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Small-scale mining in South Africa: an assessment of the success factors and support structures for entrepreneurs

Abstract

One of the negative legacies of the apartheid era is a markedly skewed mining sector that favors the established companies, and almost completely neglects small-scale mining enterprises. Though a major source of revenue for South Africa (SA), the current state of the mining sector does not directly benefit the previously disadvantaged who dominate small-scale mining. The aim of this study is to explore the support structures and success factors relevant to small-scale mining entrepreneurs in South Africa. To achieve this end, the qualitative research approach was utilized to collect and analyze the data. The results affirmed the availability of a comprehensive support structure for aspiring small-scale mining entrepreneurs. A number of factors not limited to having a marketing ethos, requisite business knowledge, possession of appropriate equipment, and the ability to mine effectively and efficiently were reported as being central to successful small-scale mining. Furthermore, it is acknowledged that having passion and the right work ethics worked in favor of successful small-scale entrepreneurs.

Keywords: support structures, success factors, small-scale mining entrepreneurs.
JEL Classification: M00, M1, M10, M130.

Introduction and background

The abolition of apartheid opened up a number of opportunities for previously disadvantaged South Africans, but many obstacles to equity remain. For instance, mining is the cornerstone of the South African economy, yet it has been used by the white minority to perpetuate inherent obstacles by precluding previously disadvantaged people from participating meaningfully in the exploration of the mineral resources of the country (South Africa. Department of Mineral Resources, 2009, p. 2).

By attempting to eradicate these injustices, the democratic regime envisioned that it could create a new SA in which a significant proportion of its citizens would benefit from the mineral resources of the country. This is what lays behind the introduction of the mining charter. The charter's objectives include, but are not limited to, promoting equitable access to mineral resources; expanding opportunities for previously disadvantaged people; empowering previously disadvantaged people and enabling more people to benefit from SA's mineral resources (South Africa. Department of Minerals Resources, 2009, p. 2).

Notwithstanding government interventions, only a few industries have transformed significantly. At the same time the owners of some industries are being marginalized. Small-scale mining entrepreneurs are a case in point. Small-scale mining entrepreneurs lack effective participation in the mainstream economy because of the wide-ranging challenges they face (Mutemeri & Petersen, 2002, p. 286; Siegel & Veiga, 2009, p. 5). On a different note, Mutemeri, Sellick and Mtegha (2010, p. 5) contend that small-scale mining entrepreneurs are growing in numbers and young men and women entrepreneurs are being drawn into small-scale mining all over the world. Despite this seeming contradiction, small-scale mining entrepreneurs, like other entrepreneurs in SA are confronted with daunting challenges during both the start-up phase and next phases of their businesses.

Given the impediments they face, small-scale mining entrepreneurs are compelled to use rudimentary methods and often conduct small-scale mining operations individually and illegally (Avila, 2003, p. 15; South Africa. Department of Water Affairs & Forestry, 2006, p. 5; Phiri, 2011, p. 1). As a direct result of the impediments to small-scale mining entrepreneurs, their use of rudimentary methods of extracting gold or other mineral resources are deleterious to the environment and human health (Van Straaten, 2000, p. 45; Drasch, O'Reilly, Beinhoff, Roider & Maydly, 2001, p. 151).

According to Van Straaten (2000, p. 45) and Drasch et al. (2001, p. 151), small-scale mining entrepreneurs assistance, the rudimentary methods of extracting the minerals that are used, and inadequate knowledge of how to run a business or to market goods (Van Straaten, 2000; Drasch et al., 2001). However, in the midst of all these challenges, small-scale mining continues to be a significant source of revenue for the majority of previously disadvantaged people in rural communities are confronted with similar challenges globally. Common challenges small-scale mining entrepreneurs experience during both the business start-up and the growth phases arise from a

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lack financial. There seems to be a good case for offering them the support they need to sustain their enterprises. The deleterious effect small-scale mining has on the environment because of the rudimentary methods they employ to extract the minerals strengthens the case for these entrepreneurs to be encouraged and supported by the government and other interested stakeholders.

This paper investigated the availability of support structures to aspiring and existing small-scale mining entrepreneurs. Furthermore, it investigated success factors of small-scale mining entrepreneurs in four provinces of South Africa; Free State; KwaZulu-Natal (KZN); Limpopo and Mpumalanga. The focus was on small-scale mining in SA and reasons to support oroppose small-scale mining. This study borrows from the literature on reason to support or oppose small-scale mining from other parts of Southern Africa.

