

A Critical Analysis of the Variations in Legal Status and its Effects on the Performance of Small-Scale Mining Enterprises: Insights from the Zambian Context

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ABSTRACT

This paper contributes to the small-scale mining enterprises literature by applying the challenge-based model of entrepreneurship in an under-researched developing country context. The study examines the influence of economic and operational challenges, cognitive challenges as well as normative challenges on the performance of small scale mining enterprises in Zambia. Additionally, legal status variations regarding SSMEs performance are examined. The SSMEs legal status plays an important role in supporting entrepreneurial activities. Based on a quantitative correlational design utilising 408 SSMEs' primary data from a structured questionnaire, statistical correlation and independent's t-test models were employed to test our hypotheses. The study also employs the Granger causality test as a methodological approach to explore the relationship between the formalization of Small and Medium-sized Enterprises (SMEs) and the subsequent improvements in their performance metrics.

The findings indicate that economic challenges, cognitive challenges and normative challenges all facing SSMEs, have unique positive significant effects on the performance of SSMEs. Additionally, the study found significant legal status variations in all aspects of the model. Despite the study being cross-sectional, the findings have important implications for policymakers and enterprise support.

Keywords: Legal status variations, Performance, Small-Scale Mining Enterprises, Zambia

INTRODUCTION

In numerous regions globally, including Zambia, artisanal or small-scale mining enterprises (SSMEs) stand as equally significant as large-scale mining activities, particularly in relation to the scale of employment. SSMEs hold potential for playing a pivotal role in poverty alleviation and rural development, with a majority of participants being economically disadvantaged. However, the SSME sector often operates informally, thus subjecting it to exploitative practices, cross-border criminal activities, and severe human rights abuses, including child labor (Amnesty International 2016; Banchirigah 2008; International Labour Organization 1999; Hilson 2011, 2016; O'Driscoll 2017; Salo et al. 2016; Schipper, de Haan, and van Dorp 2015). In Zambia, the sector is characterized by its illicit and informal nature, thriving beyond the bounds of formal state regulation, with a large portion of activities remaining unlicensed and devoid of formalized assistance (International Labour Organisation 1999; Okoh and Hilson 2011; Siegel and Veiga 2009). The predominantly unregulated environment of SSMEs perpetuates their informality, as transactions among influential stakeholders are bolstered by informal practices within the confines of informal "spaces" (Hilson et al. 2017), ultimately leading to revenue losses for governments and diminished returns for artisanal miners at the base of the value chain.

The Zambian government, operating through the Ministry of Mines and Minerals Development, has been actively engaged in efforts to combat illegal mining activities by motivating Small-Scale Mining Enterprises (SSMEs) to undergo formalization procedures (Mines Development Department, Zambia, survey report, 2018). This formalisation process necessitates that SSMEs establish their legal status by engaging with relevant government departments, either through the formation of cooperatives or by registering under PACRA.

Consequently, the legal status of SSMEs, whether registered or unregistered, has emerged as a fundamental consideration in their operations. Legal status, as defined by US Legal (2017), encompasses the acknowledged position and authorization granted by the government to an individual or group, determining their entitlements and privileges within a specific jurisdiction. It encompasses a series of entitlements, responsibilities, powers, and limitations outlined within legislative frameworks. Furthermore, legal status, as elucidated by Balkin (1997) and Graham (2009), is significant within agency theories, examining the impact of diverse legal frameworks on causation and implications. The legal status of an entity may influence the decision to commence a business due to several reasons. Firstly, legal status is a fundamental prerequisite for accessing numerous institutions pivotal to entrepreneurs. Its significance extends to impacting access to institutions, participation in government contracts, property ownership, credit facilities, and legal recourse in the context of disputes. Notably, within the landscape of business ownership among Small-Scale Mining Enterprises, legal status can both facilitate and impede entrepreneurial endeavors.

