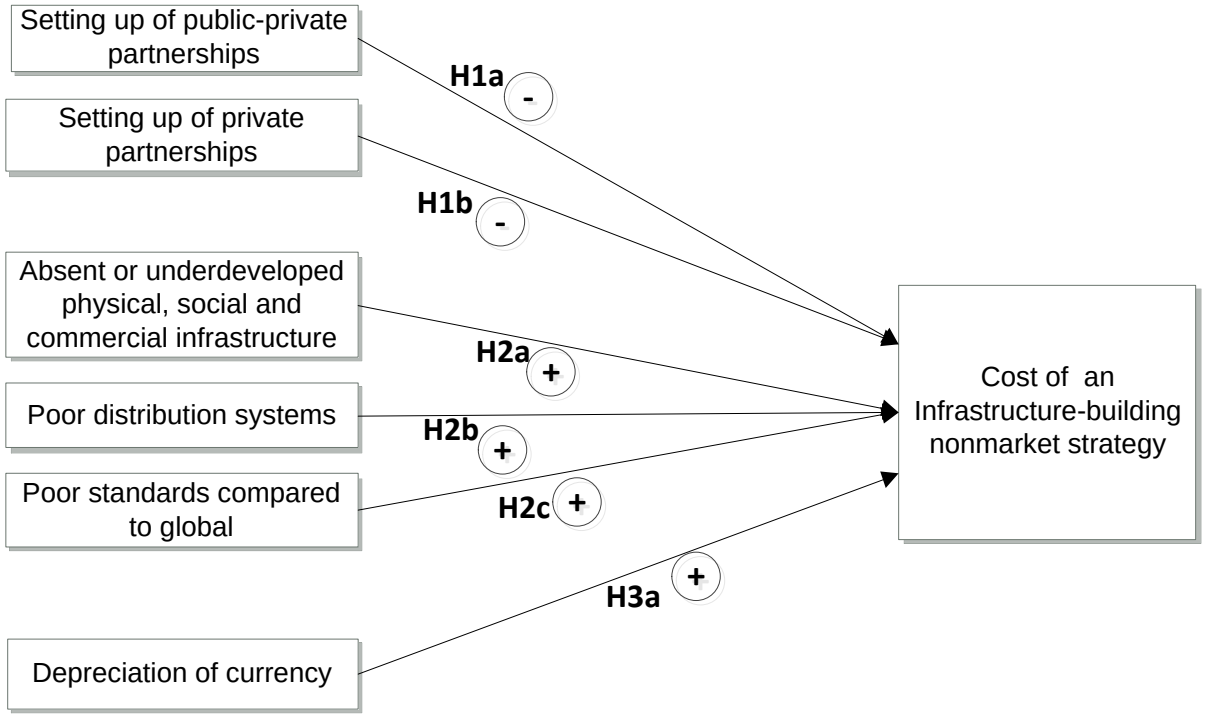


Figure 3 Detailed relationship between partnering, infrastructure gaps, currency weakness and the cost of an infrastructure-building nonmarket strategy.



Chapter 4: Research design and methodology

4.1 Introduction

The chapter focuses its attention on the methodological approach used in this study and its implementation to ensure the research objectives were achieved. The design, method, data collection process, including the sources of data and the criteria used for sample selection, are discussed in this chapter. The measurement of the variables in the hypothesized relationships is discussed, followed by a detailed description of how the collected data was analysed. Research reliability and validity are also discussed.

4.2 Research design

The primary goal of this study was to examine how partnering, infrastructure gaps, and currency weakness impacts the cost of an infrastructure-building nonmarket strategy. To this end it used an extensive survey research (Miller & Tsang, 2010) design that administered questionnaires to participants and allowed generalizations across multiple cases.

According to Lebas and Euske (2007) insights provided by key organizational members are better in capturing phenomena under investigation compared to other sources. In addition, Lebas and Euske (2007) argue that key organizational informants have more insight on the drivers of issues being studied due to access to confidential and current information. Considering this a survey design was deemed suitable for this study. Further, Rajwani and Liedong (2015) in their nonmarket research found a few studies (Lu, 2011; Peng & Luo, 2000) that used the survey approach; they have suggested future researchers adopt this design. This study heeded this and used survey questionnaires to measure respondent's perceptions on the impact of partnering, infrastructure gaps, and currency weakness on the cost of implementing an infrastructure-building nonmarket strategy.

4.3 Research method

Srivastava and Thomson (2009) assert that the method chosen for a study depends on the objective. Blumberg, Cooper, and Schindler (2008) also affirm that when choosing the method, the objective of the study should be considered. The primary goal of this study was to examine how partnering, infrastructure gaps, and currency weakness impacts the cost of implementing an infrastructure-building nonmarket strategy. The primary goal of the study was considered when choosing the appropriate research method.

According to Yilmaz (2013) there are three types of research methods: qualitative, quantitative, and mixed. Yilmaz (2013), defines qualitative research as “an emergent, inductive, interpretive and naturalistic approach to the study of people, cases, phenomena, social situations and processes in their natural settings to reveal in descriptive terms the meanings that people attach to their experiences of the world” (p. 311). A quantitative methodology entails testing or confirmation of theory through measurable variables and testing their relationships with statistics (Yilmaz, 2013).

The strength of a quantitative research depends on existing theory and how the researcher eliminates potential weaknesses between the two (Johnston, Leach, & Liu, 1999). Mixed methods are defined as:

> The class of research where the researcher mixes or combines quantitative and qualitative research techniques, methods, approaches, concepts or language into a single study. Mixed methods research also is an attempt to legitimate the use of multiple approaches in answering research questions, rather than restricting or constraining researchers’ choices (i.e., it rejects dogmatism). It is an expansive and creative form of research, not a limiting form of research. It is inclusive, pluralistic, and complementary, and it suggests that researchers take an eclectic approach to method selection and the thinking about and conduct of research (Johnson & Onwuegbuzie, 2004 pp. 17-18).

According to Srivastava and Thomson (2009), a quantitative methodology answers what, who, where and when questions of the research study. This study was made up mainly of the ‘what’ type of research questions, measurable variables with hypothesized relationships. In line with the research questions, a quantitative method was found to be ideal to achieve the objectives of this study. In addition, prior research on nonmarket strategy has utilized quantitative methodologies suggesting that theory in this area is well developed and further quantitative studies will help empirically validate and extend theory.

To better explain the findings from the quantitative study, the study had four open-ended questions as part of the survey questionnaire, which were mainly used to create a complementarity of the quantitative findings. According to Greene, Caracelli, and Graham (1989), complementarity of methods “seeks elaboration, enhancement, illustration, clarification of the results from one method with the results from another” (p. 259). The responses to the four open-

ended questions added the real-life experiences and perspectives of participants to the quantitative findings (Venkatesh, Brown, & Bala, 2013).

4.4 Units of analysis

Unit of analysis or sampling unit is the object being measured and observed or the subject that is the key informant or provider of information with regards to the variables being studied. The units of analysis for this study were professionals, middle managers and senior managers from the South African mining sites that had implemented an infrastructure-building nonmarket strategy in the past four years.

4.5 Population

The population of this study was made up of all professionals and middle and senior managers from all the mining sites of the 69 member companies of the Chamber of Mines of South Africa. They comprised a relevant population for this study because they would have been involved in project management of infrastructure development as part of their sites' nonmarket strategy and overall strategy and implementation. Limiting the study to these organizational levels increased the validity of the findings from the data collected given their experience and involvement in formulating and implementing strategy. Professionals, middle and senior managers belong to an almost similar and inclusive level that minimized variation and increased consistency of collected data, leading to greater reliability of the findings.

Several emerging economies have been built on the back of mining. Abundance of mineral reserves means that country economic, social and cultural development is and has been hinged on the mining sector. Increasing emphasis on sustainable mining (Esteves & Barclay, 2011; Gordon et al., 2010), beneficiation drives in most emerging markets, empowerment targets (Eweje, 2006) and increased exploration into remote areas made the mining sector an ideal source from which to draw the population for this study.

To maintain competitiveness (Bach & Allen, 2010; Baron, 1995, 1997; Boddewyn, 2003; Bonardi et al., 2006; Majumdar & Chang, 2010; Shoham et al., 2005) and survival, organizational focus now falls more on balancing activities in both the market and nonmarket arenas, meaning that a rich vein of data regarding nonmarket strategy implementation exists. Most mining operations in South Africa are in remote areas that are void of essential infrastructure (Fourie, 2006) and as

such “savvy global businesses … step in and build these infrastructures in ways that create competitive advantage” (Marquis & Raynard, 2015, p. 312).

The above factors made the mining sites a rich source. The data was used to examine the effect of partnering, infrastructure gaps, and currency weakness on the cost of infrastructure-building nonmarket strategy.

4.6 Sampling

A sample is a subset of the population, used mainly because it is not possible owing to cost and time to gather or collect data from all existing data sources (Yilmaz, 2013). The population of this study was made up of all professionals, middle and senior managers from all the mining sites of the 69 member companies of the Chamber of Mines of South Africa. It would have been time consuming and costly to collect data from the whole population and in addition the complete list of the population was not known, implying that there was no equal chance of population members to be picked for data collection. From the two types of sampling methods, probability and non-probability sampling, the latter was chosen because the sample is not selected randomly.

Given the few organizations that have formalized actions in the nonmarket environment, and poor response rates and cost associated with obtaining reasonable response rates, a non-probability purposeful sampling technique was appropriate for the sample selection. According to Blumberg et al. (2008), “a non-probability sample that conforms to certain criteria is called purposive sampling” (p. 253). Purposive sampling eliminates some of the elements from the population. A study where all the elements in a population are measured is called a census and for this study it was not practical to include all the chosen population.

Streams of research on nonmarket strategy have used a quantitative approach (Han, Kim, & Srivastava, 1998; Liao et al., 2011; Narver & Slater, 1990; Rodriguez, Carrillat, & Jaramillo, 2004) to carry out different empirical analyses. However, to carry out the quantitative component of this study with acceptable statistical generalization, at least 200 responses were required (Kline, 2005; 2011).

4.7 Data collection

The primary goal of this study was to examine how partnering, infrastructure gaps, and currency weakness impacts the cost of an infrastructure-building nonmarket strategy. To collect data a

survey questionnaire, shown in Appendix 1, was administered to professional, middle and senior management employees from South African mining organizations.

The survey questionnaire consisted of four sections summarized in the table below. Section one contained background information of the respondents, the mining activity engaged in by their organization and job level. This was used to compare perceptions of the effects of partnering, existing infrastructure gaps, and currency weakness on the cost of an infrastructure-building nonmarket strategy. Section two posed questions to establish the level of nonmarket strategy activity. This section served as reliability and validity check of the respondents' awareness and exposure to nonmarket strategy activities. Section three contained the three main elements (partnering, infrastructure gaps and weak local currency) that affect the cost of infrastructure-building nonmarket strategy. For each item, a six-point Likert scale as shown in Table 1 was developed to measure how respondents agreed or disagreed with the statements posed. The scale anchors are shown in Table 1 below.

Section four contained four open-ended questions focusing on the four main elements of the study: partnering, infrastructure gaps, weak local currency, and cost of an infrastructure-building nonmarket strategy. The section sought to collect respondents' views, which were used to validate and integrate the findings from the quantitative component of the study.

Table 1 Six point Likert scale anchors

0	Strongly disagree
1	Disagree
2	Neither disagree or agree
3	Agree
4	Strongly agree
5	Don't know

The survey questionnaire was designed to collect data from participants on six latent variables, which were: depreciation of currency, private partnerships, public-private partnerships, poor distribution systems, poor standards compared to global, and missing or underdeveloped physical, technological, social and commercial infrastructure. Before being administered the questionnaire was rearranged to ensure that it would not influence responses.

4.8 Measurement of variables

Given the main purpose of this study, a literature review was conducted and variables to be measured were proposed and shown in the earlier developed conceptual model illustrating the relationships between infrastructure gaps, currency weakness, partnering, and the cost of implementing an infrastructure-building nonmarket strategy. Turyakira, Venter, and Smith (2012) assert that before any researched variable is measured there is the need to define the variable and specify how measurement will be done using instruments available to the researcher.

The measurement items to gauge the variables were developed from the extensive literature review conducted. As noted earlier, the challenge for most emerging market organizations is the absence of knowledge on the cost related to implementing infrastructure-building nonmarket strategy (Dorobantu et al., 2017). There are no studies done that look at the cost of implementing nonmarket strategy (Dorobantu et al., 2017). As such, reference scales to measure the constructs did not exist and formative scales were developed based on the literature review. Measurement items were re-arranged according to the way they were administered to participants as indicated in the questionnaire in Appendix 1. Second order and first order constructs shown below were omitted in the grouping of the questions on the questionnaires to avoid influencing participant's responses (Saunders & Lewis, 2014). The survey questionnaire structure is shown in Table 2.

Table 2 Summary survey questionnaire structure

Section	Factors	Items	Question ID
One	Background information		
	Mining Activity	4	
	Job level	3	
Two	Infrastructure building nonmarket strategy (IBNMS) implementation	12	IBNMS1-IBNMS12
Three	Partnering, Weak Local Currency, Infrastructure Gaps and Output unit costs nonmarket strategy		
	Partnering (P)		
	Private partnerships	7	P1-P6, P8
	Public – private partnerships	7	P7-P12, P2
	Weak Local Currency (WLC)		
	Depreciating of currency	7	WLC1-WLC7
	Infrastructure Gaps		

Section	Factors	Items	Question ID
	Absent or underdeveloped physical, social and commercial infrastructure	4	IG1-IG4
	Poor distribution systems	3	IG5-IG7
	Poor standards compared to global	1	IG8
	Output unit costs nonmarket strategy		
	Output costs of completed infrastructure development	2	UR1-UR2
Four	Open-ended questions	4	

4.8.1 Cost of infrastructure-building nonmarket strategy

The cost of infrastructure-building nonmarket strategy is a cumulative resource expense in setting out plans and carrying out activities in the nonmarket environment. It seeks to address missing or underdeveloped physical, technological, social, and economic infrastructure (Mair & Marti, 2009; Marquis & Raynard, 2015; Schneiberg & Lounsbury, 2008) that constrain or facilitate business, aimed at improving an organization's performance and competitiveness (Dorobantu et al., 2017). According to AFRICON (2008) the cost of infrastructure development varies around the estimate and contractual costs. Participant perceptions of the variation in estimate and contractual cost (AFRICON, 2008; Alexeeva et al., 2008, 2011; Collier et al., 2015 Mubila et al., 2014) were used to measure the cost of an infrastructure-building nonmarket strategy. This is shown in Table 3.

Table 3 Measurement items cost of infrastructure-building nonmarket strategy

2nd order construct	**1st order construct**	**Measurement item**	**Sources used to develop item**
Cost of infrastructure-building nonmarket strategy	Cost of completed infrastructure development	The cost of completed infrastructure development as part of our organizations Infrastructure-building nonmarket strategy is greater than the estimate cost	AFRICON, 2008; Alexeeva et al., 2008, 2011; Collier et al., 2015 Mubila et al., 2014
		The cost of completed infrastructure development as part of our organizations Infrastructure-building nonmarket strategy is greater than the contract cost	AFRICON, 2008; Alexeeva et al., 2008, 2011; Collier et al., 2015 Mubila et al., 2014

4.8.2 Infrastructure-building nonmarket strategy

Infrastructure-building nonmarket strategies aim at addressing gaps in regulation, technology and physical infrastructure that enhance and support business activities (Mair & Marti, 2009; Marquis & Raynard, 2015; Schneiberg & Lounsbury, 2008). Indicators of Infrastructure-building nonmarket strategy implementation included the following as shown in Table 4:

1. Developing transport and distribution networks
2. Engaging in collective organizing to pursue and promote infrastructure development
3. Developing social amenities
4. Developing informal mechanisms and standardization strategies for addressing "institutional voids"
5. Developing or promoting global standards to foster a common language and understanding of business practices and outcomes
6. Developing basic utility systems

Table 4 Measurement items infrastructure-building nonmarket strategy

2nd order construct	**1st order construct**	**Measurement item**	**Sources used to develop item**
Infrastructure-building nonmarket strategy	Developing physical, social and commercial infrastructure	Development and improvement of social amenities like schools, libraries, universities, clinics, hospitals, courts, museums, theatres, playgrounds, parks, fountains and statues.	Arnold & Quelch, 1998; Dorobantu et al., 2017; Marquis & Raynard, 2015
		Development and improvement of business aiding infrastructure roads, highways, railroads, airports, sea ports, electricity, telecommunications, water supply and disposal	
	Developing distribution networks	Assisting suppliers in providing organizational inputs and consumables	Arnold & Quelch, 1998; Dorobantu et al., 2017; Marquis & Raynard, 2015
		Intervening to ensure customers receive their products on time	
		Assisting intermediaries like distributors and wholesalers to setup and get products to customers on time	

2nd order construct	1st order construct	Measurement item	Sources used to develop item
	Promoting global standards	Benchmarking with global subsidiaries and competitors	Arnold & Quelch, 1998; Dorobantu et al., 2017; Marquis & Raynard, 2015
		Investing in global infrastructure systems and consistently deploying in all organizational sites	
		Following trends in nonmarket strategy	
	Addressing institutional voids	Providing information and data to market research firms	Arnold & Quelch, 1998; Dorobantu et al., 2017; Marquis & Raynard, 2015
		Providing information and data to financial institutions	
		Forming partnerships with financial institutions and research firms to bridge gaps among suppliers, customers and organizations	
		Active participation on social media and public broadcast	

4.8.3 Partnering

Partnering in nonmarket strategy is a form of inter-organizational mechanism that involves one or more businesses coming together for the purposes of addressing infrastructure voids (Dorobantu et al., 2017; Mair & Marti, 2009; Marquis & Raynard, 2015) as part of an infrastructure-building nonmarket strategy. Partnering allows the parties involved to lessen risk, and share synergies for mutual benefit, and posits as a cost-effective mechanism that encompasses both bilateral and multilateral contractual arrangements with other organizations (Mair & Marti, 2009; O'Faircheallaigh, 2015), nonmarket stakeholders such as local communities (Dorobantu & Odziemkowska, 2016; Marquis & Battilana, 2009;), government (Capron & Gatignon, 2015; Pottas, 2009), and nongovernmental interest groups (Baron et al., 2016; Dorobantu et al., 2017; Pottas, 2009).

Indicators of Partnering included the following as shown in Table 5:

1. Setting up private partnerships for joint purposes of addressing infrastructure voids (Mair & Marti, 2009; O'Faircheallaigh, 2015)

2. Collectively mobilizing resources to overcome issues that prevent markets from continual existence and proper functioning (Dorobantu et al., 2017; Mair & Marti, 2009; Marquis & Raynard, 2015; O'Faircheallaigh, 2015)
3. Setting up public private partnerships, (Capron & Gatignon, 2015; Pottas, 2009) including management and lease contracts and concessions that allow the private entity to own the developed infrastructure and benefit from its use while being run/ managed by the government (Pottas, 2009)

Table 5 Measurement items partnering

2nd order construct	**1st order construct**	**Measurement item**	**Sources used to develop item**
Partnering	Setting up of private partnerships	Working with other private organizations is very important for the success of our business	Mair & Marti, 2009; O'Faircheallaigh, 2015
		Working alone or losing partners is very costly and disruptive to our organization	Dorobantu et al., 2017; Mair & Marti, 2009; Marquis & Raynard, 2015; O'Faircheallaigh, 2015
		We often achieve business objectives faster when we work together with other organizations	
		Working with other organizations saves our company a lot of money	
		Our organizations receive preferential treatment through working with other organizations	
		Our organization is better prepared for unexpected events when working with other organizations	
	Setting up public private partnerships (PPP)	Working with other private organizations and/ or the government is very important for the success of our business	Capron & Gatignon, 2015; Dorobantu et al., 2017; Pottas, 2009
		Working alone or losing partners is very costly and disruptive to our organization	Dorobantu et al., 2017; Mair & Marti, 2009; Marquis & Raynard, 2015; O'Faircheallaigh, 2015
		We often achieve business objectives faster when we work together with other organizations and/ or government	
		Working with other organizations and/ or government saves our company a lot of money	

2nd order construct	1st order construct	Measurement item	Sources used to develop item
		Our organizations receive preferential treatment through working with other organizations and/ or government	
		Our organization is better prepared for unexpected events when working with other organizations and/ or government	

4.8.4 Infrastructure gaps

Infrastructure gaps exists where business-aiding infrastructure is absent or underdeveloped or where infrastructure needs are unmet (Agénor & Moreno-Dodson, 2006; Arnold & Quelch, 1998; Fourie, 2006; Hitt, Dacin, Levitas, Arregle & Borza, 2000; Marquis & Raynard, 2015). Gaps in infrastructure deter business growth, survival, competitiveness and ultimately economic growth. From the literature review carried out the following were identified as indicators of infrastructure gaps as shown in Table 6:

1. Absence of market data (Agénor & Moreno-Dodson, 2006; Arnold & Quelch, 1998; Fourie, 2006; Hitt et al., 2000; Marquis & Raynard, 2015)
2. Poor distribution systems (Arnold & Quelch, 1998; Marquis & Raynard, 2015),
3. Underdeveloped physical, social and commercial infrastructure such as inadequate communication channels, power generation, water supply, health facilities, transport systems, basic education and technical resources (Agénor & Moreno-Dodson, 2006; Arnold & Quelch, 1998; Dorobantu et al., 2017; Fourie, 2006; Hitt et al., 2000; Marquis & Raynard, 2015; Schneiberg & Lounsbury, 2008)

Table 6 Measurement items Infrastructure gaps

2nd order construct	1st order construct	Measurement item	Sources used to develop item
Infrastructure gaps	Absent or underdeveloped physical, social and commercial infrastructure	Employees and community members have access to schools, libraries, universities, clinics, hospitals, courts, museums, theatres, playgrounds, parks, fountains and statues.	Arnold and Quelch, 1998; Hitt et al., 2000; Agénor & Moreno-Dodson, 2006; Fourie, 2006; Schneiberg &

2nd order construct	1st order construct	Measurement item	Sources used to develop item
		Employees have no difficulties in getting to work	Lounsbury, 2008; Mair & Marti, 2009; Marquis & Raynard, 2015; Dorobantu et al., 2017
		Our employees are never absent from work due to issues related to basic amenities	
		We can access market data and can provide data and information to relevant institutions	
	Poor distribution systems	Our business is linked to suppliers and customers by a very good distribution network	Arnold & Quelch, 1998; Marquis & Raynard, 2015; Dorobantu et al., 2017
		Our suppliers are well established and rarely have issues regarding provision of business required inputs	
		We rarely experience logistical issues with our service providers in getting products to our customers	
	Poor standards compared to global	Our organization invests in global infrastructure systems and consistently deploys them at all mining sites	Arnold & Quelch, 1998; Marquis & Raynard, 2015

4.8.5 Weak local currency

A weak local currency is a currency whose value in relation to other currencies has depreciated over time and continues to depreciate due to many factors (Towbin & Weber, 2013). The continual depreciation is driven by flexible exchange rate regimes, as advanced by Friedman (1953) or Mundell (1961) and Fleming (1962) cited in Towbin and Weber (2013) who emphasized that the strength of a country's currency is determined by inherent market forces, as with any other commodity. Its demand in comparison to other country specific currencies will determine its value in relation to these currencies. Indicators of a weak local currency included the following as shown in Table 7:

1. Value in relation to other currencies has depreciated over time (Towbin & Weber, 2013)

2. Continuous depreciation in relation to other currencies (Towbin & Weber, 2013)
3. Reduced demand for commodities and other services (Gruss, 2014)
4. Depressed internal interest rates that deter foreign capital (Aslund, 2013)
5. Rising inflation rates (Xu & Meyer, 2012; Waiganjo et al., 2012)
6. An imbalance between imports and exports (Fayad & Perrelli, 2014)
7. Increasing cost of manufacturing due to increasing cost of inputs (Fayad & Perrelli, 2014)
8. Current account deficits (Didier et al., 2016)
9. Political instability (Dabla-Norris, Kochhar, Kyobe, & Tchaidze, 2013; Marquis & Raynard, 2015; Narayanan & Fahey, 2005; Waiganjo, Mukulu & Kahiri, 2012; Xu & Meyer, 2012)
10. Reduced investor confidence (Didier et al., 2016)
11. Reduced demand for local currency (Towbin & Weber, 2013)
12. Increased budget deficits (Didier et al., 2016)

Table 7 Measurement items weak local currency

2nd order construct	**1st order construct**	**Measurement item**	**Sources used to develop item**
Weak local currency	Depreciation of currency	Over the past 4 years' internal credit interest rates have been increasing	Aslund, 2013; Didier et al., 2016
		Over the past 4 years' inflation rates are increasing	Waiganjo et al., 2012; Xu & Meyer, 2012
		Costs of manufacturing has increased over the past 4 years	Fayad & Perrelli, 2014
		You would prefer keeping your cash investments in one of the major currencies like the US$	Towbin & Weber, 2013
		There is a decrease in the value of goods and services exported over the past 4 years	Didier et al., 2016; Fayad & Perrelli, 2014
		There is an increase in the value of goods and services imported over the past 4 years	
		Decreases in price of global commodities like oil has not translated in overall cheaper fuel costs and basic consumer products	Gruss, 2014

2nd order construct	1st order construct	Measurement item	Sources used to develop item
		The government budget deficit in major currencies like the US$ has increased over the past 4 years	Didier et al., 2016

4.9 Interview questionnaire – Pilot testing

The questionnaire was subjected to three pilot tests to ensure validity, in particular content validity, and attainment of maximum response from research participants. The first pilot was conducted with three participants from own organisation who are involved in nonmarket strategy implementation. The exercise was formalised into a focus group discussion and research questions were analysed to ensure what was being asked could be easily understood. Feedback from this pilot test resulted in rephrasing some of the questions, and tweaking of questions that measured currency weakness, and drivers of inflation.