Diverging from the aforementioned, attention is given to the success factors of small-scale mining entrepreneurs. However, the obstacles facing mining entrepreneurs and small businesses, in particular, are poignant during both the start-up and growth phases. A number of these impediments not limited to, lack of finance, and lack of equipment have been reported (Bradford, 2007, p. 97; Thwala & Phaladi, 2009, p. 533; Ledzani & Netswera, 2009, p. 225; Mutemeri et al., 2010, p. 19).

Determining business success factors for small-scale mining entrepreneurs one draws from the work of Nieman & Nieuwenhuizen (2009), Tengeh (2012). On the one hand, Nieman and Nieuwenhuizen (2009, p. 14) distinguish business success factors as rather intrinsic contrary to being external, encapsulating the entrepreneurial flair and managerial competencies. On the other hand, Tengeh (2012, p. 40) suggests that when determining business success, a variety of characteristics, including the number of years in operation and the profit of the business can be applied. On a different note, Osterwalder and Pogneur (2010, p. 14) success accrues with the utilization of a business model, given that it forces the business to clarify aims, how it would create, deliver and capture value to their clients.

Making a different point, Veiga, Maxson and Hylander (2006, p. 436) state that small-scale mining is the livelihood for people in remote areas. Nonetheless, there are benefits and disadvantages derived from operating a small-scale mine. For example, on the one hand, a vast majority of the population in Burkina Faso, is actively engaged in small-scale mining (Werthmann, 2009, p. 19). On the other hand, Hentschel et al. (2002, p. 3) are of the opinion that across all regions, small-scale mining employs a disproportionate number of indigenous people in host communities. As a result, small-scale mining is crucial in poverty and unemployment eradication. Hentschel et al. (2002, p. 3) estimated that twelve (12) million people internationally were either employed or involved in small-scale mining (Hentschel et al., 2002, p. 3). According to Hilson (2009, p. 1), more than two million people in sub-Saharan Africa, are directly involved in small-scale mining operations. Van Straaten (2000, p. 46) notes that there are more than twenty five thousand (25 000) indigenous people working in small-scale mining camps in the Bukombe and Shinyanga District of northern Tanzania. In some countries the figure is much higher. In Brazil, for instance, small-scale mining operations employ an estimated two hundred thousand or more people (Sousa, Veiga, Van Zyl, Telmer, Spiegel & Selder, 2011, p. 19).

1. The problem statement

Given the prevalence of small-scale mining around the world, many would agree that small-scale miners are poverty driven, and they often lack business fundamentals. Hence the need for support structures and mapping the required success factors for small-scale mining entrepreneurs in S.A. Veiga, Maxson and Hylander (2006, p. 436) contend that small-scale mining is essentially a lucrative activity for indigenous people in developing nations due to the benefits thereof. However, the support structures necessary for the successful transition from small-scale mining businesses to sustainable small businesses and to medium-sized enterprises are often lacking.

Despite the numerous sentimental news reports echoed frequently by media houses, one still finds that the depth of scholarship on small-scale mining entrepreneurship in S.A. is quite limited. More especially, the discourse on small-scale mining is quite skewed with prominence on the environmental challenges of small-scale mining (Van Straaten, 2000, p. 45; Drasch et al., 2001, p. 151; Tylor, Appleton, Lister, Smith, Chitamweba, Mkumbo, Machiwa, Tesha & Beinhoff, 2005, p. 112). The just mentioned, alludes to the need for evidence in favor of the support and promotion of small-scale mining in South Africa.

Howbeit small-scale mining being the cornerstone of the economy of rural communities, it is apparent that small-scale mining entrepreneurs confront a number of setbacks that can be aligned to inadequate support and resources. For instance, Phiri (2011, p. 33) argues that the lack of finance and business knowledge in small-scale mining has perpetuated a lack of recognition for mining entrepreneurs. Thus, this study was guided by the need:

- To ascertain the support structures in favor of small-scale mining entrepreneurs in S.A.
- To assess the success factors of small-scale mining entrepreneurs in South Africa.

To provide prominence, and solution to the research problem, the rest of the paper is organized as follows. Section 2 presents the literature survey. Section 3 discusses the research design and methodology. The results are presented and discussed in section 4. Section 5 focuses on the limitations and conclusions are drawn in Final Section.