Based on the aforementioned, it is postulated that the legal status disparities of Small-Scale Mining Enterprises (SSMEs), namely their registration status (such as whether they are registered or not registered), have an effect on how they address and overcome their operational challenges. Small- Hentschel et al. (2003), asserts that scale miners face several key challenges in their operations, which include a lack of necessary mining equipment, limited access to electricity, poor financial credit facilities, lack of expertise, absence of a progressive legal framework, lack of relevant institutions, and environmental challenges. The SSMEs sector in Zambia is bedevilled with unsafe mining practices (Bansah et al., 2016), social and human rights issues (Hilson, 2010a), conflicts (Okoh, 2014), and environmental issues, such as widespread land degradation and water pollution (Boadi et al., 2016). Occupational health and safety (OHS) challenges are also prevalent, with mining accidents and injuries, occupational hazards, and environmental pollution being major concerns. Lack of market information and access to it is another challenge facing small-scale miners in different mining regions of Zambia (Hilson and Pardie, 2006).

In view of the foregoing and utilising the challenge-based model of entrepreneurship, this study examines the impact of legal status variations on SSME operational challenges in Zambia. The challenge-based model of entrepreneurship (Miller and Le Breton-Miller, 2017), suggests that challenges can force particular kinds of adaptation that may both compel and enable entrepreneurial initiatives. Furthermore, while it is essential to focus on the performance potential of SSMEs amid different operational challenges that they face, it is equally vital to take into account legal status variations that is a fundamental prerequisite for accessing numerous institutions pivotal to SSMEs operations as entrepreneurs. Understanding effects of legal status variations in SSMEs operational challenges would help to inform policymakers and development organisations as they formulate policies and interventions meant to empower SSMEs. For example, Siwale and Siwale (2017), emphasises that formalisation of SSMEs operations, will lead to operators having secured titles, invariably leading to the consolidation of property laws and their enforcement by states. This is because, formalisation should help ensure that the negative social and environmental effects of the sector are better managed and will enable governments to capture more revenue from the sector. In Tanzania, for example, the implementation of a mineral trade liberalization policy in the late 1980s created a more formalized SSMEs sector. This increased legally traded gold production from US\$0.55m in 1985 to US\$38.78m in 1992. (Dreschler 2002; UNEP 2012).

Therefore, based on the aforementioned, the focus of this study is twofold. Firstly, the study examines operational challenges and their effects on SSMEs performance. Secondly, the study explores legal status variations with regard to facilitating and impeding entrepreneurial endeavors, since it as an effect on how SSMEs address and overcome their operational challenges. In light of the foregoing, this paper is divided into five sections. Section 2 not only highlights literature reviewed on the relevant conceptual and empirical issues and develops the research hypotheses. In section 3 the methods employed in the study, are presented while the results of the study and accompanying discussions thereof is undertaken in section 4. Lastly, section 5 considers study conclusions, limitations and directions for future research.

LITERATURE REVIEW AND CONCEPTUALISATION

This section presents a review of the relevant literature, theoretical underpinnings and development of the study

hypotheses. Additionally, the second part presents the methods used in the study.

Legal Status Variations in Small Scale Mining Enterprises

In this study, the legal status of SSMEs as whether it is informal / unregistered or formal / registered was considered. An enterprise must prove its value by demonstrating that it engages in legitimate activities. The term legitimacy commonly refers to the right to exist and perform an activity in a certain way (Suchman, 1995). Therefore, being legally recognised as an enterprise helps to determine the process of gaining cognitive and moral legitimacy, this is critical for entrepreneurial organizations to overcome the liabilities of newness (Stinchcombe, 1965) and to increase their survival prospects (Ahlstrom & Bruton, 2001; Freeman, Carroll, & Hannan, 1983). However, where institutions are not legitimised, entrepreneurs construe institutional change as hindrances to growth and may develop their solutions to institutional voids (Khanna and Palepu, 2010). Amran (2011) argues that it is pertinent for a prospective proprietor of an entrepreneurial venture to seriously think about the legal form to adopt for his new venture in the eyes of the law. Hence, Legal status plays an important role in influencing firms' performance. For example, Hernandez and Dewick (2003) studied the historical changes in the legal form of Colombia's manufacturing industry and its effect on innovation and productivity. They find that an increase in the private legal structure is demonstrated by the acquisition of firms with a public setting by large companies.