The second pilot test was done with the research supervisor. From this test, the Likert scale was adjusted to include a sixth scale element, ‘don’t know’.

The third pilot interview, also formal, was conducted with a convenient sample of three participants selected from professionals, middle and senior managers from all the mining sites of the 69 member companies of the Chamber of Mines of South Africa. The survey was administered in the same way as planned for actual data collection. Introductory emails and survey links were sent to the participants emails. After the participants completed the survey they provided feedback on the structure of the questionnaire, understanding of questions, vagueness of questions, and overall time to complete. The feedback received indicated that there were no further issues with the tool, confirming content validity and readiness of the questionnaire to be administered.

4.10 Data analysis

Data analysis is a pivotal stage in research as it allows the researcher to generate outcomes of the study, and generalize findings through deductive reasoning of predicted causal relationships. The quantitative data analysis was integrated with the responses from the four open-ended questions. The first part of the analysis involved checking the completeness of data collected and creation of a raw data master file. The second part of the analysis looked at the four open-ended questions posed to participants using Atlas.ti software to generalize the findings into themes. The

third part of the analysis was centred on the quantitative data collected and involved reliability and validity tests, exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) using Statistical Package for the Social Science (SPSS). Structural equation modelling (SEM) using analysis of moment structures (AMOS) software was used to measure the structural model and sub-structural models using the constructs identified through EFA and CFA.

Model fit during CFA was evaluated by several indices that included Chi-square ($\chi 2$)/Degrees of freedom(d.f.); Comparative Fit Index (CFI); and Steiger's Root Mean Square Error of Approximation (RMSEA). Convergent validity and composite reliability were also examined. To test the hypothesized relationships, measurement sub-models were constructed with items that passed the confirmatory analysis and for each variable the CFI, GFI and RMSEA were used to evaluate the fit of the model to the data, subsequent to structural equation modelling (SEM). The study used CFA for re-specification of the model based on fit.

According to Lei and Wu (2007), SEM is an extension of general linear modelling and consists of statistical models that are used to empirically validate theories. SEM is an ideal tool for data analysis as it can be used for both experimental and non-experimental data, including survey data; it can be used for data collected from cross-sectional or longitudinal studies. "SEM takes a confirmatory (hypothesis testing) approach to the multivariate analysis of structural theory, one that stipulates causal relations among multiple variables" (Lei & Wu, 2007, pp. 33-34). This study sought to confirm developed hypothesis on causal relationships between partnering, infrastructure gaps, a weak local currency and the cost of infrastructure developed as part of an organization's infrastructure-building nonmarket strategy. The objectives of this study made SEM an ideal tool for analysing data collected. SEM seeks to show if data collected can reliably confirm the theory postulated by the hypothesized relationships on the conceptual framework or model developed (Lei & Wu, 2007).

There are six steps in structural equation modelling (Hoyle, 1995; Kaplan, 2000; Kline, 2005; Schumacker & Lomax, 2004; Weston & Gore, 2006). The steps include data collection, model specification, identification, estimation, evaluation, and modification.

1. Data collection entails the collection of relevant research data guided by a survey questionnaire. This study used a survey questionnaire to collect data for analysis.

2. Model specification involves hypothesizing the relationships among observed variables and latent variables. A latent variable is a variable that requires observable variables to operationalize it or measure it (Weston & Gore, 2006).
3. Model identification involves an assessment of the parameters being measured and data points. If data points are equal to the parameters being measured, then the model is just identified or saturated. Such a model will fit the data perfectly, and will be of little use in analysing the data. Analysis of data can proceed if data points are more than the parameters being measured. Figure 2 below showed that there were more data points than parameters investigated and therefore data analysis could proceed. According to Weston and Gore (2006), "Estimation involves determining the value of the unknown parameters and the error associated with the estimated value" (p. 737). Many estimating procedures can be used and for this study most likelihood (ML), least squares (LS) and asymptotic distribution free (ADF) were chosen.
4. Evaluation involves assessing the fit of the model to the data. It entails determining whether the relationships among latent and observed/measured variables in the proposed conceptual model reveal observed associations in the analysed data (Weston & Gore, 2006). Fit is evaluated mainly by Chi-square ($\chi 2$) testing. However, several indices exist that include GFI, CFI, RMSEA and Standardized Root Mean Square Residual (SRMR).

Covariance-based Structural equation modelling (CB-SEM) using AMOS software was used for the confirmatory tests for the hypothesized relationships. CB-SEM is the mostly widely used approach in SEM (Astrachan, Patel & Wanzenried, 2014). According to Hair, Ringle and Sarstedt (2011) CB-SEM uses a maximum likelihood estimation approach whose objective is ''reproducing the covariance matrix [i.e., minimizing the difference between the observed and estimated covariance matrix], without focusing on explained variance'' (p. 139).

Sample size is an important component in CB-SEM and according to Kline (2005, 2011) as a guideline at least five times the number of indicators in the original model would result in an adequate sample (Astrachan, Patel, & Wanzenried, 2014). According to MacCallum, Browne, and Sugawara (1996), sample size is dependent on the complexity of the model being investigated. They argue further that larger sample sizes are ideal for complex models. Wahid, Rahbar and Shyan (2011) assert that between 100 and 200 responses are sufficient for quantitative analysis. Some researchers have found little effect on sample size according to Weston and Gore (2006) who, however, recommend a minimum sample size of 200 for CB-SEM. Under guidelines

proposed by Kline (2005, 2011), Astrachan et al. (2014) and Weston and Gore (2006), the study obtained 239 data sets to test the research hypothesis. This was ideal for CB-SEM, which generally requires large sample sizes (Astrachan et al., 2014).

4.11 Research reliability and validity

Prior to testing the hypothesized relationships there was a need to examine the reliabilities and validity of the items and constructs used in the study (Famiyeh & Famiyeh, 2017). Reliability is the extent to which a research instrument consistently measures a given variable and provides reliable data whenever it is used under the same conditions (Yilmaz, 2013). Reliability applies to collected data and not the collecting instrument. Reliability measures aim to show that survey data collected is consistent and reliable. To ensure that the constructs had high internal consistency, composite reliability and Cronbach alpha values were calculated (Roberts, Priest, & Traynor, 2006). Cronbach alpha values were calculated for all the constructs and values greater than 0.7 above the acceptable threshold value (Pallant, 2006) were computed, with one construct having a value of 0.6, considered acceptable in social science research (Cronbach,1951; Nunnally, 1978). Composite reliability values are recommended to be above 0.7, with values greater than 0.6 considered as acceptable (Nunnally & Bernstein, 1994). Composite reliability values were all greater than the recommended 0.6 during CFA.

Validity describes the accuracy of collected research data (Yilmaz, 2013) or the correctness to which measured data represents the concept being investigated (Roberts, Priest & Traynor, 2006). There are two measures of validity, external and internal. External validity measures the degree to which the findings from this study will be applied to a different context or situation (Bitsch, 2005; Roberts et al., 2006). The study context was limited to the mining sector in the South African emerging market and theory extension would be limited to emerging markets. Empirical validation would be required to extend the findings in different contexts.

Internal validity concerns the reasons of research findings and eliminates unanticipated reasons for research outcomes. This was approached in three ways: content, criterion and construct validity (Roberts et al., 2006). Criterion validity uses comparisons of similar instruments used to measure the same phenomenon (Roberts et al., 2006; Yilmaz, 2013) and could not be tested for this study since similar instruments do not exist.

According to Polit and Beck (2006), content validity relates to “the degree to which a sample of items, taken together, constitute an adequate operational definition of a construct” (p. 489). Content validity looks at individual questions operationalizing the variables and seeks to ascertain their relevance in relation to setting and measuring the variable. Three pilot tests assessed the measurement instrument and ascertained that the measurement items can measure the different variables.

Construct validity, which describes the accuracy of collected research data (Yilmaz, 2013) or the correctness to which measured data represents concept being investigated (Roberts et al., 2006), was applied using Kaiser-Meyer-Olkin (KMO) and Bartlett’s Test of Sphericity. KMO ranged between 0.649 and 0.868 above the recommended lower limit of 0.5. The Bartlett’s Test of Sphericity was significant at $p<0.05$.

Construct validity was further affirmed during exploratory factor analysis by measuring convergent validity with overall results that showed anti-image diagonal values of greater than 0.5, indicating high correlation and factor analysability of the latent variables. Confirmatory factor analysis tested convergent validity of the factors that loaded on the latent variables with factor loadings greater than the coefficient threshold of 0.4 (Basto & Pereira, 2012; Lambert & Durand, 1975). Correlation between constructs was used to measure convergent validity, with variables measuring the same construct showing significant correlations greater than 0.48.

4.12 Ethical concerns

The main source of information in this study is the human subject and as such many ethical concerns arise. Anonymity of individuals was maintained during the collation and analysis of data. The conversations and information gathered and provided were protected from misuse. Duplication and copying of the information was limited to authorization from the different cases. The study used a sample that included publicly listed and private organizations, but confidentiality of study cases was paramount and disclosure was at the discretion of the individual organizations. Assurance of non-disclosure was achieved through a non-disclosure disclaimer for the individual cases and bound within the University of Pretoria’s regulations and mandatory ethical clearance for conducting empirical studies.

A consent note accompanied each survey questionnaire. The consent form was printed on the University of Pretoria's letterhead and contained the following details in line with Creswell (2014):

1. Researcher's name
2. Title of the study
3. Purpose of the research
4. Confidentiality clauses
5. Contact details
6. Autonomy to continue or not continue participating
7. Benefits of participating in the study, i.e. access to research findings

In addition to the above the researcher ensured accurate and correct representation of findings. Ideas and work of various authors used in this study were acknowledged and permission to use copyrighted work was obtained. In reporting the findings, the researcher ensured that no hate speech was used against any group of people in the final write-up and during the proposal stages. This research was therefore carried out with the highest possible ethical standards and integrity.

Chapter 5: Empirical Results

5.1 Introduction

This section presents the results of the study analysis carried out as described in the previous section. Survey response rates are presented followed by demographics and awareness of nonmarket strategy implementation. Validity and reliability test results are highlighted followed by the outcomes of the EFA as well as discriminant validity. The CFA measurement model, correlation matrix between constructs, correlation between regression coefficients, and composite reliability calculations are presented. The structural model based on the CFA is presented together with its fit indices. Results for the hypotheses tests for each variable in the theoretical model is presented together with the summary at the end.

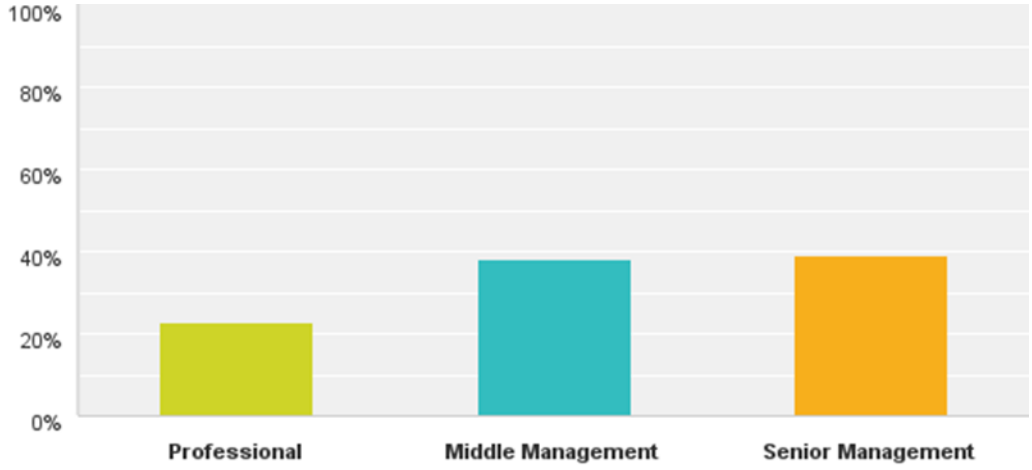
5.2 Survey response rate

Data collection was conducted through an online survey consisting of structured and open- ended questions. The data was collected over two months from 11 April 2017 to 11 June 2017. The survey used a snowball non-probability sampling technique to increase the number of respondents, from the initial 345 key informants from the 69 member companies of the South African Chamber of Mines to a projected 1035 participants. During the data collection period, a total of 239 respondents attempted the survey, giving a response rate of 23%, with 199 complete responses (83% average individual question completion from the total participants) for the quantitative component of the study. The four open-ended questions had the lowest response count of 126, 117, 121 and 115 responses. These accounted mainly for the overall partial completion of the survey questionnaires. Valid responses were used to carry out the analysis on the constructs and questions not attempted by respondents were excluded.

5.3 Respondent demographics

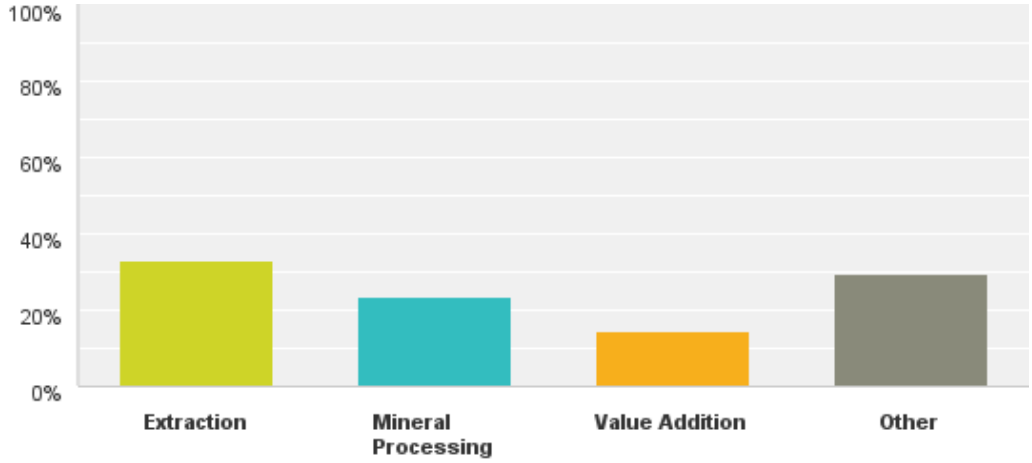
The population of the study was made up of all professionals, middle and senior managers from all the mining sites of the 69 member companies of the Chamber of Mines of South Africa. Of the 239 respondents 22.69% were professionals, 38.24% were middle management, and 39.08% were senior management. This is shown in Figure 4.

Figure 4 Respondents' job levels



Respondents were also asked to indicate the mining activity they were involved in to ensure that they all came from an organization that operates in the mining industry. This was done to make certain that participants identified through the snowball technique worked in the South African mining sector. Most respondents (32.77%) are involved in mineral extraction, 29.41% in other mining activities, 23.53% in mineral processing, and 14.29% in value addition. This is shown in Figure 5.

Figure 5 Primary mining activity of respondents' organization



5.4 Awareness and exposure to nonmarket strategy activities

To increase validity of the data collected the first part of the survey took an exploratory approach to ascertain the level of infrastructure-building nonmarket strategy of the mining company concerned. This section served as a validity check of the respondents' awareness and exposure to nonmarket strategy activities. Respondents were asked 12 questions to determine the level of

infrastructure-building nonmarket strategy within their organization. The mean scores are shown in Table 8, and Figures 6-7.

Table 8 Mean scores for latent variables

	N	Minimum	Maximum	Mean	Std. Deviation
FACTOR 1 IBNMS	199	1.08	4.00	2.55	0.68
FACTOR 2 Private Partnerships	179	1.57	5.00	3.99	0.63
FACTOR 2 Public-Private Partnerships	179	1.00	5.00	4.04	0.64
FACTOR 4 Depreciating of currency	160	3.00	5.00	4.04	0.44
FACTOR 5 Infrastructure	194	1.50	4.75	3.45	0.74
FACTOR 6 Distribution systems	195	1.67	5.00	3.70	0.71
FACTOR 7 Poor Standards	195	1.00	5.00	3.65	0.94
FACTOR 8 Output Costs	158	1.50	5.00	3.01	1.04
Valid N (listwise)	108				

From the analysis of the data collected, Infrastructure-building nonmarket strategy (IBNMS) scored a mean of 2.55 from four scale items that included: zero occurrences; one to five occurrences; six to 10 occurrences; and more than 10 occurrences. The mean scores based on mining activity and job level ranged from 2.42 to 2.87 and 2.42 to 2.66. Middle management and senior management had the highest mean scores, validating their exposure and awareness to infrastructure-building nonmarket strategy implementation.

Figure 6 Mean of infrastructure-building nonmarket strategy per mining activity

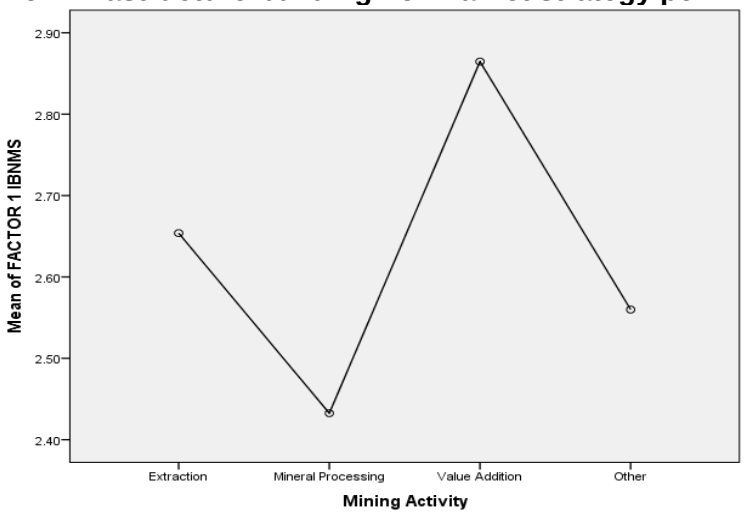
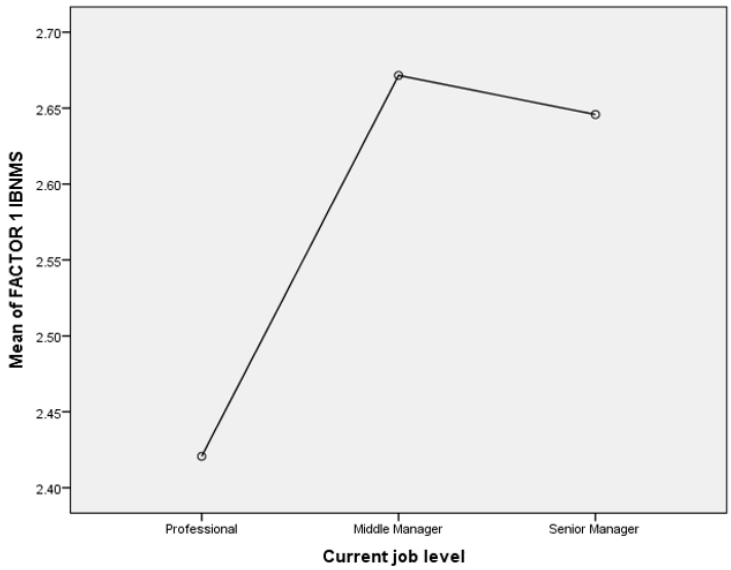


Figure 7 Mean of infrastructure-building nonmarket strategy per current job level



5.5 Construct validity and reliability

Construct validity describes the accuracy of collected research data (Yilmaz, 2013) or the correctness to which measured data represents concept being investigated (Roberts, Priest & Traynor, 2006). Internal construct validity was used to validate the concepts and constructs in this study. The study neither sought to obtain insights of individuals nor to compare similar instruments as none exist, making construct validity appropriate. Statistical construct validity and factor analysability was done using Kaiser-Meyer-Olkin (KMO), Pearson Correlation and Bartlett's Test of Sphericity. KMO measures sampling adequacy to perform factor analysis. The recommended lower limit for KMO is 0.5 and the closer it is to 1 implies a good sample adequacy for factor analysis. From the analysis results it was observed that KMO ranged between 0.649 and 0.868 and was well within the recommended range. Pearsons correlation was computed to measure convergent, discriminant and nomological validity. For convergent validity, two items measuring the same concept should be highly correlated, as shown in Table 9.

Table 9 Convergent validity

Correlations

		P2 Working alone is very costly to our organization	P3 We often achieve business objectives faster when we work together
P2 Working alone is very costly to our organization	Pearson Correlation	1	.504**
	Sig. (2-tailed)		.000
	N	239	239
P3 We often achieve business objectives faster when we work together	Pearson Correlation	.504**	1
	Sig. (2-tailed)	.000	
	N	239	239

**. Correlation is significant at the 0.01 level (2-tailed).

Discriminant validity is illustrated by no correlation when measuring the correlation of two measurement items that measure unrelated concepts, as shown in Table 10:

Table 10 Discriminant validity

Correlations

		IG2 Employees have no difficulties in getting to work	P7 Working with other private organizations and/ or the government is very important for the success of our business
IG2 Employees have no difficulties in getting to work	Pearson Correlation	1	.034
	Sig. (2-tailed)		.605
	N	239	239
P7 Working with other private organizations and/ or the government is very important for the success of our business	Pearson Correlation	.034	1
	Sig. (2-tailed)	.605	
	N	239	239

For this study nomological validity was illustrated by two items measuring a construct that should be related but not necessarily having a causal relationship. This is shown in Table 11:

Table 11 Nomological validity

Correlations

		P7 Working with other private organizations and/ or the government is very important for the success of our business	IG7 We rarely experience logistical issues with our service providers in getting products to our customers
P7 Working with other private organizations and/ or the government is very important for the success of our business	Pearson Correlation	1	.215**
	Sig. (2-tailed)		.001
	N	239	239
IG7 We rarely experience logistical issues with our service providers in getting products to our customers	Pearson Correlation	.215**	1
	Sig. (2-tailed)	.001	
	N	239	239

**. Correlation is significant at the 0.01 level (2-tailed).

The Bartlett's Test of Sphericity measured the validity and appropriateness of the responses collected to the problem being addressed in the research study. A value less than 0.05 (below level of sign. of $p<0.05$) is suitable for factor analysis and the results in Table 12-14 show that it was under 0.05.