2. Literature survey

Noting the scholarship on the success factors of entrepreneurs in general (Alam, Jani & Omar, 2011, pp. 165-175; Chowdhury, Alam & Arif, 2013, pp. 38-52), this study investigated those of small-scale mining entrepreneurs in SA. In this section, the definition of an entrepreneur is exposed. Additionally, an elaboration on small-scale mining and small-scale mining entrepreneurs is presented. Furthermore, the theoretical framework underpinning this study is presented herein. Thereafter, the support structures and the success factors for small-scale mining entrepreneurs are discussed.

2.1. Entrepreneur. An entrepreneur is a person who innovates and creates businesses that add value to customers while exploiting opportunities (Bolton & Thompson, 2003, p. 49). Hisrich et al. (2010, p. 6) hold similar views with those of Bolton and Thompson (2003, p. 49). According Hisrich et al. (2010, p. 6) an entrepreneur is a person who combines resources in an innovative manner to create something new and bears the risk of doing so. Barringer and Ireland (2010, p. 30) contend that an entrepreneur is a person, who assembles the following resources; money, people, business model, the strategy, and transforms these resources into a feasible business start-up.

2.2. Small-scale mining. The contextualization of small-scale mining differs from one region to the next. A solid definition of small-scale mining has yet to be crafted (Dreschler, 2001, p. 5; Hentschel, Hruschka & Priester 2003, p. 5; South Africa. Department of Water Affairs & Forestry, 2006, p. 1; Phiri, 2011, p. 14). Notwithstanding the presence of literature on small-scale mining globally, evidently, the literature is yet to coin a transparent definition of small-scale mining. However, an attempt is drawn from the work of Phiri (2014, p. 14), Hentschel et al. (2003, p. 5). On the one hand, Phiri (2014, p. 14) asserts that, small-scale mining is characterized by their utilization of rudimentary procedures in mineral extraction; the size of mine which is usually compact. On the other hand, Hentschel et al. (2003, p. 5) are of the opinion that small-scale mining refers to mining operations conducted on a minimal scale with limited mechanism often undertaken in rural areas and regretfully employs young children. Hence, small-scale mining entrepreneurs are in dire need of business support.

2.3. Small-scale mining entrepreneurs. According to Pegg (2006, p. 376), small-scale mining entrepreneurs are people driven by poverty to conduct informal and often illegal mining operations. Werthmann (2009, p. 18) argues that small-scale mining entrepreneurs are indigenous people in pursuit of financial benefits and social independence). As a rule, those who start a business are seen as entrepreneurs, regardless of their reasons for starting or running the business. However, in the event of small-scale mining, most small-scale miners are not entrepreneurially orientated, but are poverty driven. There is a clear distinction between a small-scale miner and entrepreneurs in general. This can be illustrated using the work of Nieman and Nieuwenhuizen (2009). Classification as an entrepreneur is usually based on entrepreneurial sophistication. For that reason, small-scale miners are regarded as survival entrepreneurs; the fact that they operate in isolation and are not educated, means they are not eligible for funding (Nieman & Nieuwenhuizen, 2009, pp. 30-31).

2.4. The theoretical framework that underpins this study. This section focuses on the push and pull factors of entrepreneurship given that they indirectly determine an entrepreneur's propensity to seek assistance or support. All things being the same, the "pushed" entrepreneurs are more likely to seek support and the reverse is true.

Push and pull factors of entrepreneurship: why people become entrepreneurs? This theory is universally utilized to establish factors and the reasons why people become entrepreneurs. The theory highlights on the one hand that, in most cases, people are forced into entrepreneurship due to their circumstances. On the other hand, people can also be enticed to entrepreneurship due to their skills and opportunities. Therefore, in the context of this study, the theory is used to determine whether small-scale mining entrepreneurs are pushed or pulled into entrepreneurship, given that small-scale mining has so far not been anattractive entrepreneurial activity.

2.4.1. Push and pull factors of small-scale mining entrepreneurs. People can either be pushed to entrepreneurship by their circumstances or pulled into entrepreneurship by arising opportunities (Nieman & Nieuwenhuizen, 2009, p. 34). People are often

pulled into entrepreneurship either by the need for independence or financial rewards thereof (Shane, Kolvereid & Westhead, 1991, p. 432; Evan & Dean, 2002, p. 1; Barring & Ireland, 2010, p. 31). Conversely, Shane et al. (1991, p. 432) indicate that job dissatisfaction is the major push factor to entrepreneurship. However, in the case of small-scale mining, many would agree that, small-scale mining entrepreneurs are more pushed than enticed into entrepreneurship. Therefore, the pull and push factor theory suggests that small-scale mining entrepreneurs are virtually pushed into entrepreneu rship rather than pulled. The following figures illustrate push and pull factors of entrepreneurship in the context of small-scale mining entrepreneurs.

*2.4.1.1. Push factors of entrepreneurship.*The following Table illustrates some of the factors that push people to become entrepreneurs.

Table 1. Push factors to entrepreneurship

Push factors to entrepreneurship	
Factors	Explanation
Unemployment	A significant proportion of people in Southern Africa, in fact globally are pushed into small-scale mining by their circumstance; poverty and unemployment (van Straaten, 2000, p. 46; Hentschel et al., 2002, p. 3; Veiga et al., 2006, p. 436; Werthmann, 2009, p. 19; Hilson, 2009, p. 1; Sousa et al., 2011, p. 19; Hilson, 2012, p. 1663).
Job security	Co, Groenewald, Mitchell, Nayager, Visser, Train and Emanuel (2006, p. 50) state that job insecurities occur when employees are not fulfilled or through retrenchment. However, in the event of small-scale mining entrepreneurs, literature postulates that small-scale mining entrepreneurs are retrenched, unemployed and seasonal employees and some former mine workers.
Disagreement with management	In an event where people (employees) hold a conflicting view with management then disagreements may sometimes cause entrepreneurs to venture on their own. However, a lack of recognition from employer may also cause tension. Supporting this statement on draws from the work of Orhan & Scott (2015, p. 232). Due to lack of recognition from the employers, employees often find self-employment as permanent solution (Orhan & Scott, 2015, p. 232).
Does not "fit in" with the organization	Understandably, people's personalities may often conflict with that of their organizations, some employees may not blend in with the rest of the organizations. Co et al. (2006, p. 49) state that people are pulled to entrepreneurship due to their frustration and job dissatisfaction.
No other alternative	Hentschel et al. (2002, p. 3) are of the opinion that all over the world small-scale mining employs a considerable number of indigenous people in rural communities, as a result the sector plays very critical role in addressing unemployment and poverty in rural areas.

Table 1 is a summary of factors that push people to entrepreneurship and they include: unemployment; job insecurity; disagreement with management; does not fit in with the organization; no other alternatives. In view of the foregoing, it becomes crucial to determine the factors pull individuals into entrepreneurship.

2.4.1.2. Pull factors of entrepreneurship. The following table summarizes the factors that entice people to become entrepreneurs. The following table below points out these factors and explains them briefly.

Table 2. Pull factors of entrepreneurship

Pull factors of entrepreneurship	
Factors	Explanations
Independence	Co et al. (2006, p. 51) postulated that independence is an enticing factor of entrepreneurship. Shane et al. (1991, p. 435) states that, independence was ranked first as a pull factor into entrepreneurship across three different countries
Achievement	Aspiring entrepreneurs aspire to become an entrepreneur due to their need for achievement (Reynolds et al., 2002 in Carsrud & Brannback, 2011, p. 13)
Recognition	Recognition refers to the caliber of social status derived from operating one's business.
Personal development	The freedom and ability of an entrepreneur to pursue his or her own business ideas for financial gain. Small-scale miners do not consider any aspect of personal development, as majority of them are not educated and do not plan to improve their situations
Personal wealth	Starting and managing a business offers financial gain.

Given the relevance of the push and pull factor theory in explaining why people become entrepreneurs, it suffices to state that small-scanning entrepreneurs would require support to be sustainable since they are pushed into entrepreneurship.