Table 12 Infrastructure gaps KMO and Bartlett's test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.712
Bartlett's Test of Sphericity	Approx. Chi-Square	273.130
	df	28
	Sig.	0.000

Table 13 Partnering KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.828
Bartlett's Test of Sphericity	Approx. Chi-Square	1000.684
	df	66
	Sig.	0.000

Table 14 Weak local currency KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.649
Bartlett's Test of Sphericity	Approx. Chi-Square	108.442
	df	21
	Sig.	0.000

The anti-image matrix produced as part of Kaiser-Meyer-Olkin (KMO) test and Bartlett's Test of Sphericity was also used to determine the factor analysability of the data. According to Field (2013) an anti-image diagonal value greater than 0.4 reflects correlation among the variables and convergent validity as well as suitability for factor analysis. Overall the results showed anti-image diagonal values ranging from 0.703 to 0.898 for each of the observable values under the partnering construct, 0.595 to 0.724 for the weak local currency construct, and 0.676 to 0.759 for the infrastructure gaps construct. All the observable variables had a value greater than 0.4, making them suitable for factor analysis.

The study measured the internal consistency reliability of the measuring instrument by computing Cronbach's alpha coefficient. Cronbach's alpha coefficient was computed through the statistical package for social scientists. Values greater than 0.7 above the acceptable threshold value (Pallant, 2006) were computed for partnering, cost of infrastructure-building nonmarket strategy and infrastructure gaps. Currency weakness had an alpha coefficient of 0.6, considered acceptable in social science research (Cronbach, 1951; Nunnally, 1978). These alpha coefficients implied internal consistency reliability.

Infrastructure gaps imply gaps in regulation, technology and physical infrastructure that enhance and support business activities (Agénor & Moreno-Dodson, 2006; Arnold & Quelch, 1998; Hitt et

al., 2000; Fourie, 2006; Marquis & Raynard, 2015). Three factors – absent or underdeveloped physical, social and commercial infrastructure; poor distribution system; and poor standards compared to global – were measured, using eight items (IG1-IG4, IG5-IG7, IG8 respectively). A Cronbach's alpha (α = 0.705) for all items was computed showing that survey data was reliable and could be further analysed using factor analysis.

Partnering in nonmarket strategy is a form of inter-organizational mechanism (Dorobantu et al., 2017; Mair & Marti, 2009; Marquis & Raynard, 2015) that involves one or more businesses coming together to address infrastructure voids as part of an infrastructure-building nonmarket strategy. Two factors, setting up private partnerships and public private partnerships, were measured, using 12 items (P1-P6, P7-P12 respectively). A Cronbach's alpha (α=0.884) for all items was computed showing that survey data was reliable and could be further analysed using factor analysis.

A weak local currency is a currency the value of which in relation to other currencies has depreciated over time and continues to depreciate due to many factors (Towbin & Weber, 2013). One factor, depreciation of currency, was measured using seven items (WLC1-WLC7). A Cronbach's alpha (α=0.6) was computed showing that survey data was reliable and could be further analysed using factor analysis.

5.6 Exploratory factor analysis, construct validity

Principle axis factoring extraction with varimax rotation, due to the little correlation among some of the construct factors, was used for exploratory factor analysis. The eigenvalue-greater-than-one rule (Kaiser, 1958) was used to determine the number of factors to retain. Factors that had eigenvalues less than 1 were removed from the rotated factor matrix and those with eigenvalues greater than 1 were used to explain the total variance contribution to the construct being measured. The analysis identified three factors for the partnering construct, two factors for infrastructure gaps and two factors for weak local currency. A coefficient threshold of 0.3 (Basto & Pereira, 2012; Lambert & Durand, 1975) ensured that an item loaded on to a factor. The higher the coefficient, the higher the correlation of the item\ measurable observable value and the latent variable\ construct. High correlation between items indicated convergent validity. The items that loaded on the different factors are presented in detail below.

5.6.1 Weak local currency

A weak local currency is a currency the value of which in relation to other currencies has depreciated over time and continues to depreciate due to many factors (Towbin & Weber, 2013). Of the seven items (WLC1-WLC7) selected to measure a weak local currency, only five loaded on the factor matrix. The five items loaded on to three factors, adding two factors to the one proposed in the study. The indicators used to measure depreciation of currency did not converge into a single factor.

Two of the indicators of depreciation of currency did not load on any of the factors. These two were 'decreases in price of global commodities like oil has not translated in overall cheaper fuel costs and basic consumer products' and 'the government budget deficit in major currencies like the US$ has increased over the past 4 years'. These two items had factor loadings below 0.3, indicating that the variance in both observable variables explained by the latent variable (weak local currency) is too small. This implies a weak association between the observed variables and the underlying latent variable. The factor structure suggests two new factors; however, one of the factors has a single observable variable and will be discarded.

A new factor (increasing import costs and interest rates) will be confirmed after fit evaluation of the modified model using SEM. The factor loadings of the items ranged from 0.433 to 0.730, showing a high correlation with the underlying latent variable (weak local currency). Convergent validity is shown by the high correlation between the measurement items and latent variable as indicated by the factor loadings. Eigenvalues between 1.018 to 2.080 and a total variance explained of 60.1% further affirm that the observed variables that loaded on the three factors had enough variance explained by weak local currency. This is more than half of the variance in observable variables and is enough evidence for convergent validity. The factor matrix is shown in Table 15 with the factor loadings of each measurable variable that loaded onto a factor indicated.

Table 15 Weak local currency factor analysis

Factors		**Depreciation of currency**	**Increasing import costs and interest rates**	**Cash investments**
Items	**Description**			
WLC3	Costs of manufacturing has increased over the past 4 years	0.691		

Factors		Depreciation of currency	Increasing import costs and interest rates	Cash investments
Items	**Description**			
WLC2	Over the past 4 years inflation rates are increasing as a result of consumer price escalations	0.581		
WLC6	There is an increase in the value of goods and services imported over the past 4 years		0.644	
WLC1	Over the past 4 years internal credit interest rates (South African Reserve Bank repo rates) have been increasing		0.433	
WLC4	You would prefer keeping your cash investments in one of the major currencies like the US$			0.730
Eigenvalue		2.080	1.109	1.018
Cumulative % of variance		29.7	45.6	60.1

An open-ended question was posed to participants to further understand the latent variables under the domain of weak local currency. This sought to affirm the chosen underlying variables in the study and identify new variables. Analysis of the open-ended responses was conducted and the following variables were identified: investor confidence, pricing strategies, and procurement strategies in addition to affirming depreciation of currency.

Depreciation of currency is characterized by a decrease in value of a currency relative to major currencies like the US$. It is caused by several factors and not limited to political instability, poor fiscal policies, budget deficits, poor credit worthiness ratings, and a positive import to export ratio. Depreciation is driven by changes in exchange rates between two currencies, where one unit of a currency buys increasingly fewer units of another. There were mixed sentiments regarding the effect of a depreciating currency on the cost of an infrastructure-building nonmarket strategy, with some respondents highlighting a negative impact and others a positive impact on the unit costs. One respondent emphasized that if “the revenue is dollar driven, the costs in a weakening currency will reduce relatively, if the goods and services for infrastructure development is sourced locally, in South Africa”. This would entail a positive effect on the cost of implementing an infrastructure-building nonmarket strategy. Other respondents were of the view that depreciation

of the local currency negatively affects the cost, since some components used in the implementation of infrastructure-building nonmarket strategy are sourced from outside the country. In such instances, the currency exchange rate plays a big role in influencing the cost of an infrastructure-building nonmarket strategy. In addition, a weak currency affects fuel prices, as they are pegged against a stronger currency like the US$. Weakening of the currency results in price increases that have a ripple effect on other costs as they are influenced by transport prices.

Investor confidence relates to behaviours driven by weak local currency. These include deteriorating trade relationships, increased currency hedging, increased cost of offshore capital, and unstable interest rates. One respondent agreed that a weak local currency affects the cost of an infrastructure-building nonmarket strategy because of low trade confidence and increased cost of capital if the business is financed by external investors. Competitiveness was also highlighted as a major concern with another respondent stating that “this makes it difficult to compete with international suppliers and get competitive rates due to a weakening currency”. Other respondents highlighted that “the negative sentiments and indicators on economic growth results in investors losing confidence in the emerging market and instead [they] pull out their investments or move elsewhere”.

Pricing strategies refers to the actions taken by suppliers and service providers in response to a weak local currency, where they deliberately hike costs based on a fluctuating currency rate to major currencies like the US$. One respondent highlighted that “these days everyone uses the weak rand as an excuse to increase their costs, be it material or even labor”. In addition, some service providers and suppliers cannot fix a quote or contractual price giving them leeway to hike prices. This was further affirmed by another respondent who stated that “if it costs you R20 to put up infrastructure, and if the currency has depreciated then the same infrastructure will cost you more since suppliers will increase their prices”.

Procurement strategies refers to specifically timed sourcing of predominantly local services and goods for activities related to infrastructure-building nonmarket strategy. One respondent highlighted that “to reduce the overall negative impact of a weak local currency their organizations have implemented timed buying of equipment only to occasions when the currency is stronger, and local sourcing of services and goods to avoid cost escalations due to weakening of the currency”.

5.6.2 Partnering

Partnering in nonmarket strategy is a form of inter-organizational mechanism (Mair & Marti, 2009) that involves one or more businesses coming together to deal with infrastructure voids as part of an infrastructure-building nonmarket strategy. Two factors were proposed in the study under the domain of partnering: setting up of private partnerships; and setting up of public private partnerships. All the 12 items (P1-P12) selected to measure partnering loaded on the factor matrix. The items loaded on to three factors, adding one factor to the two proposed in the study. A new factor (setting up legislative-driven partnerships) was confirmed after fit evaluation of the modified model using SEM. The factor loadings of the items ranged from 0.411 to 0.840, showing a high correlation with the underlying latent variable (partnering). Convergent validity is shown by the high correlation between the items and latent variable as indicated by the factor loadings. Eigenvalues between 1.177 to 5.126 and a total variance explained of 63.7% further affirm that the observed variables that loaded on the three factors had enough variance explained by weak local currency. This is more than half of the variance in observable variables and is further evidence for convergent validity.

An open-ended question was posed to participants to further understand the latent variables under the domain of partnering. This sought to affirm the chosen underlying variables in the study and identify new variables. Data was analysed using Atlas.ti and two new variables emerged from the responses collected from the participants. The variables were legislation- driven partnerships and private community partnerships, adding to the private partnerships and public private partnerships proposed in the study. The factor matrix is shown in Table 16 with the factor loadings of each measurable variable that loaded on to a factor indicated.

Table 16 Partnering factor analysis

Factors		**Setting up public private partnerships**	**Setting up private partnerships**	**Setting up legislation-driven partnerships**
Items	**Description**			
P10	Working with other organizations and/ or government saves our company money	0.747		
P9	We often achieve business objectives faster when we work together with other organizations and/ or government	0.711		

Factors		Setting up public private partnerships	Setting up private partnerships	Setting up legislation-driven partnerships
Items	**Description**			
P12	Our organization is better prepared for unexpected events when working with other organizations and/ or government	0.709		
P8	Losing partners is very costly and disruptive to our organization	0.539		
P6	Our organization is better prepared for unexpected events when working with other organizations	0.412		
P3	We often achieve business objectives faster when we work together		0.709	
P1	Working with other private organizations		0.622	
P4	Working with other organizations saves our company a lot of money		0.566	
P2	Working alone is very costly to our organization		0.511	
P7	Working with other private organizations and/ or the government is very important for the success of our business	0.411	0.507	
P11	Our organization receives preferential treatment through working with other organizations and/ or government			0.840
P5	Our organization receives preferential treatment through working with other organizations			0.834
Eigenvalue		5.126	1.336	1.177
Cumulative % of variance		42.7	53.8	63.7

Private partnerships entail an inter-organizational mechanism that involves more than one private organization coming together (Dorobantu et al., 2017; Mair & Marti, 2009; Marquis & Raynard, 2015) to address infrastructure voids. Overall, respondents felt that there is a positive impact on the output unit costs of an infrastructure-building nonmarket strategy from private

partnering. Partnering with organizations in the same supply chain and non-competing was preferred. One respondent felt that there is a significant positive impact on the cost as partnering increases efficiencies which in turn reduces the resource outlay. Generally, the responses indicate that partnerships enhance good inter-relations with positive adoption of national policies. Organizations tend to learn from working together which also enhances continuous operational improvements without necessarily competing. The responses point further to a positive impact due to increased economies of scale, business synergies, and increased bargaining power, as stated by another respondent: "...there is shared infrastructure that is already existing resulting in a reduction of the cost of implementing an infrastructure-building nonmarket strategy".

Public private partnerships are an inter-organizational mechanism that involves one private organization or more private organizations and government entities coming together to address infrastructure voids. Partnering with government: ensures better preparedness; is cost effective; increases cost savings; is a key success factor for business; provides preferential treatment; and enables quicker achievement of business objectives (Fourie, 2006). One respondent has observed, "mining organizations partnering with government to addresses the issue of housing especially in the mining communities". This has assisted government as the mining houses are addressing issues that are typically the responsibility of a country's governing body. Another respondent has seen "municipalities donating land to mining houses for housing development of the communities they operate in", and cited government as a preferred partner in infrastructure-building nonmarket strategy, as there is generally no conflict of interest. Another respondent further highlighted that the aim is to establish relations as well as to share costs and deliver on expected output. Partnerships exist with the municipality and government departments such as education and health that positively impact on the cost of an infrastructure-building nonmarket strategy. However, other respondents also highlighted that government partnerships can negatively affect implementation cost due to weak governance and bureaucracy and poor adherence to partnering contracts.

Legislation-driven partnerships refers to programmes such as Black Economic Empowerment (BEE) and Broad-Based Black Economic Empowerment (BBBEE) that enforce inclusion and participation in business (Eweje, 2006) by black people. This is to ensure that businesses are sustainable while addressing economic disparities created by historical policies. A negative impact on the cost of implementation in the nonmarket environment was emphasized by one respondent who highlighted that, "as a result of BEE requirements that require big providers to

partner with local partners, there is cost escalation as the smaller players 1) contribute less or disproportionate vs returns expected, and 2) require more supervision as they tend to not have the best skills",. Despite the negative sentiments, respondents highlighted that, preferred partners are the upcoming businesses, because they are being ushered into the competitive business environment through legislation.

Private community partnerships refer to an organizational-community mechanism that involves one or more private organizations and host communities (Dorobantu & Odziemkowska, 2016; Marquis & Battilana, 2009) coming together to deal with infrastructure voids. This form of partnership has a positive impact on the cost of an infrastructure-building nonmarket strategy as co-ownership could mean less social risk, so ensuring its timely and cost-effective implementation.

5.6.3 Infrastructure gaps

An infrastructure gap exists where business-aiding infrastructure is absent or underdeveloped or where infrastructure needs are unmet (Hitt et al., 2000). Of the eight items (IG1-IG8) selected to measure infrastructure gaps, only six loaded on the factor matrix. The six items loaded on to two factors from the three proposed in the study. Two of the indicators of infrastructure gaps – 'our organization invests in global infrastructure systems and consistently deploys them at all sites' and 'we can access market data and can provide data and information to relevant institutions' – did not load on any of the factors. These two items had factor loadings below 0.3, indicating that the variance in both observable variables explained by the latent variables 'poor standards compared to global' and 'absent or underdeveloped physical, social and commercial infrastructure', is too small. This implies a weak association between the observed variables and the underlying latent variable.

The factor structure suggests two factors only (absent or underdeveloped physical, social and commercial infrastructure; and poor distribution systems), which was confirmed after fit evaluation of the modified model using SEM. The factor loadings of the items ranged from 0.524 to 0.828, showing a high correlation with the underlying latent variable (infrastructure gaps). Convergent validity is shown by the high correlation between the items and latent variable as indicated by the factor loadings. Eigenvalues between 1.321 to 2.681 and a total variance explained of 50.02% further affirm that the observed variables that loaded on the two factors had enough variance

explained by infrastructure gaps. This is more than half of the variance in observable variables and is enough evidence for convergent validity.

An open-ended question was posed to participants to further understand the effect of infrastructure gaps on the cost of an infrastructure-building nonmarket strategy. This sought to affirm the chosen underlying variables in the study and identify new variables. The responses were analysed and two new variables emerged: underdeveloped asset management systems; and increased workarounds, resource time and needs. These are in addition to poor distribution systems; poor standards compared to global; and absent or underdeveloped physical, social and commercial infrastructure. The factor matrix is shown in Table 17 with the factor loadings of each measurable variable that loaded onto a factor indicated.

Absent or underdeveloped physical, social and commercial infrastructure is characterized by the absence or underdevelopment of business-aiding infrastructure that includes transport systems, market data, access to business-aiding technology, infrastructure that links organizations to suppliers and customers, and physical and social infrastructure that supports business operations. Respondents indicated a negative impact on output unit costs due to additional costs in outsourcing, and workarounds on missing infrastructure.

Poor distribution systems relate to absent or underdeveloped entire chain of distribution intermediaries among suppliers, organizations and customers (Marquis & Raynard, 2015). Intermediaries are channels or groups that facilitate the movement of inputs and outputs between suppliers, organizations and customers. Distribution systems are made up of these intermediaries and relevant infrastructure that facilitates the function of the channels of distribution. These systems are characterized by absence of good distribution networks, absence of well-established suppliers, high logistical costs and issues, poor access to and provision of market data, and supply chain disruptions (Arnold & Quelch, 1998; Dorobantu et al., 2017; Marquis & Raynard, 2015), which all negatively impact on the cost of implementing an infrastructure-building nonmarket strategy.

Table 17 Infrastructure gaps factor analysis

Factors		**Poor distribution systems**	**Absent or underdeveloped physical, social and commercial infrastructure**
Items	**Description**		
IG6	Our suppliers are well established and rarely have issues regarding provision of business required inputs	0.609	
IG5	Our business is linked to suppliers and customers by a very good distribution network	0.584	
IG7	We rarely experience logistical issues with our service providers in getting products to our customers	0.576	
IG8	Our organization invests in global infrastructure systems and consistently deploys them at all sites		
IG1	Employees and community members have access to schools, libraries, universities, clinics, hospitals, courts, museums, theatres, playgrounds, and parks.		0.612
IG2	Employees have no difficulties in getting to work		0.828
IG3	Our employees are never absent from work due to issues related to basic amenities		0.575
Eigenvalue		2.681	1.321
Cumulative % of variance		33.511	50.02

Poor standards compared to global refers to ineffective infrastructure systems, compared to global or industry benchmarks, inconsistently deployed or implemented (Arnold & Quelch, 1998; Marquis & Raynard, 2015). One respondent highlighted that, “if technology is outdated or hasn’t been maintained properly, the quality of the product will be affected requiring reworks” and ultimately impacting negatively on the cost of implementing an infrastructure-building nonmarket strategy.

Underdeveloped asset management systems refer to inadequate and inconsistent processes to ensure availability of existing and business-aiding infrastructure. If this infrastructure is not serviced regularly its availability and efficiency of use will impact negatively on the cost of implementing an infrastructure-building nonmarket strategy.

Increased workarounds, resource time and needs refer to additional resources, resource time, outsourcing and workarounds in response to gaps in infrastructure. This negatively impacts the output unit costs. One respondent stated that “this leads to additional costs that are not budgeted for and could also result in delays in finishing infrastructure-building projects or even result in the project failing all together”. The cost of implementing an infrastructure-building nonmarket strategy is negatively impacted as more resources must be employed to cater for the lack of business aiding infrastructure. Another respondent made the assertion that “the cost of infrastructure-building nonmarket strategy is escalated by activities that include hiring of infrastructure and the more underdeveloped an area is the more investment in infrastructure is required”, which ultimately affects cost of infrastructure-building nonmarket strategy negatively.

5.6.4 Cost of an infrastructure-building nonmarket strategy implementation

The cost of an infrastructure-building nonmarket strategy implementation is defined as the cost of completing an infrastructure development. Two items (UR1-UR2) selected to measure output unit costs of completed infrastructure development loaded on the factor matrix. The two items loaded on to one factor (cost of completed infrastructure development) proposed in the study. The factor loadings of the items ranged from 0.621 to 0.758, showing a high correlation with the underlying latent variable (cost of an infrastructure-building nonmarket strategy). Convergent validity is shown by the high correlation between the items and latent variable as indicated by the factor loadings. Eigenvalues of 1.021 and a total variance explained of 52.23% further affirm that the two observed variables that loaded on the factor had enough variance explained by output unit costs. This is more than half of the variance in observable variables and is enough evidence for

convergent validity. The factor matrix is shown in Table 18 with the factor loadings of each measurable variable that loaded on to a factor indicated.

Table 18 Output unit costs factor analysis

Factors		**Output unit costs of completed infrastructure development**
Items	**Description**	
UR1	The actual output unit cost of completed infrastructure development as part of our organization's Infrastructure building nonmarket strategy is greater than the estimate cost	0.758
UR2	The actual output unit cost of completed infrastructure development as part of our organization's Infrastructure building nonmarket strategy is greater than the contract cost	0.621
Eigenvalue		1.021
Cumulative % of variance		52.23

An-open ended question was posed to participants to affirm and identify the drivers of the cost of an infrastructure-building nonmarket strategy. Analysis was conducted from the data collected and four new variable domains emerged – project management; socio-political instability; market instability and uncertainty; and environmental factors – in addition to partnering, infrastructure gaps, and a weak local currency.

Project management refers to activities that include initiating, planning, executing, controlling, and implementing an infrastructure-building nonmarket strategy through team work. Project management success is measured by delivering completed infrastructure. Respondents highlighted the following as negatively impacting the cost of an infrastructure-building nonmarket strategy: absence of a rigid scope of work; design variability; increased stakeholder expectations; lack of contracting diligence; lack of experts in nonmarket sectors; lack of stakeholder engagement; poor costing; poor planning, execution, and prioritization; and poor overall quality of goods and services.

Socio-political instability was characterized by the following: compliance issues; host country conflict; policy and legislative instability; political influence; social instability, civil and industrial action; poorly implemented and enforced socio-economic policies; and unpredictable nonmarket environment; which all impact negatively on the cost of infrastructure-building nonmarket strategy.

Market instability and uncertainty was characterized by the following: market volatility; market sentiment and uncertainty; and collusion and price fixing; which all negatively impact the cost of an infrastructure-building nonmarket strategy.

Environmental factors were characterized by location of business operations and physical terrain ruggedness, which would negatively or positively affect the cost of an infrastructure-building nonmarket strategy.

5.7 Confirmatory factor analysis and model fit

Confirmatory factor analysis (CFA) was undertaken to assess further the factor structure from the EFA as well as validating the scales (Astrachan et al. 2014) using AMOS software. The measurement model consisted of eight constructs and 22 indicators as shown in Figure 8. The results of the CFA revealed a lack of fit (Chi-square = 445.810, p= 0.000, degrees of freedom = 199, CFI = 0.868, RMSEA = 0.072). A systematic approach of varying the error terms of each of the indicator items was used as well as removing factors with loadings below 0.4. To achieve model fit it was necessary to retain 21 of the 22 factors from the EFA. This resulted in reducing the cost of implementing an infrastructure-building nonmarket strategy construct to a single item measure (UR2). Model fit was evaluated through fit indices that included Chi-square ($\chi 2$) p-value testing; Chi-square ($\chi 2$)/Degrees of freedom(d.f.); Comparative Fit Index (CFI); and Steiger's Root Mean Square Error of Approximation (RMSEA).

According to Jayaram, Kannan, and Tan (2004) the following criteria is acceptable for model fit: Chi-square ($\chi 2$)≥0.05; Chi-square ($\chi 2$)/Degrees of freedom(d.f.)≤3.00; Goodness-of-Fit Index (GFI)≥0.9; Comparative Fit Index (CFI)≥0.9; and Steiger's Root Mean Square Error of Approximation (RMSEA)≤0.05. Minimum was achieved on the default model with chi-square = 300.756, degrees of freedom = 200, and probability level = 0.000. Summary of the fit criteria is shown in Table 19. The results show a p-value of 0.000 indicating no difference between default model and saturated model. This confirms a good fit between the modified model and the data

analysed. Chi-square (χ2) = 300.756, which is > 0.05 and Chi-square (χ2)/Degrees of freedom (d.f.) = 1.504, which is < 3.00 which all fall within the acceptable range suggesting a good model fit.