2.5. Support structures for small-scale mining entrepreneurs of S.A. The debate around the availability of support for small businesses in general has been a long-lasting phenomenon. Nonetheless, support structures are available to aspiring and existing small-scale mining entrepreneurs. This statement is substantiated by a report instigated by the South African Department of Mineral Resources (2006, pp. 1-43). According to this report, there are institutions located across the country that offer financial and non-financial support to previously disadvantaged entrepreneurs (small-scale mining entrepreneurs). Contrasting the previous premise, Hentschel et al. (2003, p. 22) indicated that mining entrepreneurs in various countries are still without support structures, despite several scholars presenting recommendations to governments to encourage fair trade initiatives in this sector. However, to name a

few support structures, the Industrial Development Corporation (IDC); New Africa Mining Fund (NAMF); Anglo Khula Mining Fund (AKMF); National Empowerment Fund (NEF). Despite the notable support structures, Shen and Gunson (2006, p. 427) discredit the proclamations of support structures by both national and international governments claiming that governments are yet to innovate support structures.

Drawing from the foregoing argument, small-scale mining entrepreneurs in SA cannot be compared to other small-scale mining entrepreneurs outside SA, especially taking into account the differences in the economic and political settings. However, despite the political settings of any region, Mutemeri and Petersen (2002, p. 292) are of the opinion that given the increased availability of support structures to small-scale mining entrepreneurs, small-scale mining would potentially be the cornerstone of rural development. Therefore, uplifting host communities, despite the pros and cons of small-scale mining.

2.6. Reasons to support small-scale mining entrepreneurs. Many would agree that operating a small-scale mine presents a number of pros and cons just like any other business. According to Veiga et al. (2006, p. 436) small-scale mining is the livelihood for indigenous people due to its equilibrating benefits. An overwhelming proportion of indigenous people in Burkina Faso are actively engaged in the informal sector, which is small-scale mining (Werthmann, 2009, p. 19). Hentschel et al. (2002, p. 3) concur with the preceding premise, and add that small-scale mining employ a considerable amount of local people in host communities, around the world. Hence, the sector is perceived to play a critical role in addressing unemployment and chronic poverty in rural areas. According to Hentschel et al. (2002, p. 3), small-scale mining employs approximately twelve (12) million people world wide directly or indirectly. Hilson (2009, p. 1) claims that in Sub-Saharan Africa alone, two (2) million people are directly employed by small-scale mining.

2.7. Reasons to oppose small-scale mining entrepreneurs. There are a number of reasons why public and private institutions may oppose the support for small-scale mining. For instance, the grounds for opposition may be related to substance abuse and prostitution among others (Werthmann, 2009, p. 19). According to Hilson (2012, p. 3) the justifications to oppose small-scale mining operations are rooted in the inappropriateness of business mechanism and the lack of recognition by financial institutions. Take for instance, the length (valid for 2 years) of mining permits, which act as an obstacle in its own rights.This further makes, financial institutions reluctant to support small-scale mining entrepreneurs. Besides the just mentioned reasons against support, Tylor et al. (2005, p. 112) are of the opinion that small-scale mining operations utilize mercury in the processing of minerals thus causing water and air pollution to many host countries.

2.8. Challenges of small-scale mining entrepreneurs. Small-scale mining entrepreneurs lack effective participation in the mainstream economy due to challenges within small-scale (Mutemeri & Petersen, 2002, p. 286; Siegel & Veiga, 2009, p. 5). However, according to Mutemeri, Sellick and Mtegha (2010, p. 5) small-scale mining businesses are increasing rapidly to the extent that women are being pushed into entrepreneurship. Nonetheless, small-scale mining entrepreneurs in SA are confronted with pervasive challenges during both the start-up phase and post start-up phase of their businesses. Given these challenges, mining entrepreneurs who lack support structures often conduct small-scale mining operations individually and illegally (Avila, 2003, p. 15; South Africa. Department of Water Affairs & Forestry, 2006, p. 5; Phiri, 2011, p. 1).

2.9. Success factors of small-scale mining entrepreneurs. Venter et al. (2008, p. 226) aver that entrepreneurs are the cornerstone of to any economy. However, Tengeh (2012, p. 40) stipulates that a wide range of characteristics not limited to profit and the number of years in business may be taken into consideration when determining business success. Nieman and Nieuwenhuizen (2009, p. 14) distinguish between the following success factors tabulated below:

Table 3. Success factors

Entrepreneurial success factors	Managerial success factors
Creativity and innovation	Planning
Risk orientation	Knowledge of competitors
Leadership	Mainly market orientated
Good human relations	Client services
Positive attitude	High-quality work enjoys priority
Perseverance	Financial insight and management
Commitment	Knowledge and skills with regards to the business
	The use of experts

Source: Adapted from Nieman and Nieuwenhuizen (2009, p. 14).