Figure 8 Measurement model

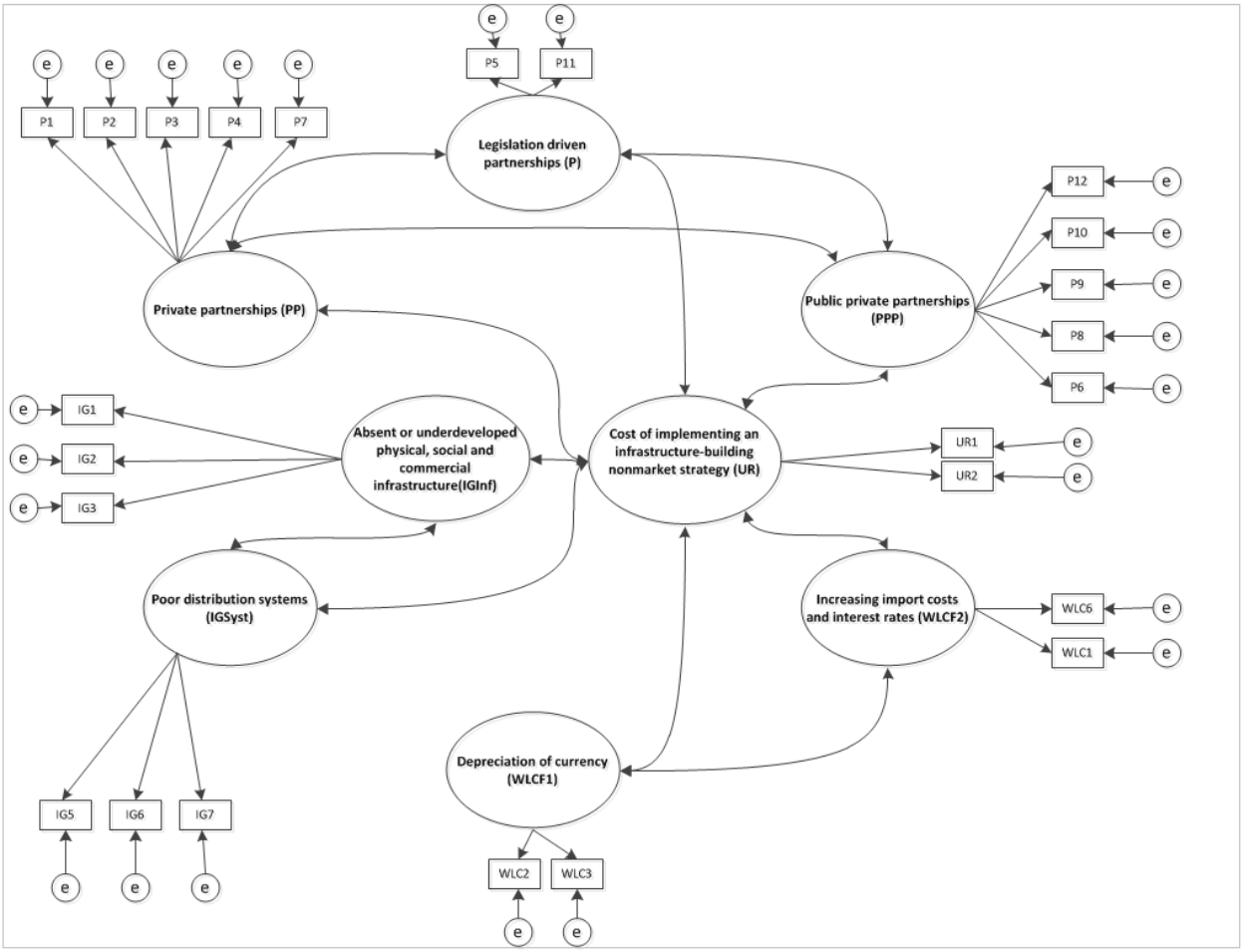
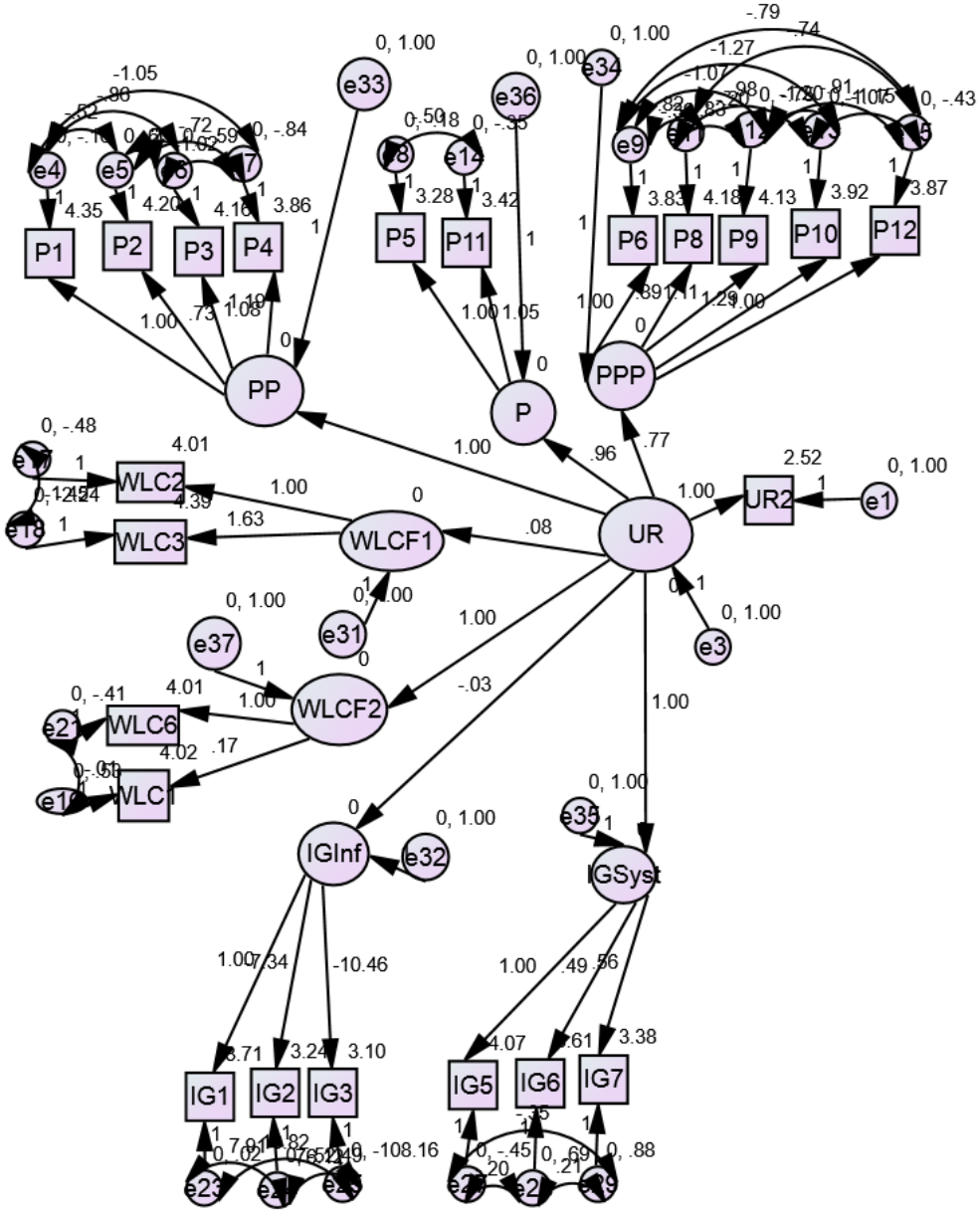


Table 19 Structural model fit

Fit Criteria	
Sample size	239
Degrees of freedom	200
Chi-square (χ2)	300.756
Probability level (p-value)	0.000
Chi-square (χ2)/Degrees of freedom(d.f.)	1.504
Root Mean square error approximation	0.046
Comparative Fit Index (CFI)	0.915

To confirm the overall model fit other indices were also used. The comparative fit index of 0.917, which is greater than 0.9 and the root mean square error approximation of 0.045, less than 0.05 as recommended, further confirms a good fit. The structural model is shown in Figure 9.

Figure 9 Structural model estimation



Key:

PP – private partnerships, **PPP** – public private partnerships, **P** – legislation-driven partnerships, **WLCF1** – depreciation of currency, **WLCF2** – increasing import costs and interest rates, **IGinf** - Absent or underdeveloped physical, social and commercial infrastructure, **IGSyst** – Poor distribution systems, **UR** – Cost of implementing an infrastructure-building nonmarket strategy,

Convergent validity and reliability are shown in Table 20. Indicator items for the eight constructs loaded with loadings ranging from 0.412 to 0.84 (Basto & Pereira, 2012; Lambert & Durand, 1975) confirming convergent validity as they showed high correlation with the variables being measured.

Correlations among constructs that measured each of partnering, infrastructure gaps, and currency weakness were significant at the 0.01 level, further demonstrating convergent validity. Discriminant validity was confirmed by insignificant correlations of indicator items measuring different constructs. Composite reliabilities ranged from 0.600 to 0.876 demonstrating reliability for the eight constructs.

Table 20 Convergent validity, reliability, and discriminant validity

Variables	P	PP	PPP	IGSyst	IGInf	WLCF1	WLCF2	UR
P1		0.622						
P2		0.511						
P3		0.709						
P4		0.566						
P5	0.834							
P6			0.412					
P8			0.539					
P9			0.711					
P10			0.747					
P11	0.84							
P12			0.709					
IG1					0.612			
IG2					0.828			
IG3					0.575			
IG5				0.584				
IG6				0.609				
IG7				0.576				
WLC1							0.433	
WLC2						0.691		
WLC3						0.581		
WLC6							0.644	
UR1								0.758

Variables	P	PP	PPP	IGSyst	IGInf	WLCF1	WLCF2	UR
UR2								0.621
Composite reliability	0.876	0.795	0.863	0.677	0.600	0.693	0.695	0.78
Correlations								
P	1	.402**	.455**					
PP	.402**	1	.644**					
PPP	.455**	.644**	1					
IGSyst				1	.358**			
IGInf				.358**	1			
WLCF1						1	.441**	
WLCF2						.441**	1	
UR								1

5.8 SEM hypotheses tests

From the convincing estimates of the measurement model, the structural model was subjected to further analysis using sub models to establish the relationship between partnering, infrastructure gaps, currency weakness and the cost of implementing an infrastructure-building nonmarket strategy. The following hypotheses were tested, based on the modified structural and measurement model:

H_{1a}: *There is a negative relationship between setting up private partnerships and the cost of implementing an infrastructure-building nonmarket strategy.*

H_{1b}: *There is a negative relationship between setting up public private partnerships and the cost of implementing an infrastructure-building nonmarket strategy.*

H_{1c}: *There is a negative relationship between legislation-driven partnerships and the cost of implementing an infrastructure-building nonmarket strategy.*

H_{2a}: *There is a positive relationship between absent or underdeveloped physical, social and commercial infrastructure and the cost of implementing an infrastructure-building nonmarket strategy.*

H_{2b}: *There is a positive relationship between poor distribution systems and the cost of implementing an infrastructure-building nonmarket strategy.*

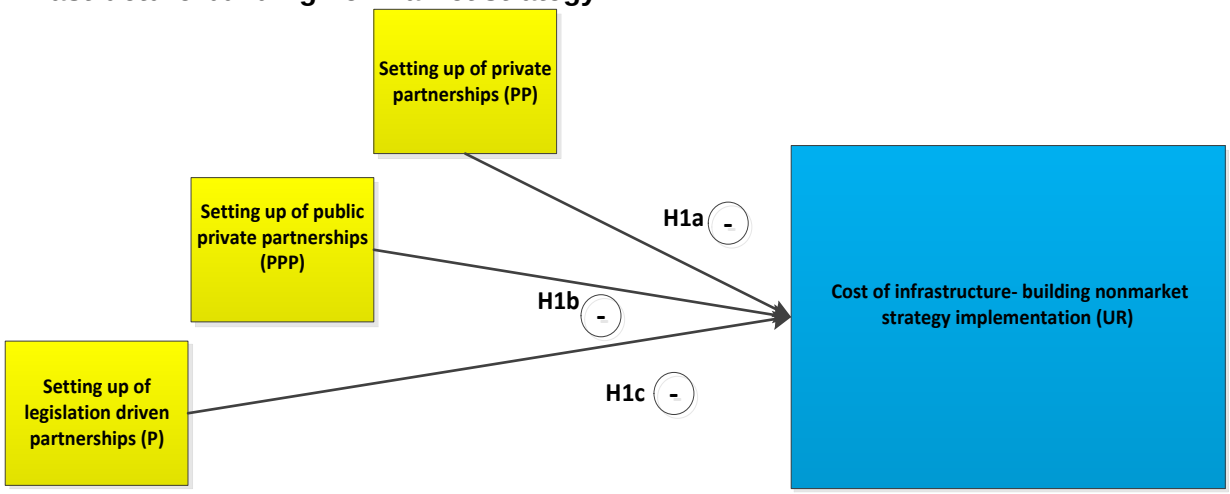
$H_{3a:}$ *There is a positive relationship between depreciation of currency and the cost of implementing an infrastructure-building nonmarket strategy.*

$H_{3b:}$ *There is a positive relationship between increasing import costs and interest rates and the cost of implementing an infrastructure-building nonmarket strategy.*

5.8.1 Sub model 1: Partnering and the cost of implementing an infrastructure-building nonmarket strategy

Two factors were proposed in the study under the domain of partnering: setting up private partnerships and setting up public private partnerships. All twelve items (P1-P12) selected to measure partnering loaded on the factor matrix. The twelve items loaded on to three factors, adding one factor to the two proposed in the study. A new factor (setting up legislative-driven partnerships) was included in the sub model in Figure 10.

Figure 10 Path diagram of the model of partnering and cost of implementing an infrastructure-building nonmarket strategy



To measure the endogenous factor, UR, manifest variable UR2 was used. The manifest variables used to measure the setting up of legislative driven partnerships included P11 and P5, while public private partnerships were measured by P1, P2, P3, and P4, and private partnerships were measured by P6, P8, P9, P10, and p12. Table 21 below shows the components of the structural and measurement model, details of which are provided in Appendix 1. Summary of the fit criteria from estimating the structural model is shown in Table 22.

Table 21 Structural sub model 1 variables

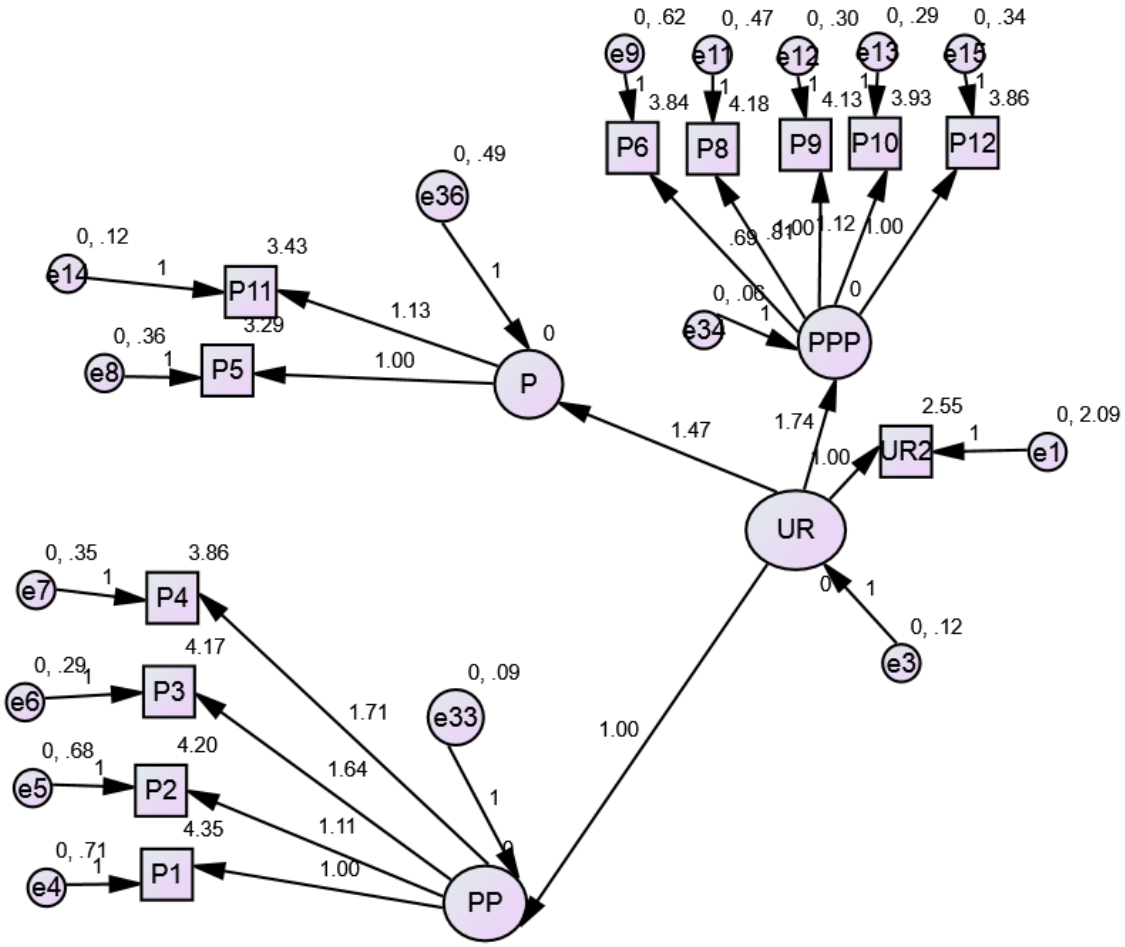
Structural model	
Endogenous variable	**Exogenous variable**
UR	P, PP, PPP
Measurement model	
Exogenous variable	**Manifest variables**
UR	UR2
P	P5, P11
PP	P1, P2, P3, P4
PPP	P6, P8, P9, P10, P12

Table 22 Structural sub model 1 fit

Fit Criteria	
Sample size	239
Degrees of freedom	52
Chi-square ($\chi 2$)	116.037
Probability level (p-value)	0.000
Chi-square ($\chi 2$)/Degrees of freedom(d.f.)	2.231
Root Mean square error approximation	0.072
Comparative Fit Index (CFI)	0.927

The results in the table above show a p-value of 0.000 indicating no difference between default model and saturated model. This confirms a good fit between the model and the data being analysed. Chi-square ($\chi 2$) = 116.037, which is > 0.05 and Chi-square ($\chi 2$)/Degrees of freedom (d.f.) = 2.231, which is < 3.00 which all fall within the acceptable range suggesting a good model fit. To confirm the overall model fit other indices were also used. The comparative fit index of 0.927, which is greater than 0.9 and the root mean square error approximation of 0.072, slightly above 0.05 as recommended, further confirms acceptable fit. A good fit is suggested by the fit indices. The structural model estimation is shown in Figure 11.

Figure 11 Structural sub model 1 estimation

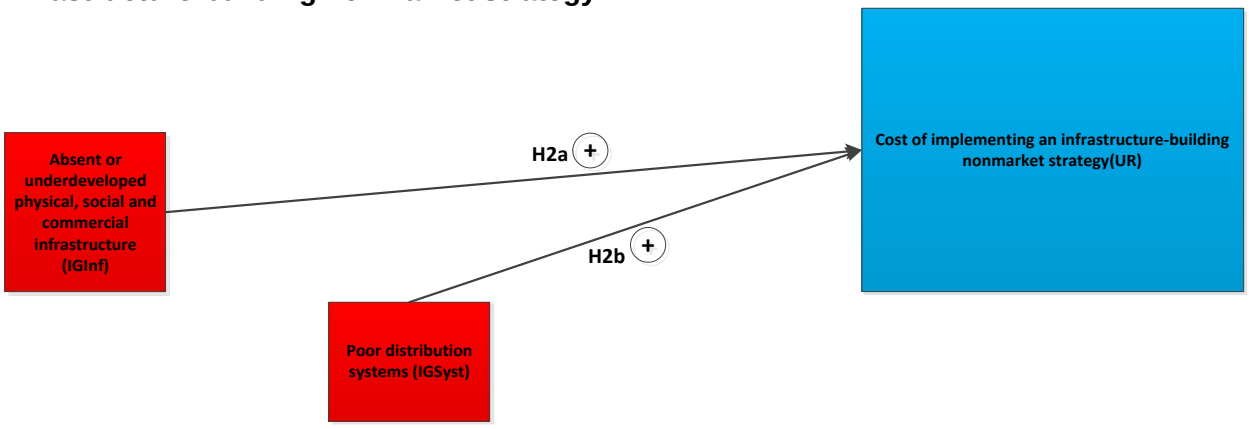


Estimation of the model was driven by p-values of the factor loadings that exceeded the critical value of 1.96 ($p<0.05$) all at $p<0.01$. The results from the analysis revealed a positive regression coefficient of 1.740 ($p<0.01$) for the relationship between public private partnerships and the cost of implementing an infrastructure-building nonmarket strategy (UR). The regression coefficient for the relationship between private partnerships and the cost of implementing an infrastructure-building nonmarket strategy (UR) was set at 1 for the analysis. The estimated path coefficient for the relationship between legislative-driven partnerships and UR was 1.47 ($p<0.01$). The analytical evidence provided sufficient evidence to support hypotheses H_{1a}, H_{1b}, and H_{1c} with a positive relationship between the variables.

5.8.2 Sub model 2: Infrastructure gaps and the cost of implementing an infrastructure-building nonmarket strategy

Of the eight items (IG1-IG8) selected to measure infrastructure gaps, only six loaded on the factor matrix. The six items loaded on to two factors from the three proposed in the study. Two of the indicators of infrastructure gaps – 'our organization invests in global infrastructure systems and consistently deploys them at all sites' and 'we can access market data and can provide data and information to relevant institutions' – did not load on any of the factors. These two items had factor loadings below 0.3 indicating that the variance in both observable variables explained by the latent variables 'poor standards compared to global' and 'absent or underdeveloped physical, social and commercial infrastructure' is too small. This implied a weak association between the observed variables and the underlying latent variable. The factor structure suggested two factors only (absent or underdeveloped physical, social and commercial infrastructure; and poor distribution systems), which were confirmed after fit evaluation of sub model 2 using SEM. The path diagram is shown in Figure 12.

Figure 12 Path diagram of the model of infrastructure gaps cost of implementing an infrastructure-building nonmarket strategy



To measure the endogenous factor, UR, manifest variable UR2 was used. The manifest variables used to measure absent or underdeveloped infrastructure included IG1, IG2 and IG3, while poor distribution systems were measured by IG5, IG6, and IG7. Table 23 shows the components of the structural and measurement model, details of which are provided in Appendix 1. Summary of the fit criteria from estimating the structural model is shown in Table 24.