Table 3 explains success factors and categorizes them by differentiating entrepreneurial and managerial success factors. Drawing from the above table, it is evident that entrepreneurial success factors are therefore, inherent. While managerial success factors are attainable.

3. Research design and methodology

The grounded theory methodology is commended for exploring "grey" or unexplored areas and to gain

a newer perspective (Glaser & Strauss, 1967, p. 5). In this paper, the grounded theory was utilized to examine the research question. The study was carried out in four of the nine provinces of South Africa and included; the Free State; KwaZulu-Natal; Limpopo and Mpumalanga. These provinces were partly selected owing to the prevalence of mining activities at a small scale. Other aspects of the research design and methodology follow.

3.1. Research design. A qualitative research paradigm anchored the methodology of this study, in which face to face interviews were conducted. The quantitative research paradigm usually assigns numbers to observations (Brynard & Hanekom, 2006, p. 36; Dun, 2010, p. 42; Gravetter & Forzano, 2009, p. 147). On a different note, by utilizing a qualitative research paradigm, a researcher seeks an in-depth understanding of a particular phenomenon through face to face interviews (Brynard & Hanekom, 2006, p. 36; Dun, 2010, p. 42; Gravetter & Forzano, 2009, p. 147).

3.2. Research population. Small-scale mining entrepreneurs constituted the population of this research. Population in the context of research alludes to a fixed classification of probable people to be surveyed or interviewed (Brynard & Hanekom, 2006, p. 10; Gravetter & Forzano 2009, p. 128). The requirements to participate in this study were; mining entrepreneurs had to be registered with mintek; mining entrepreneurs had to be in business for more than five years; and mining entrepreneurs had to hold a mining permit.

3.3. The sampling design. According to Oppong (2013, p. 302) sampling is a methodical process of designating participants from the population in order to be investigated on the foundation that the participants are to contribute meaningfully to the investigation. Given that mining entrepreneurs are difficult to locate, a database was attained from mintek. Thereafter, random sampling was employed. Blumberg et al. (2011, p. 177) assert that sampling can either be done randomly or purposefully. From the fixed population, a total of 21 mining entrepreneurs scattered in four provinces; Free State; KZN; Limpopo and Mpumalanga. After randomly drawing a sample of 21 small-scale mining entrepreneurs, permission to interview them was solicited. Upon confirmation, it became apparent that ten (10) businesses were no longer in operation. Hence the sample size was reduced to eleven (11) participants.

3.4. Reliability and validity. Reliability computes the uniformity of the research strategy, whether it will yield the same results if utilized in homogenous interviews (Brynard & Hanekom, 2006, p. 48; Gray, 2009, p. 158). In the context of this study reliability was ensured by piloting the study on two different participants. Unlike reliability, validity is concerned with whether the research strategy will achieve the research aims and objectives (Gray, 2009, p. 155). The validity of this study was guaranteed by ensuring that the research questions; the objectives and findings were aligned.

3.5. Data collection and analysis. According to Tengeh (2012, p. 19) the data collection approach is primarily influenced by the type of questions the study seeks to address. The data collection approach is anchored to describe the challenges and prospects of small-scale mining entrepreneurs. Thus, data were collected through in-depth interviews with the founders or managers of the small-scale mining businesses. The founders or managers were preferred because they were likely to possess the most comprehensive and accurate information about the activities of the business. Following Weerawardena and Mort (2006, p. 26), open-ended questions, followed by prompts used to elaborate on the discussion and to elicit the views and opinions of the participants were utilized. Each interview lasted for approximately 30 minutes. The interviews were of paramount importance as they helped to validate what the literature postulates regarding small-scale mining. In total, eleven (11) interviews were conducted with small-scale mining entrepreneurs from four different provinces.

Data analysis took place following after the data collection. According to Gwija (2014, p. 38) data analysis is conducted in a bid to determine consistent patterns that emerge throughout the analysis so that the researcher can categorize the consistent pattern into themes. The interviews were audio recorded while in progress the researcher also took notes to supplement the audio record. The interviews and observed data were cross checked for consistency and included for further analysis. Content analysis was utilized to categorize the participant's feedback into themes. According to Blumberg (2011, p. 294) content analysis is a technique used to gain meaningful information from transcribed data into themes. Thus, the transcribed data were then categorized into themes in accordance with the research questions. The emerging themes that are reported in-depth in the following section.