Table 23 Structural sub model 2 variables

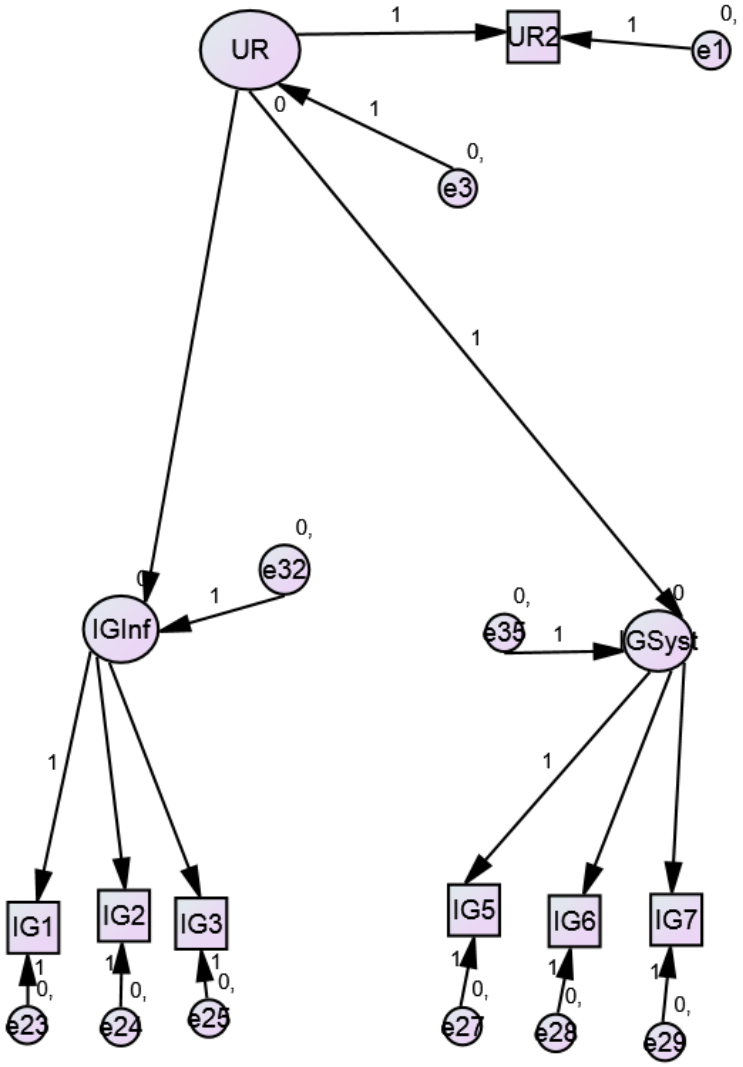
Structural model	
Endogenous variable	**Exogenous variable**
UR	IGinf, IGSyst
Measurement model	
Exogenous variable	**Manifest variables**
UR	UR2
IGinf	IG1, IG2, IG3
IGSsyt	IG4, IG5, IG6

Table 24 Structural sub model 2 fit

Fit Criteria	
Sample size	239
Degrees of freedom	13
Chi-square ($\chi 2$)	20.543
Chi-square ($\chi 2$)/Degrees of freedom(d.f.)	1.580
Root Mean square error approximation	0.049
Comparative Fit Index (CFI)	0.965

Chi-square ($\chi 2$) = 20.543, which is > 0.05 and Chi-square ($\chi 2$)/Degrees of freedom(d.f.) = 1.580, which is < 3.00 which all fall within the acceptable range suggesting a good model fit. To confirm the overall model fit other indices were also used. The comparative fit index of 0.965, which is greater than 0.9 and the root mean square error approximation of 0.049, below 0.05 as recommended further confirms acceptable fit. A good fit is suggested by the fit indices. The structural model estimation is shown in Figure 13.

Figure 13 Structural sub model 2 estimation

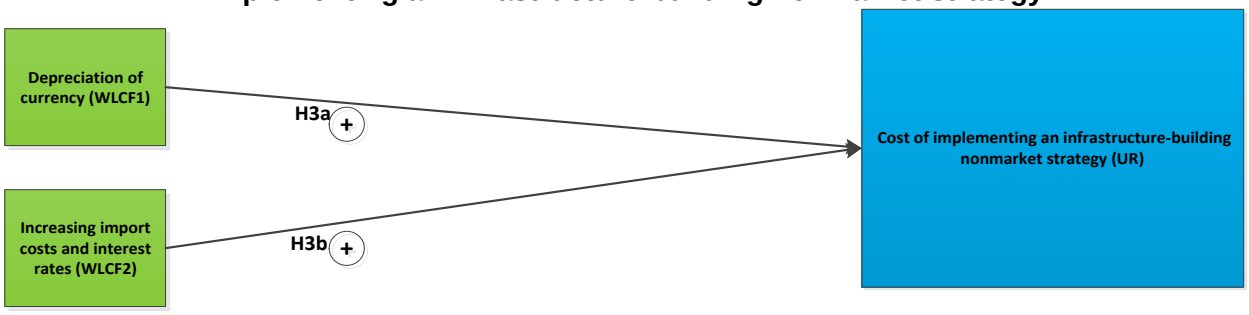


The results from the analysis revealed a positive regression coefficient of 4.733 (p=0.475) for the relationship between infrastructure gaps (IGinf) and implementation cost of an infrastructure-building nonmarket strategy (UR). The regression coefficient for the relationship between poor distribution systems (IGSyst) and implementation cost of an infrastructure-building nonmarket strategy (UR) was set at 1 for the analysis. IGinf is responsible for 4.733 times change in UR compared to IGSyst. The analytical evidence provided sufficient evidence to reject hypotheses H_{2a} and H_{2b} as the results were not statistically significant.

5.8.3 Sub model 3: Weak local currency and the cost of implementing an infrastructure-building nonmarket strategy

Of the seven items (WLC1-WLC7) selected to measure a weak local currency, only five loaded on the factor matrix. The five items loaded on to three factors, adding two factors to the one initially proposed in the study. The factor structure suggests two new factors, but one of the factors has a single observable variable and was discarded. A new factor (increasing import costs and interest rates) was confirmed after fit evaluation of the modified overall model using SEM and is shown in Figure 14.

Figure 14 Path diagram of the model of weak local currency and high cost of implementing an infrastructure-building nonmarket strategy



To measure the endogenous factor, UR, manifest variable UR2 was used. The manifest variables used to measure depreciation of currency included WLC2 and WLC3 while increasing import costs and interest rates were measured by WLC1 and WLC6. Table 25 shows the components of the structural and measurement model, details of which are provided in Appendix 1. Summary of the fit criteria from estimating the structural model is shown in Table 26.

Table 25 Structural sub model 3 variables

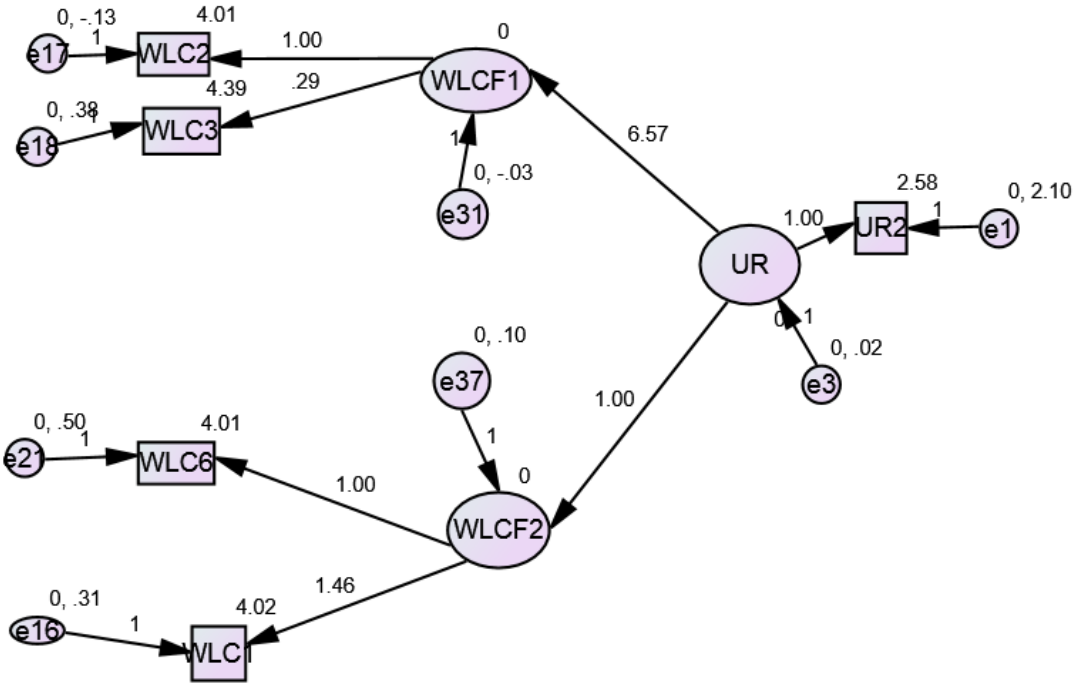
Structural model	
Endogenous variable	**Exogenous variable**
UR	WLCF1, WLCF2
Measurement model	
Exogenous variable	**Manifest variables**
UR	UR2
WLCF1	WLC2, WLC3
WLCF2	WLC1, WLC6

Table 26 Structural sub model 2 fit

Fit Criteria	
Sample size	239
Degrees of freedom	4
Chi-square (χ2)	2.047
Chi-square (χ2)/Degrees of freedom(d.f.)	0.512
Root Mean square error approximation	0.000
Comparative Fit Index (CFI)	1.000

Chi-square (χ2) = 2.07, which is > 0.05 and Chi-square (χ2)/Degrees of freedom (d.f.) = 0.512, which is < 3.00 which all fall within the acceptable range suggesting a good model fit. Other indices were also used to confirm the overall model fit. The comparative fit index of 1.000 (suggesting a perfect fit), which is greater than 0.9 and the root mean square error approximation of 0.000, below 0.05 as recommended, further confirms acceptable fit. A good fit is suggested by the fit indices. The structural model estimation is shown in Figure 15.

Figure 15 Structural sub model 3 estimation



The results from the analysis revealed a positive regression coefficient of 6.57 (p=0.770) for the relationship between depreciation of currency (WLCF1) and the cost of implementing an infrastructure-building nonmarket strategy (UR). The regression coefficient for the relationship between increasing import costs and interest rates (WLCF2) and the cost of implementing an infrastructure-building nonmarket strategy (UR) was set at 1 for the analysis. WLCF1 is responsible for 6.57 times change in UR compared to WLCF2. The analytical evidence provided sufficient evidence to reject hypotheses H_{3a} and H_{3b} as the results were not statistically significant.

5.9 Summary of Results

Structural equation modelling was used to test the various research hypotheses. The results are shown in Table 27.

Table 27 Research hypotheses test results

Hypothesis	Description	Statistically significant	Supported
H_{1a}	PP ------▶ UR	Yes	Yes, positive relationship
H_{1b}	PPP ------▶ UR	Yes	Yes, positive relationship
H_{1c}	P ------▶UR	Yes	Yes, positive relationship
H_{2a}	WLCF1 ------▶UR	Not significant (ns)	Not supported
H_{2b}	WLCF2 ------▶UR	Not significant (ns)	Not supported
H_{3a}	IGInf ------▶ UR	Not significant (ns)	Not supported
H_{3b}	IGSyst------▶ UR	Not significant (ns)	Not supported

The analysis results summarized above confirm a positive relationship between partnering and the cost of implementing an infrastructure-building nonmarket strategy. The impact of infrastructure gaps and a weak local currency on the cost of implementing an infrastructure-building nonmarket strategy was not statistically significant and the hypothesized relationships were not supported.

Analysis of the data collected from the four open-ended questions show additional latent\ unobservable variables for a weak local currency (investor confidence, pricing strategies, and procurement strategies), partnering (legislation-driven partnerships, and private community partnerships), and infrastructure gaps (underdeveloped asset management systems, and increased workarounds, resource time and needs) were identified.

The analysis also indicated additional drivers of the cost of implementing an infrastructure-building nonmarket strategy. These included project management, socio-political instability, market instability and uncertainty, and environmental factors. A detailed discussion of the results will be done in the Chapter 6.

Chapter 6: Discussion of Results

6.1 Introduction

The importance of infrastructure-building nonmarket strategy on organizational competitiveness is unequivocal (Baron, 2001; Bonardi et al., 2006; McWilliams & Siegel, 2011; Mellahi et al., 2016; Oliver & Holzinger, 2008; Sun, Mellahi, & Thun, 2010), where 'infrastructure-building nonmarket strategy' encompasses actions and activities taken to address marginally developed markets, and underdeveloped social, technological, and physical infrastructures (Marquis & Raynard, 2015). Organizations and governments in emerging markets do not have meaningful understanding of the perceived competitive benefits of nonmarket strategy due to lack of knowledge on the cost involved in implementation (Dorobantu et al., 2017). This study investigated this gap in literature by examining the impact of partnering, infrastructure gaps, and currency weakness on the cost of implementing an infrastructure-building nonmarket strategy.

When faced with marginally developed markets, and underdeveloped social, technological, and physical infrastructures in the business environment they are operating, organizations can create value by addressing specific gaps (Arnold & Quelch, 1998; Dorobantu et al., 2017). This can be done individually or in partnership with others through strategic positioning, and enhancing or changing the existing institutional environment (Dorobantu et al., 2017). These gaps make transactions costly in the business market place (Dorobantu et al., 2017) and organizations need to bridge them for business continuity and competitiveness. To effectively address these gaps, and gain rents from the nonmarket environment, organizations need knowledge on the cost of infrastructure-building nonmarket strategy and how the cost is impacted by strategy option, institutional & economic factors.

The study empirically examined the effect of partnering, infrastructure gaps, and currency weakness on the cost of an infrastructure-building nonmarket strategy. This was achieved through testing seven direct relationships using SEM on their relationship with the cost of implementing an infrastructure-building nonmarket strategy.

6.2 What is the effect of partnering on the cost of implementing an infrastructure-building nonmarket strategy?

Research question one was formulated to examine the impact of partnering on the cost of implementing an infrastructure-building nonmarket strategy. The intention was to identify how

different partnership arrangements impact the cost of implementing an infrastructure-building nonmarket strategy. The relationship between partnering and the cost of implementing an infrastructure-building nonmarket strategy were tested using three partnership arrangements: private partnerships, between two or more private organizations; public private partnerships, between one or more private organizations and government; and legislation-driven partnerships, between one or more private organizations and one or more organizations owned by a specific demographic group.

All three hypotheses (H1a, H1b, H1c) tested showed that partnering had a significant effect on the cost of implementing an infrastructure-building nonmarket strategy. The findings suggested a positive relationship between legislation-driven partnerships and the cost of implementing an infrastructure-building nonmarket strategy. The findings also suggested a positive relationship between private partnerships and public-private partnerships and the cost of implementing an infrastructure-building nonmarket strategy, contrary to the negative relationship hypothesized. Overall the findings suggest a positive relationship between partnering and the cost of implementing an infrastructure-building nonmarket strategy. The detailed discussion below explains the hypotheses that were supported or not supported.

6.2.1 The relationship between private partnerships and the cost of implementing an infrastructure-building nonmarket strategy

The study hypothesized that there is a negative relationship between private partnerships and the cost of implementing an infrastructure-building nonmarket strategy (H_{1a}). From the collected data SEM estimated a direct positive relationship, confirming a significant relationship with the cost of implementing an infrastructure-building nonmarket strategy. This implies that working with other organizations is not important for the success of the organization (P1), working alone is not costly for organizations (P2), working with other organizations does not necessarily result in achieving business objectives faster (P3), and organizations do not enjoy costs savings by working with other organizations (P4) when implementing an infrastructure-building nonmarket strategy.

The above is contrary to Dorobantu et al. (2017), Baron et al. (2016), and Canuto and Liu (2013), who assert that contractual private partnering is a cost-effective mechanism that allows the parties involved to lessen risk, and share synergies for mutual benefit. These contractual agreements are enforced through formal contracts and relational contracts based on operational interests, shared resources and social-business communities (Dorobantu et al., 2017). The focus on partnering is

motivated by the possibility of reducing the high costs involved in implementing nonmarket strategy (Bonardi et al., 2006) and scarcity of resources that can be reduced through synergies (AFRICON 2008; Alexeeva et al., 2008, 2011; Collier et al., 2015).

The positive relationship between private partnerships and the cost of implementing an infrastructure-building nonmarket strategy is however consistent with some of the responses made to the four open-ended questions. The responses not only affirm the positive relationship, but also further explain why such a relationship exists in addition to the theoretical assumptions. According to the respondents, private partnerships impact positively on the cost of implementing an infrastructure-building nonmarket strategy in situations where (a) there is poor contractual agreement without any enforcement, leading to breach, which results in high costs of implementation, (b) complicated and poor project management due to increased stakeholders resulting in scope creep and additional resources that escalate output unit costs, (c) wrong choice of partners that burdens other partners because of unequal resource allocation for the partnership venture. The implication is that managers of organizations need to address the above issues when embarking on partnerships in order effectively to implement infrastructure-building nonmarket strategy cost.

Cost-effective implementation of infrastructure-building nonmarket strategies that ensure business competitiveness and survival requires organizations to (a) have contractual agreements that are enforced through formal contracts and relational contracts based on operational interests, shared resources, and social-business communities (Dorobantu et al., 2017), (b) choose the right partners guided by political ties, networks and connections, national and global status (Dorobantu et al., 2017), mutual benefits, shared supply chain, infrastructure-building nonmarket strategy initiative, complementing expertise and shared resources, non-competing organizations, enhancement of bargaining and buying power, (c) have effective project management that entails a rigid scope of work, minimal design variability, managed stakeholder expectations, contractor diligence, experts in nonmarket sectors, stakeholder engagement, accurate costing, good planning, execution, and prioritization, and good overall quality of goods and services. Partnerships guided by the above factors will effectively lower the cost of implementing an infrastructure-building nonmarket strategy.

6.2.2 The relationship between public - private partnerships and the cost of implementing an infrastructure-building nonmarket strategy

The study hypothesized that there is a negative relationship between private partnerships and the cost of implementing an infrastructure-building nonmarket strategy (H_{1b}). From the collected data SEM estimated a positive relationship, confirming a significant relationship with the cost of implementing an infrastructure-building nonmarket strategy. This implies that working with other organizations does not better prepare an organization for unexpected events (P6), losing partners is not costly and disruptive to an organization (P8), working with the government or other organizations and government does not ensure business objectives are achieved faster (P9), working with the government or other organizations and government does not save money for a company (P10), working with the government or other organizations and government does not better prepare an organization for unexpected events (P12).

The above is contrary to Pottas (2009), who argued that partnerships between private organizations and government are ideal due to (a) agreements and concessions that allow the private organization to use developed infrastructure as part of its infrastructure-building nonmarket strategy while the government runs and manages it post development, (b) reduction of social and political risk when seen to be working with the government, (c) access to public funding that lessens the resource burden on private organizations.

The positive relationship between public-private partnerships and the cost of implementing an infrastructure-building nonmarket strategy is however consistent with some of the responses received from the four open-ended questions. According to Rasche, Bakker, and Moon (2013), a partnering agreement should provide or generate value for the parties involved, but the empirical findings suggest the contrary, which is affirmed by the open-ended responses from the participants. These responses suggest that public-private partnerships impact positively on the output unit costs in situations when (a) weak governance and bureaucracy inherent with government entities comes into play, (b) complicated and poor project management due to increased stakeholders results in scope creep, additional resources that escalate output unit costs, (c) the political environment is very volatile and made up of coalitions that can be broken at any time, resulting in ever-changing socio-political mandates, (d) there are poor contractual agreements without any enforcement, leading to breach and high costs of implementation, (e) wrong choice of partners is made, burdening other entities involved due to lack of complementarity in resources, and skills, (f) there are conflicting or changing objectives among

partners. The implication of these findings is that managers of organizations and government entities need to address the above issues when embarking on partnerships to implement infrastructure-building nonmarket strategy

To implement cost-effective infrastructure-building nonmarket strategies ensuring both business and government objectives are met, organizations and governments need to (a) have contractual agreements that are enforced through formal contracts and relational contracts based on communicated objectives, operational interests, shared resources and social-business communities (Dorobantu et al., 2017), (b) choose the right partners guided by mutual benefits, infrastructure-building nonmarket strategy initiatives, access to resources (Pottas, 2009), and reduced socio-political resource, (c) have effective project management that entails a rigid scope of work, minimal design variability, managed stakeholder expectations, contractor diligence, experts in nonmarket sectors, stakeholder engagement, accurate costing, good planning, execution, and prioritization, and good overall quality of goods and services.

In addition to partnering guided by the above factors, partnering with government or other organizations and government ensures better preparedness, is cost effective, increases cost savings, is a key success factor for business, provides preferential treatment, and enables quicker achievement of business objectives. One respondent has observed, “mining houses partnering with government to addresses the issue of housing especially in the mining communities”. This has helped the South African government as the mining houses meet the government half way. Another respondent stated that “sometimes we see the municipalities donating land to mining houses for housing development of the communities they operate in”.

Government was singled out as the preferred partner in infrastructure-building nonmarket strategy because, as another respondent pointed out, “there is generally no conflict of interest” between private companies and government. However, other respondents feel that partnerships with host communities together with government can lower the cost of implementing an infrastructure-building nonmarket strategy as co-ownership could result in less social risk, allowing for timely and cost-effective implementation of nonmarket strategy.

6.2.3 The relationship between legislation-driven partnerships and the cost of implementing an infrastructure-building nonmarket strategy

The study hypothesized that there is a negative relationship between legislation-driven partnerships and the cost of implementing an infrastructure-building nonmarket strategy (H_{1c}). From the collected data SEM revealed a positive significant relationship, supporting hypothesis H_{1c}. This relationship further reinforces the unexpected finding that partnering has a positive relationship on the cost of implementing an infrastructure-building nonmarket strategy if partnering guidelines are not adhered to.

Findings suggest that if certain antecedents to partnering are not in place, the result will be a high cost of implementing an infrastructure-building nonmarket strategy. The confirmed significant positive relationship implies that organizations do not receive preferential treatment through working with other organizations (P5), and organizations do not receive preferential treatment when working with government or other organizations and government.

Legislation-driven partnerships refers to South African programmes such as Black Economic Empowerment (BEE) and Broad-Based Black Economic Empowerment (BBBEE). These enforce inclusion and participation in business for persons or groups disadvantaged during the apartheid era.

Respondents emphasized a positive impact on the cost of implementing an infrastructure-building nonmarket strategy. One respondent said, “as a result of BEE requirements that require big providers to partner with local partners, this increases the cost … as 1) they contribute less or disproportionate versus returns expected 2) more supervision … may be required as they tend to not have the best skills which affects retainers from clients or suppliers”. Organizations that do not fall in the category of businesses owned by previously disadvantaged people groups and with stronger capabilities will prefer to implement infrastructure-building nonmarket strategy individually to protect their resources and capabilities (Delios & Henisz, 2000; Dorobantu et al., 2017; Guillén, 2003). Such organizations believe that they can undertake activities in the nonmarket arena more efficiently individually (Kaul & Luo, 2016) rather than with imposed partnerships.

Despite the negative sentiments another respondent highlighted that “preferred partners are the upcoming businesses”, as they are being ushered into the competitive business environment and

will increasingly continue to be the preferred partners for engaging in business with governments in addition to legislative compliance. To cost effectively implement infrastructure-building nonmarket strategies that ensures business and legislative imperatives are met, organizations need to (a) have contractual agreements that are enforced through formal contracts and relational contracts based on communicated objectives, operational interests, shared resources and social-business communities (Dorobantu et al., 2017), (b) identify regulatory requirements, and seek legitimacy through conformance that will open up networks, bring in more business, and ultimately lower output unit costs, (c) identify organizations with inferior technological and business expertise that however bring in a competitive edge such as political connections (Perkins, Morck, & Yeung, 2014), enabling access to resources and preferential treatment which will ultimately lower the cost of implementing an infrastructure-building nonmarket strategy, (d) have effective project management that entails a rigid scope of work, minimal design variability, managed stakeholder expectations, contractor diligence, experts in nonmarket sectors, stakeholder engagement, accurate costing, good planning, execution, and prioritization, and good overall quality of goods and services, (e) form long-term partnerships that build capabilities in the partner that has fewer resources and less business expertise, to enhance efficiencies and lower output unit costs in the long term.

6.3 What is the effect of infrastructure gaps on the cost of implementing an infrastructure-building nonmarket strategy?

Research question two was formulated to examine the impact of infrastructure gaps on the output unit costs of infrastructure-building nonmarket strategy. The intention was to identify how infrastructure gaps inherent to emerging markets impact on the output unit costs of an infrastructure-building nonmarket strategy.