4. Findings and discussions

The findings of this study are reported in phases following the research objectives and emerging themes. In the first phase, the theme questions and associated findings are presented in a tabular form. In the second phase, the respondent's answers are

presented word verbatim. In the final phase, a summary of the finding relating to the theme question presented and aligned with the literature study.

4.1. The support structures in favor of small-scale mining. The aim of this subsection was to investigate the support structures in favor of small-scale mining entrepreneurs in SA. The results are presented in Table 4, and accompanying direct quotations.

Table 1. Support structures

Theme question: what are the business support structures available to small-scale mining entrepreneurs?	
Domain	Interview findings
Support structures available	Fifty five per cent (55%) of small-scale mining entrepreneurs agreed that there are support structures available while forty five per cent (45%) asserted that there are no support structures available.

The objective of this question was to answer the research questions. The objective of the questions was to determine; what support structures are available to small-scale mining entrepreneurs. In answering this theme this is what the participants had to say:

What business support structures are available for small-scale mining entrepreneurs? The respondents mentioned the following in response to the preceding question:

"When we first started we were being supported by the local chief until a guy called and wrote a letter to LIPSA so that LIPSA can support us."

"I have mentioned about the department itself they offer support on an on-going basis so they provide capacity building program and even financial support so government itself is really supportive. LIPSA, MINTEK capacity building. Institutions like SEDA even though they are parastatals MINTEK came and provided training here, skills development. So it was MINTEK; SEDA I can't remember but there are a lot of institutions that offer support in terms of skills development."

"We didn't get support, my grandfather was working somewhere so he managed to buy those trucks and equipment."

"I have support from my eldest son who is a lawyer by profession, and my grandson."

"DMR assists small-scale mining entrepreneurs after obtaining a license. DMR purchased trucks and equipment."

"There aren't any support structures, because DMR officials are not business people so they don't understand us, to get help you must bribe a DMR official."

"IDC started to support us but now I don't see the support anymore, because even other small-scale mining entrepreneurs which were assisted by IDC didn't succeed. The capital we got from IDC is too small. For instance, IDC gives you money that they think is substantial. IDC should provide us with mentors when giving us money. Even the companies we buy our equipment from should come and train us on how to use the equipment."

"LIPSA; IDC; SEDA, these guys contributed a lot."

"Nothing, no support."

"No, we don't get support from anyone if we had support we would've had all our machines."

"Well, they should but they don't, there was support in the past for instance, years IDC gave people R 250 000 and people actually eat the money."

4.1.1. Summary of the findings with regards to the foregoing quotations. It was revealed that a slight majority (55%) of small-scale mining entrepreneurs had access to the relevant support structures. On the contrary, forty five per cent (45%) of mining entrepreneurs asserted that there are no support structures available. In view of the foregoing, the support structures provided by government entities include training; funding; grants and mentoring to small-scale mining entrepreneurs and aspiring entrepreneurs. For instance the following government aligned organization LIPSA; IDC; DTI; SEDA; MINTEK. LIPSA and MINTEK provide support to small-scale entrepreneurs. This finding is in contrast to the literature which proclaims the absence of structures that support small-scale mining entrepreneurs in South Africa. For instance, Shen and Gunson (2006, p. 427) declare that despite the public proclaims by both national and international government, small-scale mining entrepreneurs are without support.

4.2. Success factors. The aim of this sub-section was to determine the factors (success) that favor small-scale mining in SA. The results are presented in Table 2, and are accompanied by direct quotations.

Table 2. Success factors for small-scale mining businesses

Theme question: what makes a small-scale mining business successful?	
Domain	Interview findings
Success factors	Thirty six per cent (36%) of small-scale mining entrepreneurs noted success factors as marketing ethos, while twenty seven per cent (27%) noted success factors as having the necessary business knowledge. On the one hand, nine per cent (9%) of mining entrepreneurs revealed that being in possession of the appropriate equipment was crucial to the success of a small-scale mining business. Nine per cent (9%) of mining entrepreneurs could not mention any success factors alluding that it is not always successful. Nine per cent (9%) of mining entrepreneurs instigated that entrepreneurs need to be passionate and work hard. Nine per cent (9%) of mining entrepreneurs suggested mining effectively and efficiently as one of the success factors.

The objective of this question was to determine the success factors of small-scale mining businesses. The above table represents success factors indicated by small-scale mining entrepreneurs. The reason there are no percentages is that each entrepreneur had something different to say as to what the success factors are for small-scale mining businesses. Exploring this theme this is what the entrepreneurs had to say.

What are the success factors of a small-scale mining business?

"Having the right equipment to successfully produce minerals and provide rich minerals to clients they can successfully run their business."

"It's not always successful, because mining is a bit complicated, this business is difficult, it can't be compared to other businesses. Even ourselves at one stage we failed then we got business partners."

"I don't know what to say, but it's all about marketing the business, are people happy with your service?"

"Well it's an ongoing business because it has been patronized by the public."

"Be competitive, sell good products of quality, that's how you sustain your business, we produce quality products and that gains customers by word of mouth, have a good relationship with your customers."

"Quality sand, accessibility of the mining site; customer care, you must have proper landscape and be consistent."

"I think logically you must know from the first time what is going on, know the ins and outs of the business. Try and establish the business to be sustainable, grow the business, stay in the business, keep your labors, empower people, our employees have been working with us for 15 years. Most entrepreneurs don't care about empowering."

"Every single business, not necessarily a small-scale mine, any business needs people who are business minded, you need to be clued up."

"It's to mine that alluvial gold and sand because people can live from operating a small-scale mine. You can hire up to 20 people."

"The good management skills handle our finances properly, have good skills so they can provide according to the requirements."

"Passion, hard work, effort."

4.2.1. Summary of the findings drawing from the foregoing quotations. Drawing from the transcribed data, thirty six per cent (36%) of small-scale mining entrepreneurs revealed the reasons behind the success of their businesses, being marketing ethos. On a different note, twenty seven per cent (27%) of small-scale mining entrepreneurs indicated their success factors as having the necessary business knowledge. On the one hand, nine per cent (9%) of mining entrepreneurs revealed that being in possession of the appropriate equipment was crucial to the success of a small-scale mining business. On the other hand, nine per cent (9%) of mining entrepreneurs could not mention any success factors alluding to the fact that a business is not always successful. Meanwhile, nine per cent (9%) of mining entrepreneurs instigated that entrepreneurs need to be passionate and work hard. Another nine per cent (9%) of mining entrepreneurs concluded by noting mining effectively and efficiently as one of the success factors of small-scale mining.

5. Limitations

Given funding and time restrictions, this study was limited to four provinces in SA where mining was prominent. Furthermore, the study focused on the support structures and success factors of small-scale mining entrepreneurs in the selected provinces. This inherently precludes the other provinces and Black Economic Empowerment (BEE) mining entrepreneurs. Future studies may explore the prospects and challenges of BEE mining entrepreneurs in SA.

6. Conclusion

This study aimed to explore the support structures and success factors relevant to small-scale mining entrepreneurs in South Africa. The results affirmed the availability of a comprehensive support structure for aspiring small-scale mining entrepreneurs. The support structures that are available to small-scale mining entrepreneurs in SA are predominately government entities that provide training and financial assistance. Although the literature downplays the prevalence of support structures, small-scale mining entrepreneurs indicate that support structures are quite remarkable. Nonetheless, in order for small-scale mining entrepreneurs to be successful, mining entrepreneurs need to be in possession of the following: human capital; appropriate equipment; be passionate about entrepreneurship. Most importantly, small-scale mining entrepreneurs need to have the ability to mine efficiently and effectively, in order to remain sustainable.

In terms of the success, it was noted that number of factors not limited to having a marketing ethos and requisite business knowledge; possession of appropriate equipment, and the ability to mine effectively and efficiently were reported as being central to successful small-scale mining. Furthermore, acknowledged that passion and having the right

work ethics worked in favor of successful small-scale entrepreneurs.

Recommendations

The South African government should first determine what businesses support is needed by small-scale miners and therefore, increase support structures and skills development initiatives for small-scale mining entrepreneurs. Given that the Industrial Development Corporation and NEF are financial service providers to small-scale mining entrepreneurs, this paper recommends that the business consultancy service unit at National Youth Development Agency (NYDA) be tailored made for small-scale mining entrepreneurs. Future studies should investigate the appropriateness of the support structures currently allocated to small-scale mining entrepreneurs.

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