Emerging markets are characterized by unavailability of key market information, lack of advertising, lack of adequate market research, poor intellectual property rights, underdeveloped business-aiding infrastructure, and existence of piracy and patent infringements that result in organizations not realizing legitimate revenue. In summary Arnold and Quelch (1998) note that in emerging economies “there is little or no reliable market data, non-existent or poorly developed distribution systems, relatively few communication channels, and both a lack of regulatory discipline and a propensity to change business regulations frequently and unpredictably” (p.9). These characteristics create uncertainty for organizations plying the emerging market environment. In most emerging markets organizations are forced to step in and develop missing

or improve underdeveloped commercial, technological, and physical infrastructures to ensure optimum performance and competitiveness (Dorobantu et al., 2017; Marquis & Raynard, 2015).

The business case for implementing nonmarket strategy is unequivocal, but there is limited knowledge on the impact of infrastructure gaps on the cost of implementing an infrastructure-building nonmarket strategy. Infrastructure gaps result in increased workarounds, and resource time needs to cater for missing infrastructure. Collier et al. (2015) in their study on the cost of road infrastructure in low- and middle-income countries found that infrastructure gaps that limit access to markets increase the cost by up to 30%. The absence of business-aiding infrastructure affects the implementation of nonmarket strategy. Access to resources and inputs required for the implementation of a nonmarket strategy is difficult mainly due to the remoteness of most mining operations and poor distribution systems.

The relationship between infrastructure gaps and the cost of implementing an infrastructure-building nonmarket strategy was tested using two categories of infrastructure gaps: poor distribution systems (IGSyst), and absent or underdeveloped physical, social and commercial infrastructure (IGInf). The results from the analysis revealed a positive regression coefficient of 4.733 ($p=0.475$) for the relationship between infrastructure gaps (IGinf) and the cost of implementing an infrastructure-building nonmarket strategy (UR). The regression coefficient for the relationship between poor distribution systems (IGSyst) and the cost of implementing an infrastructure-building nonmarket strategy (UR) was set at 1 for the analysis. The analytical evidence provided sufficient evidence to reject hypotheses H_{2a} and H_{2b} as the results were not statistically significant. The results show that infrastructure gaps have no significant effect on the cost of implementing an infrastructure-building nonmarket strategy. This is contrary to Collier et al. (2015), who suggested a 30% impact on the cost from their study on the costs of road infrastructure. This also contradicts the responses from the open-ended questions where respondents maintained that infrastructure gaps lead to additional costs that are not budgeted for and could also result in delays in finishing the project, and even in the project failing all together. The cost of implementing an infrastructure-building nonmarket strategy is positively impacted as more resources have to be employed to cater for the gaps. For example, additional support infrastructure or systems need to be made available when building a clinic in a remote area with no access to electricity, communication and road Infrastructure, escalating the costs of implementing an infrastructural building nonmarket strategy. Responses to the open-ended questions further highlight additional cost drivers, which include hiring of social, technological,

and physical infrastructures to substitute for the gaps. The more underdeveloped an area, the more upfront investment in infrastructure is required, which ultimately increases the cost of implementing an infrastructure-building nonmarket strategy.

Structural Equation Modelling results showed that the data collected could not support the hypothesized positive relationship between infrastructure gaps and the cost of implementing an infrastructure-building nonmarket strategy. In addition, the open-ended responses could not complement the quantitative findings as they suggested a cost increase in implementing infrastructure-building nonmarket strategy as a result of infrastructure gaps. The insignificant relationship could have been attributed to the measurement variables that loaded only three factors after chi-square tests, implying poor association between measured variables and latent variables.

6.4 What is the effect of currency weakness on the cost of implementing an infrastructure-building nonmarket strategy?

Research question three was formulated to examine the impact of a weak local currency on the cost of implementing an infrastructure-building nonmarket strategy. The intention was to identify how a weak local currency inherent to emerging markets impacts on the cost of implementing an infrastructure-building nonmarket strategy. According to Marquis and Raynard (2015), Xu and Meyer (2012), Waiganjo et al. (2012), & Narayanan and Fahey (2005), most emerging market currencies are currently weak due to many reasons. These include: reduced demand for commodities and other services; depressed internal interest rates that deter foreign capital; rising inflation rates due to an imbalance between imports and exports, thus increasing the cost of manufacturing and current account deficits; political instability and unclear fiscal policies that reduce investor confidence and demand for local currency; unstable weather patterns; and economic instability and currency devaluations of trading partners.

A weak local currency has a number of implications at the micro level on infrastructure-building nonmarket strategy. Currency weakness affects the cost of implementing an infrastructure-building nonmarket strategy as capital used to finance various infrastructure developments is usually borrowed from international markets or international investors who require payment in currencies that are increasingly stronger. In addition, increasing costs of imported inputs increases the costs of implementing nonmarket strategy.

The relationship between weak local currency and the cost of implementing an infrastructure-building nonmarket strategy was tested using two indicators of a weak currency: depreciation of currency (WLCF1), and increasing import costs and interest rates (WLCF2). The results from the analysis revealed a positive regression coefficient of 6.57 (p=0.770) for the relationship between depreciation of currency (WLCF1) and the cost of implementing an infrastructure-building nonmarket strategy (UR). The regression coefficient for the relationship between increasing import costs and interest rates (WLCF2) and the cost of implementing an infrastructure-building nonmarket strategy (UR) was set at 1 for the analysis. WLCF1 is responsible for 6.57 times change in UR compared to WLCF2. The analytical evidence provided sufficient evidence to reject hypotheses H_{3a} and H_{3b} as the results were not statistically significant.

The results show that infrastructure gaps have no significant effect on the cost of implementing an infrastructure-building nonmarket strategy, contrary to Miyajima et al. (2015), who found in their study that most organizations in emerging markets fail to time their participation in the nonmarket environment, implementing initiatives during periods of sustained currency weaknesses leading to an increase in cost. Bahmani-Oskooee and Gelan (2013) also found that If aggregate demand is higher than aggregate supply, as is the case in most emerging market nations, the cost of imported inputs increases, which in turn has a ripple effect on the cost of infrastructure-building nonmarket strategy.

Participants' responses to the open-ended questions also suggest a positive relationship between a weak local currency and the cost of implementing an infrastructure-building nonmarket strategy. Most respondents were of the view that depreciation of the local currency positively affects the cost, since some components are procured from abroad. This gives the currency exchange rate a bigger role, for if the value of the local currency depreciates against major currencies, much more will have to be paid. In addition, a weak currency affects fuel prices that in turn affect transport costs, ultimately increasing raw material prices and consequently the cost of implementing an infrastructure-building nonmarket strategy. One respondent emphasized that a "depreciating currency impacts the cost positively in instance where materials are imported from a country with a stronger currency, and as a result when the local currency devalues, the cost of imported materials increases". In light of the above arguments, SEM results showed that the data collected could not confirm the hypothesized positive relationship between weak local currency and the cost of implementing an infrastructure-building nonmarket strategy.

In addition, the open-ended responses could not complement or explain the insignificant quantitative findings. However, this finding is consistent with AFRICON (2008), which asserted that inflation and currency fluctuations affected infrastructure developments – with their findings, however, showing insignificant causality. The insignificant relationship could have been attributed to the measurement variables that only loaded three factors after chi-square tests, implying poor association between measured variables and the two latent variables (depreciation of currency, and increasing import costs and interest rates).

Furthermore, organizations that are predominantly exporters of finished goods and importers of raw material inputs for infrastructural building nonmarket strategy implementation, have hedging strategies that minimize currency depreciation risks (McCarthy, 1999). Hedging is "an action taken, whether by entering into a foreign currency contract or otherwise, with the objective of avoiding or minimizing possible adverse financial effects of movements in exchange rates" (McCarthy, 1999, p. 31). Hedging against currency depreciation can be done through a number of mechanisms that include forward contracts, future contracts, swaps and options (Ehrlich & Anandarajan, 2008; Goldberg & Drogt, 2008). These mechanisms allow foreign currency trading in the future at a fixed rate (Goldberg & Drogt, 2008), fixed rate and fixed quantity (Ehrlich & Anandarajan, 2008). These mechanisms also allow removal of depreciation exposure by matching foreign currency debt with foreign currency commitments (raw material inputs into infrastructural building nonmarket strategy) (Ehrlich & Anandarajan, 2008). Hedging strategies if effectively implemented will result in insignificant causality on the output unit costs of an infrastructure-building nonmarket strategy.

6.5 Summarized findings

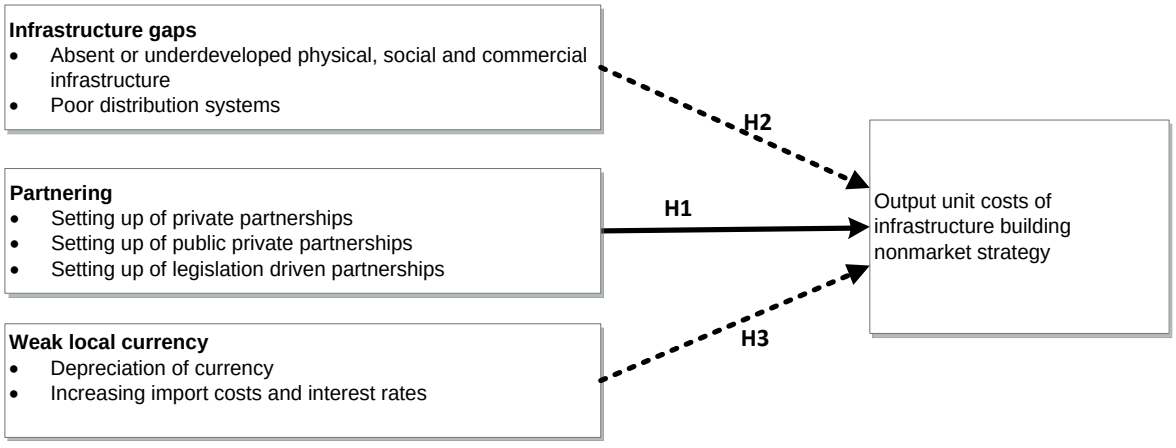
The theoretical model hypothesized a negative relationship between partnering and the cost of implementing an infrastructure-building nonmarket strategy, and a positive relationship between infrastructure gaps, a weak local currency, and the cost of implementing an infrastructure-building nonmarket strategy. The empirical findings from this study suggest a positive relationship between partnering and the cost of implementing an infrastructure-building nonmarket strategy, contrary to theoretical suggestions. This finding is complemented by the open-ended responses that suggest a positive relationship within an emerging market context. This positive relationship is driven by (a) poor contractual agreements, (b) complicated and poor project management, (c) wrong choice of partners, (d) weak governance and bureaucracy inherent with government partners, (e) volatile political environments, (f) conflicting or changing objectives among partners,

and (g) legislative mandates. Addressing these issues can potentially sway the relationship between partnering and the cost of implementing an infrastructure-building nonmarket strategy in the opposite direction.

The hypothesized positive relationship between infrastructure gaps, a weak local currency and the cost of implementing an infrastructure-building nonmarket strategy was statistically insignificant with no complementarity from the open-ended responses. The insignificant relationship could have been attributed to the measurement variables that only loaded three factors each after chi-square tests, implying poor association between measured variables and the two latent variables (infrastructure gaps and a weak local currency). The measuring instrument used in the quantitative study needs to be further developed by incorporating more measurable variables for the latent variables measured in the empirical model.

In light of the findings from this study, Figure 16 illustrates the empirical relationships identified based on the participants of the research survey. The study presents an additional dimension to the impact of implementation strategies and salient emerging characteristics on the output unit costs of implementing an infrastructure- building nonmarket strategy. It does so by suggesting antecedents that can sway the relationship in the opposite direction while pursuing a partnering strategy.

Figure 16 Empirical model



The implications for organizational and government leaders is that there is meaningful understanding of the perceived organizational performance and competitiveness benefits backed by knowledge of how the cost of implementing an infrastructure-building nonmarket strategy is impacted by partnering, infrastructure gaps, and currency weakness.

The open-ended responses on the impact of infrastructure gaps and a weak local currency on the cost of implementing an infrastructure-building nonmarket strategy suggest a positive relationship despite the insignificant statistical relationship. This finding will form a basis for further studies and further empirical analysis while providing better understanding of the costs implications.

The findings empirically further illustrate relationships that have only been theorized in mostly developed contexts. The study, limited to the South African emerging market mining context, draws from a large pool of data since most mining organizations have implemented nonmarket strategy as they try to shape their business environments for competitiveness and survival.

Chapter 7: Findings, Contribution and Conclusion

7.1 Introduction

Organizations and governments in emerging markets do not have meaningful understanding of the perceived competitive benefits of nonmarket strategy due to lack of knowledge on the cost involved in implementation (Dorobantu et al., 2017). This lack of knowledge hampers the prevalence of infrastructure-building nonmarket strategy implementation despite the unequivocal competitive benefits (Holburn & Bergh, 2006; Majumdar & Chang, 2010). To address the gap this study examined the effect of partnering, infrastructure gaps and currency weakness on the cost of an infrastructure-building nonmarket strategy.

Partnering posits as a cost-effective strategy in implementing an infrastructure-building nonmarket strategy, and encompasses both bilateral and multilateral contractual arrangements with other organizations, nonmarket stakeholders such as local communities, government, nongovernmental interest groups (Baron et al. 2016; Dorobantu et al., 2017; Mair & Marti, 2009). These contractual agreements can be enforced through formal contracts and relational contracts based on operational interests, shared resources and social-business communities (Dorobantu et al., 2017). Partnership allows the parties involved to lessen risk, and share synergies for mutual benefit (O'Faircheallaigh, 2015), and as such a negative relationship with the cost of an infrastructure-building nonmarket strategy was hypothesized.

Infrastructure gaps exist where business-aiding infrastructure is absent or underdeveloped or where infrastructure needs are unmet (Dorobantu et al., 2017; Hitt et al., 2000; Marquis & Raynard, 2015). These gaps result in increased workarounds, and resource time needs to cater for missing infrastructure (Mair & Marti, 2009; Schneiberg & Lounsbury, 2008). Collier et al. (2015) in their study on the cost of road infrastructure in low- and middle-income countries found that infrastructure gaps that limit access to markets increase the cost of infrastructure by up to 30%. Arnold and Quelch (1998) note that in emerging economies "there is little or no reliable market data, non-existent or poorly developed distribution systems, relatively few communication channels, and both a lack of regulatory discipline and a propensity to change business regulations frequently and unpredictably" (p. 9). The absence of business-aiding infrastructure impacts positively on the cost of an infrastructure-building nonmarket strategy, leading the study to hypothesize a positive relationship between infrastructure gaps and infrastructure-building nonmarket strategy.

Currency weakness is major driver of the output unit costs of an infrastructure-building nonmarket strategy and depending on the implementation period of nonmarket strategy (Miyajima et al., 2015) the unit output costs of various infrastructure developments can skyrocket. This is mainly driven by international sources of business capital that require repayment in currencies that are increasingly stronger. In addition, increasing costs of imported inputs increase the costs of implementing nonmarket strategy (AFRICON 2008; Alexeeva et al., 2008, 2011; Collier et al., 2015), suggesting the hypothesized positive relationship between a weak local currency and the cost of an infrastructure-building nonmarket strategy.

The empirical examination of the effect of partnering, infrastructure gaps, and currency weakness on the cost of an infrastructure-building nonmarket strategy was guided by the hypothesis highlighted above and the following research questions:

1. What is the effect of partnering on the cost of implementing an infrastructure-building nonmarket strategy?
2. What is the effect of infrastructure gaps on the cost of implementing an infrastructure-building nonmarket strategy?
3. What is the effect of currency weakness on the cost of implementing an infrastructure-building nonmarket strategy?

7.2 Research design and methodology

To conduct the empirical examination an extensive survey research (Miller & Tsang, 2010) design was used, entailing administering questionnaires to participants and allowing for generalizations across multiple cases. The research questionnaire was designed and pre-tested before data collection from professionals, middle managers and senior managers in the mining sites of the 69 member companies of the Chamber of Mines of South Africa.

Data collection was conducted through an online survey consisting of structured and open- ended questions. The data was collected over a two-month period from 11 April 2017 to 11 June 2017. The survey used a snowball non-probability sampling technique to increase the number of respondents, to a projected 1035 participants. During the data collection period, a total of 239 respondents attempted the survey, with 199 complete responses, giving a response rate of 23%. Seven latent variables were measured using a six-point Likert scale. Of these variables, two (private partnerships and public private partnerships) represented partnering, three (absent or

underdeveloped physical, social and commercial infrastructure, poor distribution systems, and poor standards compared to global) represented infrastructure gaps, and one each represented a weak local currency (depreciation of currency) and output unit costs of infrastructure building nonmarket strategy (output unit cost of completed infrastructure development). The measurement variables were adopted from literature, and to identify new latent and measurement variables as well as complement the quantitative findings, four open- ended questions were administered to the participants.

Validity was approached on two levels, content and construct validity (Roberts et al., 2006), since similar instruments do not exist, so eliminating the need to test for criterion validity. Existing literature on 'nonmarket strategy' and 'costs of infrastructure development', together with industry experts, were used to test content validity. Construct validity, which describes the accuracy of collected research data (Yilmaz, 2013) or the correctness to which measured data represents concept being investigated (Roberts et al., 2006), was done using Kaiser-Meyer-Olkin (KMO) and Bartlett's Test of Sphericity. KMO ranged between 0.649 and 0.868 above the recommended lower limit of 0.5. The Bartlett's Test of Sphericity was significant at $p<0.05$. Construct validity was further affirmed during exploratory factor analysis by convergent validity with overall results that showed anti-image diagonal values of greater than 0.5, indicating high correlation and factor analysability of the latent variables.

Pearson's correlations were computed to illustrate further convergent and discriminant validity as well as nomological validity. Measurement items for the same construct showed high correlation significant at $p<0.01$, demonstrating convergent validity. Discriminant validity was observed when the correlation of two measurement items from different constructs was computed, showing poor correlation with no statistical significance. Two measurement items measuring the same construct but not necessarily having a causal relationship showed significant correlation $p<0.01$ demonstrating nomological validity.

The study measured the internal consistency reliability of the measuring instrument by computing Cronbach's alpha coefficient. Cronbach's alpha coefficient was computed through the statistical package for social scientists and values greater than the threshold of 0.7 (Pallant, 2006) were computed for partnering, cost of infrastructure-building nonmarket strategy and infrastructure gaps, while currency weakness had an alpha coefficient of 0.6, considered acceptable in social science research (Cronbach,1951; Nunnally, 1978).

Confirmatory factor analysis demonstrated further convergent and discriminant validity as well as reliability of the constructs. Measurement items for the eight constructs loaded with loadings ranging from 0.412 to 0.84 (Basto & Pereira, 2012; Lambert & Durand,1975), confirming convergent validity. Correlations among constructs that measured each of partnering, infrastructure gaps, and currency weakness, were significant at the 0.01 level, further demonstrating convergent validity. Discriminant validity was confirmed by insignificant correlations of indicator items measuring different constructs. Composite reliabilities ranged from 0.600 to 0.876 demonstrating reliability for the eight constructs.

Hypothesized relationships from the research questions were tested by Structural Equation Modelling using analysis of moment structures software. The results are detailed in the section below.

7.3 Principal findings

Results from this study paint an interesting relationship between infrastructure gaps, partnering, currency weakness, and the cost of an infrastructure-building nonmarket strategy. Data collected in the study was analysed and empirically contradicted suggestions made by Dorobantu et al. (2017), Baron et al. (2016), and Canuto & Liu (2013) of a negative relationship between partnering and the cost of an infrastructure-building nonmarket strategy in an emerging market context. The findings do not show a significant relationship between a weak local currency, infrastructure gaps, and the cost of an infrastructure-building nonmarket strategy. However, the responses from the open-ended questions suggest a positive relationship between a weak local currency, infrastructure gaps, and the cost of an infrastructure-building nonmarket strategy, in line with the suggestions made by Collier et al. (2015), Miyajima et al. (2015), and Bahmani-Oskooee & Gelan (2013).

7.3.1 What is the effect of partnering on the cost of implementing an infrastructure-building nonmarket strategy?

H1: *There is a negative relationship between partnering and the cost of an infrastructure-building nonmarket strategy.*

Research question one was formulated to examine the impact of partnering on the cost of an infrastructure-building nonmarket strategy. The intention was to identify how different partnership arrangements affect the cost of implementing nonmarket strategy. Overall the findings suggest a positive relationship between partnering and the cost of an infrastructure-building nonmarket strategy, contrary to the hypothesized relationship and theorized relationships suggested by Dorobantu et al. (2017); Baron et al. (2016); and Rasche et al. (2013).

The findings suggest that the positive relationship is driven by (a) poor contractual agreements without any enforcement, leading to breach, resulting in high costs of implementation, (b) complicated and poor project management due to increased stakeholders, resulting in scope creep and additional resources that escalate output unit costs, (c) wrong choice of partners that burdens other partners because of unequal resource allocation for the partnership venture, (d) weak governance and bureaucracy inherent with government entities, (e) political environments that are volatile and made up of coalitions that can be broken at any time, resulting in ever-changing socio-political mandates, (f) conflicting or changing objectives among partners, (g) legislative mandates that compel bigger or established players in the market to partner with businesses that are owned by previously disadvantaged person or group of persons; these businesses are characterized by poor business expertise and limited resources that overburden partners and lead to increased output unit costs of nonmarket strategy.

7.3.2 What is the effect of infrastructure gaps on the cost of implementing an infrastructure-building nonmarket strategy?

H2: *There is a negative relationship between infrastructure gaps and the cost of an infrastructure-building nonmarket strategy.*

Research question two was formulated to examine the impact of infrastructure gaps on the cost of an infrastructure-building nonmarket strategy. The intention was to identify how infrastructure gaps inherent to emerging markets impact on the cost of an infrastructure-building nonmarket strategy.

The findings did not suggest a significant relationship between infrastructure gaps and the cost of an infrastructure-building nonmarket strategy. However, the findings from the open-ended responses did not complement the quantitative findings as they suggest a positive relationship

between infrastructure gaps and the cost of an infrastructure-building nonmarket strategy, in line with Collier et al. (2015) who suggested a 30% impact on the cost from their study on the costs of road infrastructure.

The insignificant relationship could have been attributed to the measurement variables that only loaded three factors after exploratory factor analysis, confirmatory factor analysis, and chi-square tests, implying poor association between measured variables and the two latent variables (infrastructure gaps and a weak local currency). The measuring instrument used in the quantitative study needs to be further developed by incorporating more measurable variables for the latent variables measured in the empirical model.

7.3.3 What is the effect of currency weakness on the cost of implementing an infrastructure-building nonmarket strategy?

H3: *There is a negative relationship between a weak local currency and the cost of an infrastructure-building nonmarket strategy.*

Research question three was formulated to examine the impact of a weak local currency on the cost of an infrastructure-building nonmarket strategy. The intention was to identify how a weak local currency inherent to emerging markets impacts on the cost of an infrastructure-building nonmarket strategy.

The findings from the study did not suggest a significant relationship between currency weakness and the cost of an infrastructure-building nonmarket strategy. This is consistent with AFRICON (2008), which asserted that inflation and currency fluctuations affected infrastructure developments, although its findings showed insignificant causality. However, the open-ended responses from the study suggest a positive relationship between infrastructure gaps and the cost of an infrastructure-building nonmarket strategy, in line with Miyajima et al. (2015) who found in their study that most organizations in emerging markets fail to time their participation in the nonmarket environment, implementing initiatives during periods of sustained currency weaknesses, leading to high implementation cost. Bahmani-Oskooee & Gelan (2013) also found that If aggregate demand is higher than aggregate supply, as is the case in most emerging market nations, the cost of imported inputs increases, which in turn has a ripple effect on the cost of infrastructure-building nonmarket strategy. Despite the findings indicating insignificant causality

in line with AFRICON (2008), the measuring instrument in the study can be further developed to include more measurable variables for additional empirical examinations of the relationship.

7.4 Contribution of the study

7.4.1 Theoretical contribution

The findings are particularly important because existing theory on nonmarket strategy literature has focused on business performance benefits; its integration with market strategy (Baron 1995, 1997, 1999; He 2006); identifying its taxonomies (Blumentritt, 2003; He et al., 2007; Hillman & Hitt, 1999; Hillman et al., 2004; Marquis & Raynard, 2015; Meznar & Nigh, 1995; Rajwani &Liedong, 2015); corporate political action (Blumentritt & Nigh, 2002; Bonardi et al., 2005; Breitinger, 2009; Funk & Hirschman, 2017; Liedong et al., 2017) and corporate social responsibility (Öberseder et al., 2014; Wang et al., 2016). Literature has theorized a negative relationship when a partnering strategy option is used (Baron et al., 2016; Canuto & Liu, 2013; Dorobantu et al., 2017) and a positive relationship when the environment in which the business is operating is characterized by a weak local currency (Bahmani-Oskooee & Gelan, 2013; Miyajima et al., 2015) and infrastructure gaps (Collier et al., 2015). The implication of this study is that it contradicts the negative theoretical relationship, suggesting a positive relationship between partnering and the cost of implementing an infrastructure-building nonmarket strategy. The study further shows insignificant causality between currency weakness, infrastructure gaps, and the cost of implementing an infrastructure-building nonmarket strategy. The reasons for a positive relationship between partnering and the cost of implementing an infrastructure-building nonmarket strategy are most likely due to the absence of the following:

1. Contractual agreements that are enforced through formal contracts and relational contracts based on operational interests, shared resources, and social-business communities (Dorobantu et al., 2017),
2. Right partners guided by political ties, networks and connections, national and global status (Dorobantu et al., 2017), mutual benefits, shared supply chain, infrastructure-building nonmarket strategy initiative, complementing expertise and shared resources, non-competing organizations, enhancement of bargaining and buying power,
3. Cost effective project management that entails a rigid scope of work, minimal design variability, managed stakeholder expectations, contractor diligence, experts in nonmarket sectors, stakeholder engagement, accurate costing, good planning, execution, and prioritization, and good overall quality of goods and services. Partnerships guided by the

above factors will effectively lower the cost of implementing an infrastructure-building nonmarket strategy.

4. Clear understanding of regulatory requirements.
5. Long-term partnerships that involve building capabilities among partners.

Third, the study extends nonmarket strategy research on implementation costs to African emerging markets that are increasingly becoming the focus of scholarly attention. Previous studies have been done in developed market nations and Asian emerging markets, leaving Africa uncharted. Despite similarities in emerging market nations there was a lack of knowledge on the costs of nonmarket strategy implementation. Little was known of the effect of strategy option, institutional & economic factors on the cost of an infrastructure-building nonmarket strategy, leading to absence of meaningful understanding of perceived benefits of nonmarket strategy. This study has bridged the theoretical gap that existed.

7.4.2 Practical contribution

The study provides a basis for meaningful understanding of the perceived organizational performance and competitiveness benefits of implementing infrastructure-building nonmarket strategy backed by knowledge of the cost effects of partnering, infrastructure gaps, and currency weakness. The findings from this study are important to organizations and persons interested in implementing nonmarket strategy as they provide a baseline for decision making, policy formulations, and proposals that foster infrastructure development as part of an entity's infrastructure-building nonmarket strategy.

The study illuminates a surprising observation, where the natural expectation is that partnerships would lower the cost of implementing an infrastructure building nonmarket strategy. Contrary to this expectation the study shows that a partnering relationship increases costs. The study presents an additional practical dimension to the effects of partnering in the cost of implementing an infrastructure-building nonmarket strategy by suggesting antecedents that drive the direction of the relationship. The findings seem to suggest that the cost of infrastructure-building nonmarket strategy can be lowered while pursuing a partnering strategy option if the following are in place: (a) contractual agreements that are enforced through formal contracts (Dorobantu et al., 2017), (b) right partners guided by political ties (Perkins et al., 2014), networks and connections, and good national and global business status (Dorobantu et al., 2017), (c) effective project management, (d) understanding of regulatory requirements, and (e) long-term partnerships that

involve building capabilities within the partner that has lesser resources and business expertise, so as to enhance efficiencies and lower implementation costs in the long term. The absence of these factors is the driver of the unexpected relationship between a partnering strategy option and the cost of implementing an infrastructure-building nonmarket strategy. It should also be noted that there is no subtle distinction among private partnerships, public\private partnerships, and legislation driven partnerships. Identification of distinctions can be unpacked in future studies that will have more focus on the relationship between strategy options and implementation cost of nonmarket strategy

The study illuminates how managing the above drivers impacts the effects of partnering on the cost of implementing infrastructure-building nonmarket strategy. in addition, the insignificant causality between currency weakness, infrastructure gaps, and cost of infrastructure-building nonmarket strategy, provides compelling evidence why managers should focus on the factors that drive a partnering relationship.

7.5 Future research

Infrastructure-building nonmarket strategy is just one taxonomy of Marquis and Raynard's (2015) proposed taxonomy of nonmarket strategy made up of relational, infrastructure-building and social-cultural bridging strategy, synthesized from various literature on nonmarket strategy. It would have been beneficial to explore the unit costs involved in all three nonmarket strategy taxonomies. However, the magnitude and scope of such an exercise is beyond the constraints of the present study. Future research can examine how the cost of the other two nonmarket strategy taxonomies (relational nonmarket strategies and socio-political nonmarket strategies) are impacted by partnering, infrastructure gaps, and currency weakness. This will provide a comparative analysis of the different types of nonmarket strategy taxonomies and how their cost of implementation is impacted.

The quantitative study established three significant relationships between partnering and the cost of infrastructure-building nonmarket strategy. Overall the study found a positive relationship between partnering and the cost of infrastructure-building nonmarket strategy, contrary to prior literature that suggests a theoretical negative relationship. The findings could be attributed to antecedents, moderators, and moderators that drive a negative relationship between partnering and output unit costs of nonmarket strategy. Future research can examine the antecedents to partnering strategies and how they affect its relationship with the cost of implementing an

infrastructure-building nonmarket strategy. The study also recommends empirically examining the effects of the following factors as mediators or moderators to the relationship between partnering and the cost of infrastructure-building nonmarket strategy: (a) contractual agreements, enforced through formal contracts (Dorobantu et al., 2017), (b) choice of partners guided by political ties, networks and connections, and national and global business status (Dorobantu et al., 2017), (c) effective project management, (d) meeting and understanding regulatory requirements, and (e) long-term partnerships and building capabilities among partners. In addition, responses from the open-ended questions seem to suggest an additional category in a partnering strategy option, which is private community partnerships. This type of partnering entails an organizational-community mechanism that involves one or more private organizations and host communities coming together to address infrastructure voids. Future studies can add this strand to the empirical validation of the relationship between partnering and the cost of implementing an infrastructure-building nonmarket strategy.

This study provided an initial empirically validated relationship between implementation strategy option, an institutional factor, economic factor and the cost of infrastructure-building nonmarket strategy. However, the relationship between infrastructure gaps and the cost of infrastructure-building nonmarket strategy was statistically insignificant, but the complementing responses from the open-ended questions suggest a positive relationship between the two variables. Future research needs to incorporate additional categories of infrastructure gaps and measured variables. The additional categories suggested from the open-ended questions include: (a) underdeveloped asset management systems that refer to inadequate and inconsistent processes to ensure availability and sustenance of existing business aiding infrastructure. This stems from the school of thought that posits if business-aiding infrastructure is not serviced regularly its availability and efficiency of use will impact negatively on the cost of infrastructure-building nonmarket strategy, and (b) increased workarounds, resource time and needs in response to gaps in infrastructure. The study also recommends a focus on a single set of factors among strategy options, institutional factors, and economic factors when examining the relationship with the implementation cost of an infrastructure-building nonmarket strategy. This will allow comparison within similar factors.

In addition, the quantitative relationship between a weak local currency and the cost of implementing an infrastructure-building nonmarket strategy was not statistically significant, although the open-ended responses suggest a positive relationship between the two variables.

Future research needs to incorporate additional categories of a weak local currency and include the following, either as additional categories or mediators and moderators in empirical studies on the relationship between a weak local currency and the cost of implementing an infrastructure-building nonmarket strategy: (a) investor confidence that relates to deteriorating trade relationships, increased currency hedging, increased cost of offshore capital, and unstable interest rates, (b) pricing strategies that refer to the actions taken by suppliers and service providers in response to a weak local currency, where they deliberately hike their costs on the basis of a fluctuating currency rate, and (c) procurement strategies that refer to predominantly local timing and sourcing of services and goods for activities related to infrastructure-building nonmarket strategy.

Future research can focus on other salient characteristics of an emerging market to ascertain their impact on the cost of infrastructure-building nonmarket strategy. From the research findings these characteristics include: (a) socio-political instability that is characterized by compliance issues; host country conflict; policy and legislative instability; political influence; social instability, civil and industrial action; poorly implemented and enforced socio-economic policies; and unpredictable nonmarket environment; which the findings suggest exercise a negative impact on the cost of nonmarket strategy, (b) market instability and uncertainty that is characterized by market volatility; market sentiment and uncertainty; and collusion and price fixing; which the findings suggest exert a negative impact on the cost of implementing an infrastructure-building nonmarket strategy, and (c) environmental factors that are characterized by location of business operations and physical terrain ruggedness; which the open-ended responses seem to suggest have a positive impact on the cost of infrastructure-building nonmarket strategy.

7.6 Study limitations

First, the study was limited to infrastructure-building nonmarket strategy, one taxonomy of Marquis and Raynard's (2015) proposed taxonomy of nonmarket strategy made up of relational, infrastructure-building, and social-cultural bridging strategy. This focus on one taxonomy may limit the diversity of relationships between strategy option, institutional factors, economic factors and the cost of implementing an infrastructure-building nonmarket strategy. Including the other two taxonomies could have increased the diversity and outcomes of relationships that could have been gleaned from the study.

Second, the purposive sampling technique was another limitation, where the researcher did not have control of the respondents through snowball sampling that had the potential of skewing the results. However, the demographic analysis shows consistent representation from the population and units of analysis. While random sampling for a study of this nature would be difficult, repeating the study with a snowball non-probability sampling technique to increase the number of participants could validate the findings from the current study.

Third, although the study found a positive relationship between partnering and output unit costs of an infrastructure-building nonmarket strategy, organizations should not be deterred from forming partnerships to address nonmarket issues. This study merely empirically suggests a relationship and practitioners should consider the identified antecedents, moderators and mediators that can sway the relationship in a direction that lowers the cost of implementing an infrastructure-building nonmarket strategy.

Fourth, the study context was limited to the mining sector in the South African emerging market. The researcher limited the study to South Africa because of the large number of organizations involved in infrastructure-building nonmarket strategies, implying significant data sources from these organizations. The study was able collect data from key organizational members perceived to be rich sources of data for analysis and examination.

Fifth, the study used subjective and quasi-objective measures, which are all driven by perceptions of the participants. According to Richard, Devinney, Yip, and Johnson (2009), upper echelons of business and academia are quick to judge subjective measures as fraught with error. Experimental research, however, has shown that they are not very inaccurate and share comparable shortcomings with objective measures. Perception might deviate from reality but it presents a basis for future or current behaviour.

Sixth the study was cross-sectional and collected data from the units of analysis at a single period in time. This means that specific occurrences within the unit of analysis environment can potentially have an influence on the data collected. This limitation was significantly reduced for the computation of the cost of infrastructure-building nonmarket strategy, as it focused on developments completed between 2012 and 2016. A longitudinal study conducted over an extended period of time would have addressed some of these concerns; however, a snapshot view was sufficient to address the research questions.

Lastly this study measured endogenous and exogenous constructs from the same data collection instrument creating a likelihood of single method bias. However, the lack of significant findings for hypotheses 2 and 3 suggests that such bias is absent, which makes this less of a concern. Data validation with secondary sources could strengthen the findings from the study, but will require purposeful sample selection to enable triangulation of data, entailing a few case studies for the research.

7.7 Concluding remarks

The prevalence of nonmarket strategy, in particular an infrastructure-building nonmarket strategy, is hampered by lack of knowledge on the cost of implementation. This study sought to understand how partnering, infrastructure gaps, and currency weakness influenced the implementation cost of an infrastructure-building nonmarket strategy. Findings from the study suggest a positive relationship between partnering strategies and the cost of implementing an infrastructure-building nonmarket strategy. Regarding infrastructure gaps and weak local currencies, the study did not find any statistically significant relationships, while the open-ended responses suggest a positive relationship with the implementation cost of an infrastructure-building nonmarket strategy. The findings assisted in answering the research question and objectives set out at the beginning of the study.

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Appendix 1: Survey questionnaire

Dear Respondent

My name is Tonderayi Madziva, Doctoral student from the Gordon Institute of Business Science at the University of Pretoria. I am conducting research to examine the effect of partnering, infrastructure gaps, and currency weakness on the cost of implementing an infrastructure building nonmarket strategy. This study will help academia and practice to understand the performance and competitiveness benefits of nonmarket strategy.

The environment of business is composed of market and nonmarket components. The market environment is made up of customers, suppliers and competitors. The nonmarket environment consists of the social, political and legal arrangements that structure the firms' interactions outside of, and in conjunction with, markets. Nonmarket strategy is a set of plans or actions in response to existing or anticipated social, political, cultural and legal issues that constrain or facilitate business, aimed at improving an organizations competitiveness and overall performance, and seeks to capture rents in both the nonmarket and market environment. Infrastructure building nonmarket strategy addresses gaps in regulation, technology and physical infrastructure that enhance and support business activities. The output unit cost is computed as the cost per unit of infrastructure developed to address gaps in regulation, technology and physical infrastructure that enhance and support business activities

You are kindly asked to complete the following survey questions. The questionnaire should take no longer than 20 minutes of your time to complete. Your participation is voluntary and you can withdraw at any time without penalty. All the information collected is anonymous and the responses provided cannot be used to identify any participant. Data collected will be kept confidential. By completing the questionnaire, you indicate that you are voluntarily participating in this research. Should you have any concerns, please contact the people below.

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Section A

Please complete the background information below

Mining Activity (tick appropriate)	Extraction		Mineral Processing		Value Addition		Other	
Job level (tick appropriate)			Professional		Middle Manager		Senior Manager	

Section B

This section refers to the organization you work for. Using the scale below, indicate by circling the relevant response, the number of occurrences in the last 4 years (2012-2016) they have exhibited the actions in the statement

Scale:

0	Zero occurrences
1-5	One to five occurrences
6-10	Six to ten occurrences
>10	Greater than 10 occurrences

	(IBNMS)	*Response*			
IBNMS1	Development and improvement of social amenities like schools, libraries, universities, clinics, hospitals, courts, museums, theatres, playgrounds, parks, fountains and statues.	0	1-5	6-10	>10
IBNMS2	Development and improvement of business aiding infrastructure roads, highways, railroads, airports, sea ports, electricity, telecommunications, water supply and disposal.	0	1-5	6-10	>10
IBNMS3	Assisting suppliers in providing organizational inputs and consumables.	0	1-5	6-10	>10
IBNMS4	Intervening to ensure customers receive their products on time.	0	1-5	6-10	>10
IBNMS5	Assisting intermediaries like distributors and wholesalers to setup and get products to customers on time.	0	1-5	6-10	>10
IBNMS6	Benchmarking with global subsidiaries and competitors.	0	1-5	6-10	>10
IBNMS7	Investing in global infrastructure systems and consistently deploying in all organizational sites.	0	1-5	6-10	>10
IBNMS8	Following trends in nonmarket strategy.	0	1-5	6-10	>10
IBNMS9	Providing information and data to market research firms.	0	1-5	6-10	>10
IBNMS10	Providing information and data to financial institutions.	0	1-5	6-10	>10
IBNMS11	Forming partnerships with financial institutions and research firms to bridge gaps among suppliers, customers and organizations.	0	1-5	6-10	>10
IBNMS12	Active participation on social media and public broadcast.	0	1-5	6-10	>10

Section C

This section refers to the organization you work for and the business environment it operates in. Using the scale below, indicate by circling the relevant response, the extent to which you agree or disagree to the statements made.

Scale:

0	Strongly disagree
1	Disagree
2	Neither disagree or agree
3	Agree
4	Strongly agree
5	Don't know

P1	Working with other private organizations is very important for the success of our business	0	1	2	3	4	5
P2	Working alone is very costly to our organization	0	1	2	3	4	5
P3	We often achieve business objectives faster when we work together with other organizations	0	1	2	3	4	5
P4	Working with other organizations saves our company a lot of money	0	1	2	3	4	5
P5	Our organization receives preferential treatment through working with other organizations	0	1	2	3	4	5
P6	Our organization is better prepared for unexpected events when working with other organizations	0	1	2	3	4	5

P7	Working with other private organizations and/ or the government is very important for the success of our business	0	1	2	3	4	5
P8	Losing partners is very costly and disruptive to our organization	0	1	2	3	4	5
P9	We often achieve business objectives faster when we work together with other organizations and/ or government	0	1	2	3	4	5
P10	Working with other organizations and/ or government saves our company a lot of money	0	1	2	3	4	5
P11	Our organization receives preferential treatment through working with other organizations and/ or government	0	1	2	3	4	5
P12	Our organization is better prepared for unexpected events when working with other organizations and/ or government	0	1	2	3	4	5
WLC1	Over the past 4 years' internal credit interest rates (South African Reserve Bank repo rates) have been increasing	0	1	2	3	4	5
WLC2	Over the past 4 years' inflation rates are increasing as a result of consumer price escalations	0	1	2	3	4	5
WLC3	Costs of manufacturing has increased over the past 4 years	0	1	2	3	4	5
WLC4	You would prefer keeping your cash investments in one of the major currencies like the US$	0	1	2	3	4	5
WLC5	Decreases in price of global commodities like oil has not translated in overall cheaper fuel costs and basic consumer products	0	1	2	3	4	5

WLC6	There is an increase in the value of goods and services imported over the past 4 years	0	1	2	3	4	5
WLC7	The government budget deficit in major currencies like the US$ has increased over the past 4 years	0	1	2	3	4	5
IG1	Employees and community members have access to schools, libraries, universities, clinics, hospitals, courts, museums, theatres, playgrounds, and parks.	0	1	2	3	4	5
IG2	Employees have no difficulties in getting to work	0	1	2	3	4	5
IG3	Our employees are never absent from work due to issues related to basic amenities	0	1	2	3	4	5
IG4	We can access market data and can provide data and information to relevant institutions	0	1	2	3	4	5
IG5	Our business is linked to suppliers and customers by a very good distribution network	0	1	2	3	4	5
IG6	Our suppliers are well established and rarely have issues regarding provision of business required inputs	0	1	2	3	4	5
IG7	We rarely experience logistical issues with our service providers in getting products to our customers	0	1	2	3	4	5
IG8	Our organization invests in global infrastructure systems and consistently deploys them at all sites	0	1	2	3	4	5
UR1	The cost of completed infrastructure development as part of our organization's infrastructure building nonmarket strategy is greater than the estimated cost	0	1	2	3	4	5

UR2	The cost of completed infrastructure development as part of our organizations Infrastructure building nonmarket strategy is greater than the contract cost	0	1	2	3	4	5

Section D

You are kindly asked to respond to the following questions, please provide as much detail as possible

1. The cost of infrastructure developed as part of organizations nonmarket strategy often varies from estimate and contractual costs. What do you think are the drivers of this variation?

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2. Infrastructure gaps exists where business aiding infrastructure is absent or underdeveloped or where infrastructure needs are unmet. What is the impact of such gaps on the cost of infrastructure developed as part of an organizations nonmarket strategy?

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.....

3. A weak local currency is a currency whose value in relation to other currencies has depreciated over time and continues to depreciate due to many factors. Do you think a weakening currency impacts the cost of infrastructure developed as part of an organizations nonmarket strategy? Please explain

.....
.....
.....
.....

4. Partnering in nonmarket strategy is a form of inter-organizational mechanism that involve more than one organization or one or more organizations and government coming together for the purposes of addressing infrastructure voids. In these mechanisms, the partners work together to mobilize resources, overcome issues related to risk, reduce cost of capital and allow access to networks. What is the impact of partnering on the cost of infrastructure developed as part of an organizations nonmarket strategy? Are there any preferred partnerships?

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Thank you for taking part in this survey please forward the questionnaire to your colleagues who can also participate

Appendix 2: Atlas.ti Code families

a) Infrastructure-building nonmarket strategy cost drivers

HU: Transcript question 11
File: [C:\PhD Thesis\Atlas.ti analysis raw\Transcript question 11. hpr7]
Edited by: Super
Date/Time: 2017-07-19 18:02:56

Code Family: Environmental Factors
Created: 2017-06-28 22:30:07 (Super)
Codes (3): [Adverse environmental factors] [location] [Terrain ruggedness]
Quotation(s): 4

Code Family: Infrastructure Gaps
Created: 2017-06-28 22:29:20 (Super)
Codes (3): [Missing or incomplete data and information] [New technologies and products] [Proximity to markets]
Quotation(s): 4

Code Family: Market Instability and uncertainty
Created: 2017-06-28 22:30:30 (Super)
Codes (3): [Collusion and price fixing] [Market sentiment and uncertainty] [Market volatility]
Quotation(s): 8

Code Family: Partnering
Created: 2017-06-28 22:28:56 (Super)
Codes (1): [Economies of scale]
Quotation(s): 2

Code Family: Project management
Created: 2017-06-28 22:30:43 (Super)
Codes (9): [Absence of a rigid scope of work] [Design variability] [Increased stakeholder expectations] [Lack of contracting diligence] [Lack of experts in nonmarket sectors] [Lack of stakeholder engagement] [Poor costing and project management] [Poor planning and prioritization] [Quality of components]
Quotation(s): 64

Code Family: Socio-political Instability
Created: 2017-06-28 22:29:50 (Super)
Codes (7): [Compliance issues] [Host country conflict] [Policy and legislative instability] [Political influence] [Social instability and industrial action] [socio-economic policies like Black Economic Empowerment] [Unpredictable nonmarket environment]
Quotation(s): 18

Code Family: Weak local currency
Created: 2017-06-28 22:29:33 (Super)
Codes (2): [Price escalation Inflation and currency losses] [Variability in import and export prices]
Quotation(s): 42

b) Constructs of infrastructure gaps

HU: Transcript question 12
File: [C:\Users\madzit01\Documents\Scientific Software...\Transcript question 12. hpr7]
Edited by: Super
Date/Time: 2017-07-13 07:50:52

Code Family: Absent or underdeveloped physical, social and commercial infrastructure
Created: 2017-07-13 07:32:15 (Super)
Codes (2): [Underdeveloped or non-existent basic amenities] [Underdeveloped or non-existent business aiding infrastructure]
Quotation(s): 2

Code Family: Increased workarounds, resource time and needs
Created: 2017-07-13 07:37:12 (Super)
Codes (2): [Additional costs due to increased resources and resource time] [Additional costs due to outsourcing and workarounds on missing infrastructure]
Quotation(s): 37

Code Family: Poor distribution systems
Created: 2017-07-13 07:32:28 (Super)
Codes (6): [Absence of good distribution networks] [Absence of well-established suppliers] [Increased logistical costs] [Increased logistics issues] [Poor access to and provision of market data] [Supply chain disruptions]
Quotation(s): 9

Code Family: Poor standards compared to global
Created: 2017-07-13 07:32:44 (Super)
Codes (2): [Lack of competitiveness] [Lack of global infrastructure systems]
Quotation(s): 4

Code Family: Underdeveloped asset management systems
Created: 2017-07-13 07:39:00 (Super)
Codes (1): [Poor asset management]
Quotation(s): 1

c) Constructs of a partnering strategy

HU: Transcript question 14
File: [C:\PhD Thesis\Atlas ti analysis raw\Transcript question 14. hpr7]
Edited by: Super
Date/Time: 2017-10-09 14:47:10

Code Family: Legislation partnerships
Created: 2017-07-19 00:02:32 (Super)
Codes (14): [better preparedness for unexpected events] [Business synergy realized] [Increased buying power] [Increased competitiveness] [Increased cost due to legislative requirements] [Increased cost savings] [Key success factor for business] [Losing partners is very costly and disruptive] [Partnerships between private organizations and majority black owned businesses] [Poor partnering contract management increases costs] [preferential treatment] [Project driven partnerships] [Quicker achievement of business objectives] [Reduction in competitiveness]
Quotation(s): 59

Code Family: Private community partnerships
Created: 2017-07-18 23:59:41 (Super)
Codes (7): [better preparedness for unexpected events] [Increased cost savings] [Key success factor for business] [Losing partners is very costly and disruptive] [preferential treatment] [Project driven partnerships] [Quicker achievement of business objectives]
Quotation(s): 36

Code Family: Private partnerships (PP)
Created: 2017-07-14 01:03:50 (Super)
Codes (15): [better preparedness for unexpected events] [Business synergy realized] [Government weak governance and bureaucracy makes partnering riskier and less favorable]

[Increased buying power] [Increased competitiveness] [Increased cost savings] [Key success factor for business] [Losing partners is very costly and disruptive] [Partnering between non-competing private organizations] [Partnering within the same supply chain] [Partnerships between private organizations] [Poor partnering contract management increases costs] [preferential treatment] [Project driven partnerships] [Quicker achievement of business objectives]
Quotation(s): 65

Code Family: Public private partnerships (PPP)
Created: 2017-07-14 01:04:21 (Super)
Codes (11): [better preparedness for unexpected events] [Government partnership cost effective] [Government weak governance and bureaucracy makes partnering riskier and less favorable] [Increased cost savings] [Key success factor for business] [Losing partners is very costly and disruptive] [Partnerships between private organizations and government] [Poor partnering contract management increases costs] [preferential treatment] [Project driven partnerships] [Quicker achievement of business objectives]
Quotation(s): 61

d) Constructs of a weak local currency

HU: Transcript question 13
File: [C:\Users\madzit01\Desktop\Transcript question 13. hpr7]
Edited by: Super
Date/Time: 2017-07-14 00:41:56

Code Family: Depreciation of currency
Created: 2017-07-14 00:24:10 (Super)
Codes (7): [Consumer price escalations leading to increased inflation] [Increase in the value of goods and services imported] [Increased currency hedging] [Increased profitability from export sales] [Increasing cost of manufacturing] [Increasing government budget deficit in major currencies] [Minimal gains due to decreases in commodity prices]

Quotation(s): 92

Code Family: Investor confidence
Created: 2017-07-14 00:30:01 (Super)
Codes (4): [Deteriorating trade relationships] [Increased currency hedging] [Increasing cost of foreign capital] [Increasing credit interest rates]
Quotation(s): 6

Code Family: Pricing strategies
Created: 2017-07-14 00:33:29 (Super)
Codes (1): [Use of weak currency for price hikes]
Quotation(s): 2

Code Family: Procurement strategies
Created: 2017-07-14 00:31:47 (Super)
Codes (3): [Lower aggregate demand] [Procurement timing] [Static cost impact for local procurement]
Quotation(s): 10

Appendix 3: Correlations

			FACTOR 2 Private Partnerships	FACTOR 2 Public-Private Partnerships	FACTOR 4 Depreciating of currency	FACTOR 5 Infrastructure	FACTOR 6 Distribution systems	FACTOR 7 Poor Standards	FACTOR 8 Output Costs
Spearman's rho	FACTOR 1 Private Partnerships	Correlation Coefficient	1.000	.832**	0.113	0.018	0.086	.184*	0.004
		Sig. (2-tailed)		0.000	0.181	0.821	0.266	0.017	0.961
		N	179	172	141	168	169	169	144
	FACTOR 2 Public-Private Partnerships	Correlation Coefficient	.832**	1.000	.185*	0.005	0.103	.203**	0.106
		Sig. (2-tailed)	0.000		0.027	0.946	0.180	0.008	0.216
		N	172	179	142	169	170	169	139
	FACTOR 3 Depreciation of currency	Correlation Coefficient	0.113	.185*	1.000	0.127	0.115	.266**	0.160
		Sig. (2-tailed)	0.181	0.027		0.118	0.157	0.001	0.068
		N	141	142	160	152	154	155	132
	FACTOR 4 Absent or underdeveloped physical, social and commercial infrastructure	Correlation Coefficient	0.018	0.005	0.127	1.000	.381**	.217**	0.062
		Sig. (2-tailed)	0.821	0.946	0.118		0.000	0.003	0.448
		N	168	169	152	194	183	183	152
	FACTOR 5 Poor distribution systems	Correlation Coefficient	0.086	0.103	0.115	.381**	1.000	.234**	0.094
		Sig. (2-tailed)	0.266	0.180	0.157	0.000		0.001	0.251
		N	169	170	154	183	195	186	152
	FACTOR 6 Poor standards compared to global	Correlation Coefficient	.184*	.203**	.266**	.217**	.234**	1.000	.184*
		Sig. (2-tailed)	0.017	0.008	0.001	0.003	0.001		0.023
		N	169	169	155	183	186	195	154
	FACTOR 7 Output unit costs of completed infrastructure development	Correlation Coefficient	0.004	0.106	0.160	0.062	0.094	.184*	1.000
		Sig. (2-tailed)	0.961	0.216	0.068	0.448	0.251	0.023	
		N	144	139	132	152	152	154	158

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Appendix 4: Validity and reliability test statistics

Convergent validity

Correlations

		P2 Working alone is very costly to our organization	P3 We often achieve business objectives faster when we work together
P2 Working alone is very costly to our organization	Pearson Correlation	1	.504**
	Sig. (2-tailed)		.000
	N	239	239
P3 We often achieve business objectives faster when we work together	Pearson Correlation	.504**	1
	Sig. (2-tailed)	.000	
	N	239	239

**. Correlation is significant at the 0.01 level (2-tailed).

Discriminant validity

Correlations

		IG2 Employees have no difficulties in getting to work	P7 Working with other private organizations and/ or the government is very important for the success of our business
IG2 Employees have no difficulties in getting to work	Pearson Correlation	1	.034
	Sig. (2-tailed)		.605
	N	239	239
P7 Working with other private organizations and/ or the government	Pearson Correlation	.034	1
	Sig. (2-tailed)	.605	

is very important for the success of our business	N	239	239

Nomological validity

Correlations

		P7 Working with other private organizations and/ or the government is very important for the success of our business	IG7 We rarely experience logistical issues with our service providers in getting products to our customers
P7 Working with other private organizations and/ or the government is very important for the success of our business	Pearson Correlation	1	.215**
	Sig. (2-tailed)		.001
	N	239	239
IG7 We rarely experience logistical issues with our service providers in getting products to our customers	Pearson Correlation	.215**	1
	Sig. (2-tailed)	.001	
	N	239	239

**. Correlation is significant at the 0.01 level (2-tailed).

Reliability Statistics				
Cronbach's Alpha	N of Items			
0.865	12			
Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
IBNMS1 Development and improvement of social amenities	27.95	57.503	0.497	0.857
IBNMS2 Development and improvement of business aiding infrastructure	28.37	56.233	0.546	0.854
IBNMS3 Assisting suppliers in providing organizational inputs and consumables.	27.82	56.614	0.545	0.854
IBNMS4 Intervening to ensure customers receive their products on time	27.56	56.692	0.496	0.857
IBNMS5 Assisting intermediaries like distributors and wholesalers to setup and get products to customers on time.	28.22	55.049	0.560	0.853
IBNMS6 Benchmarking with global subsidiaries and competitors	27.73	56.067	0.559	0.853
IBNMS7 Investing in global infrastructure systems	28.15	56.267	0.519	0.856
IBNMS8 Following trends in nonmarket strategy	28.16	56.025	0.601	0.851
IBNMS9 Providing information and data to market research firms.	28.23	55.540	0.594	0.851

IBNMS10 Providing information and data to financial institutions	27.93	54.869	0.585	0.851
IBNMS11 Forming partnerships with financial institutions	28.38	56.369	0.555	0.853
IBNMS12 Active participation on social media and public broadcast	28.03	56.363	0.492	0.858
Reliability Statistics				
Cronbach's Alpha	N of Items			
0.793	7			
Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
P1 Working with other private organizations	23.59	15.424	0.419	0.786
P2 Working alone is very costly to our organization	23.74	14.577	0.536	0.764
P3 We often achieve business objectives faster when we work together	23.78	13.748	0.709	0.731
P4 Working with other organizations saves our company a lot of money	24.05	13.677	0.695	0.733
P5 Our organization receives preferential treatment through working with other organizations	24.65	15.050	0.415	0.789
P6 Our organization is better prepared for unexpected events when working with other organizations	24.12	16.019	0.376	0.792

P8 Losing partners is very costly and disruptive to our organization	23.78	15.231	0.537	0.765

Reliability Statistics				
Cronbach's Alpha	N of Items			
0.835	7			
Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
P2 Working alone is very costly to our organization	24.08	15.291	0.475	0.831
P7 Working with other private organizations and/ or the government is very important for the success of our business	23.85	15.533	0.605	0.810
P8 Losing partners is very costly and disruptive to our organization	24.11	15.230	0.586	0.812
P9 We often achieve business objectives faster when we work together with other organizations and/ or government	24.12	14.812	0.689	0.797
P10 Working with other organizations and/ or government saves our company a lot of money	24.32	14.456	0.685	0.796
P11 Our organization receives preferential treatment through working with other organizations and/ or government	24.82	15.196	0.460	0.835

P12 Our organization is better prepared for unexpected events when working with other organizations and/ or government	24.38	14.877	0.644	0.803

Reliability Statistics				
Cronbach's Alpha	N of Items			
0.555	7			
Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
WLC1 Over the past 4 years' internal credit interest rates (South African Reserve Bank repo rates) have been increasing	24.19	6.840	0.361	0.489
WLC2 Over the past 4 years' inflation rates are increasing as a result of consumer price escalations	24.20	6.702	0.374	0.483
WLC3 Costs of manufacturing has increased over the past 4 years	23.81	7.331	0.293	0.516
WLC4 You would prefer keeping your cash investments in one of the major currencies like the US$	24.28	7.040	0.163	0.570
WLC5 Decreases in price of global commodities like oil has not translated in overall cheaper fuel costs and basic consumer products	24.36	6.090	0.295	0.517

WLC6 There is an increase in the value of goods and services imported over the past 4 years	24.17	7.280	0.191	0.550
WLC7 The government budget deficit in major currencies like the US$ has increased over the past 4 years	24.07	7.008	0.373	0.490

Reliability Statistics				
Cronbach's Alpha	N of Items			
0.621	4			
Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
IG1 Employees and community members have access to schools, libraries, universities, clinics, hospitals, courts, museums, theatres, playgrounds, and parks.	10.07	5.933	0.356	0.582
IG2 Employees have no difficulties in getting to work	10.57	4.174	0.612	0.362
IG3 Our employees are never absent from work due to issues related to basic amenities	10.71	4.893	0.494	0.476
IG4 We can access market data and can provide data and information to relevant institutions	10.05	7.101	0.166	0.689

Reliability Statistics				
Cronbach's Alpha	N of Items			
0.627	3			
Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
IG5 Our business is linked to suppliers and customers by a very good distribution network	7.03	3.066	0.379	0.615
IG6 Our suppliers are well established and rarely have issues regarding provision of business required inputs	7.48	2.179	0.526	0.394
IG7 We rarely experience logistical issues with our service providers in getting products to our customers	7.71	1.969	0.443	0.544

Appendix 5: Factor analysis and discriminant validity

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.828
Bartlett's Test of Sphericity	Approx. Chi-Square	1000.684
	df	66
	Sig.	0.000

Rotated Factor Matrix[a]			
	Factor		
	1	2	3
P10 Working with other organizations and/ or government saves our company a lot of money	0.747		
P9 We often achieve business objectives faster when we work together with other organizations and/ or government	0.711		
P12 Our organization is better prepared for unexpected events when working with other organizations and/ or government	0.709		
P8 Losing partners is very costly and disruptive to our organization	0.539		
P6 Our organization is better prepared for unexpected events when working with other organizations	0.412		
P3 We often achieve business objectives faster when we work together		0.709	
P1 Working with other private organizations		0.622	
P4 Working with other organizations saves our company a lot of money		0.566	
P2 Working alone is very costly to our organization		0.511	
P7 Working with other private organizations and/ or the government is very important for the success of our business	0.411	0.507	
P11 Our organization receives preferential treatment through working with other organizations and/ or government			0.840
P5 Our organization receives preferential treatment through working with other organizations			0.834

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.649
Bartlett's Test of Sphericity	Approx. Chi-Square	108.442
	df	21
	Sig.	0.000

Rotated Factor Matrix[a]			
	Factor		
	1	2	3
WLC3 Costs of manufacturing has increased over the past 4 years	0.691		
WLC2 Over the past 4 years' inflation rates are increasing as a result of consumer price escalations	0.581		
WLC5 Decreases in price of global commodities like oil has not translated in overall cheaper fuel costs and basic consumer products			
WLC7 The government budget deficit in major currencies like the US$ has increased over the past 4 years			
WLC6 There is an increase in the value of goods and services imported over the past 4 years		0.644	
WLC1 Over the past 4 years' internal credit interest rates (South African Reserve Bank repo rates) have been increasing		0.433	
WLC4 You would prefer keeping your cash investments in one of the major currencies like the US$			0.730

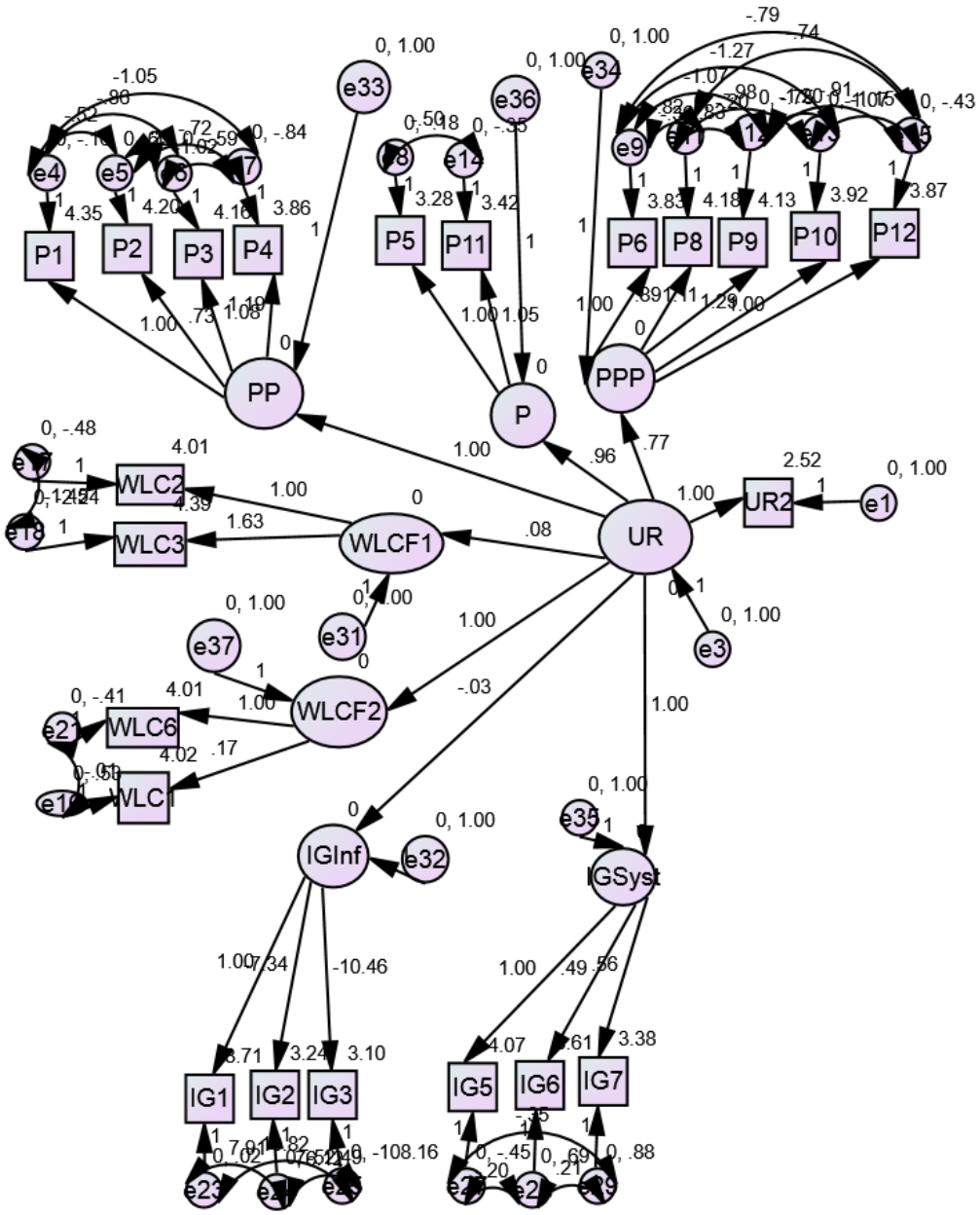
KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.712
Bartlett's Test of Sphericity	Approx. Chi-Square	273.130
	df	28
	Sig.	0.000

Rotated Factor Matrix[a]		
	Factor	
	1	2
IG6 Our suppliers are well established and rarely have issues regarding provision of business required inputs	0.609	
IG5 Our business is linked to suppliers and customers by a very good distribution network	0.584	
IG7 We rarely experience logistical issues with our service providers in getting products to our customers	0.576	
IG8 Our organization invests in global infrastructure systems and consistently deploys them at all sites		
IG4 We can access market data and can provide data and information to relevant institutions		
IG2 Employees have no difficulties in getting to work		0.828
IG3 Our employees are never absent from work due to issues related to basic amenities		0.575
IG1 Employees and community members have access to schools, libraries, universities, clinics, hospitals, courts, museums, theatres, playgrounds, and parks.		0.524

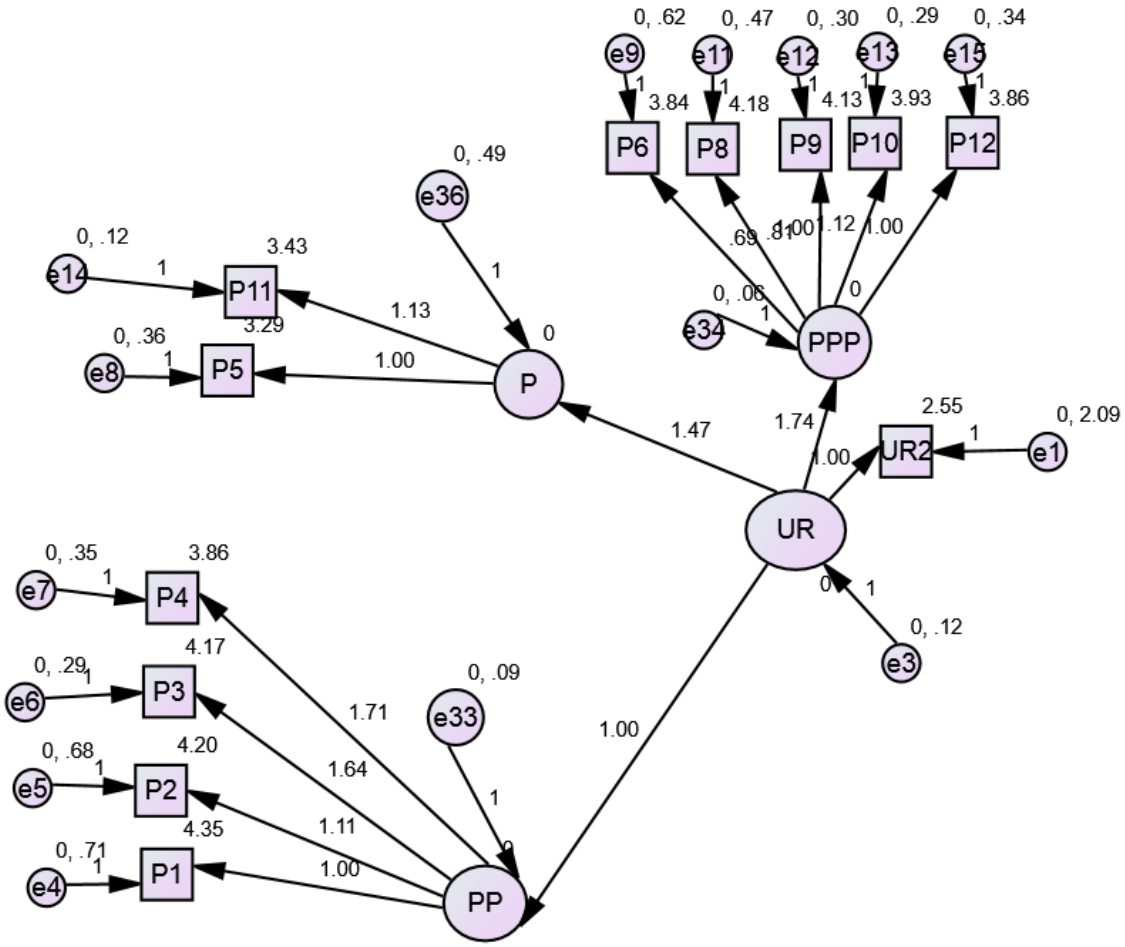
Appendix 6: Structural model

Key: PP – private partnerships, **PPP** – public private partnerships, **P** – legislation driven partnerships, **WLCF1** – depreciation of currency, **WLCF2** – increasing import costs and interest rates, **IGinf** - Absent or underdeveloped physical, social and commercial infrastructure, **IGSyst** – Poor distribution systems, **UR** – Output unit costs of an infrastructural building nonmarket strategy, **UR1** – High output unit cost of infrastructure developed as part of an organizations infrastructure building nonmarket strategy

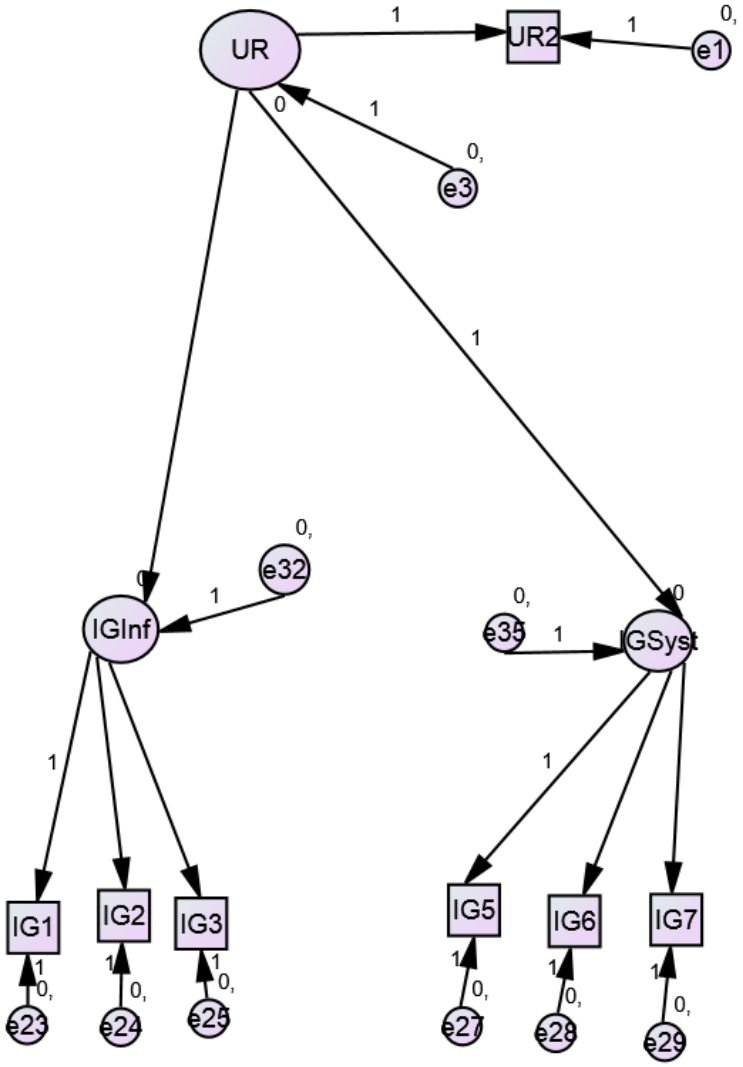
a) Overall structural and measurement model



b) Partnering structural model



c) Infrastructure gaps structural model



d) Weak local currency structural model