Another study by Tchakoute-Tchuigoua (2010) analyses the effect of different legal statuses on the performance of microfinance institutions. The author compares the financial performance of 202 microfinance institutions between the years 2001 and 2006 and concludes that when using portfolio quality as a performance indicator, private corporations perform in better way than nongovernmental organizations (NGOs). In Ghana, Amankwah and Anim-Sackey (2003) delineate two categories of small-scale gold mining: registered small-scale mining and illegal or unregistered mining operations, commonly known as galamsey. Registered small-scale miners are entities that have secured the requisite mining licenses from the Minerals Commission, enabling them to conduct mining operations on allocated concessions legally. In contrast, unregistered small-scale miners engage in mineral extraction and processing without appropriate licensing, frequently infringing upon concessions awarded to large-scale mining firms. These illegal operations often extend to private properties and areas designated as protected against mining activities, highlighting significant issues regarding regulatory compliance and territorial rights within the sector. Despite its significance as a non-farm economic activity, many Small Scale Mining Enterprises (SSMEs) in Zambia operate within the informal sector. As such, very little is known about the actual size and nature of businesses in Zambia's small scale mining sector today, particularly those that are and are not registered with PACRA. Furthermore, it is unknown why some SSMEs players choose to register while others continue to operate informally. There are three distinct perspectives on the nature of this industry. The first point of view (De Soto, 2000) contends that unofficial firms are actually or potentially very productive, but are hampered by government regulations, a lack of finance, and a lack of access to land, so they do not see the need to formalize. According to opposing views, the informal sector consists of firms that are fundamentally different from those in the formal sector because it is made up of less educated people who do not see the value in formally registering their businesses (Ntungo, 2009).

Another point of view is that these businesses are afraid of government regulation and do not want to pay taxes and related levies for being formally recognized (Nuwagaba, 2015). These points of view necessitate further research into why a large number of SSMEs remain unregistered. According to Matoka (2001) and ZDA (2019), SSME's stand a chance to benefit from financial inclusion and financial products once their status is fully regularized. This seemingly benefit could be a driver to business registration. However, Kambone (2017) found a knowledge gap in his study on SSMEs in Zambia on the importance of business registration as the majority of SSME's feel that once formally registered, the business is monitored heavily by the authorities and all profits made are to be shared with the government. In Zambia, the mostly unregulated nature of SSMEs reinforces their informality, and transactions among elite actors are strengthened by informal practices within the confines of informal "spaces" (Hilson et al. 2017). This leads to the loss of revenues for governments and low returns for artisanal miners at the bottom of the value chain. The high level of informality in these operations is a crucial factor that can undermine their sustainability. The sector is characterized by illegality and informality, and operates outside formal state regulation, with most activities unlicensed and receiving little or no formal support

(International Labour Organisation 1999; Okoh and Hilson 2011; Siegel and Veiga 2009).

According to Siwale and Siwale (2017), formalisation will lead to operators having secured titles, which will lead to the consolidation of property laws and their enforcement by states. Therefore, formalisation involves entrepreneurs complying with legal conditions such as possession of a mining title (concession, claim or similar), compliance with environmental legislation, possession of an environmental operation license, registration of the company at the mining authority or other fiscal authorities, payment of taxes (royalties, company taxes), enrollment of staff in the national social security system, and legal exportation of products (export license or tax).

Overview of the Operational Challenges Faced By SSMEs

Although SSMEs act as a livelihood strategy for the majority of the people in Zambia's rural areas after agriculture, they are faced with various challenges that constrain micro-entrepreneurs' ability to grow their businesses, to contribute towards the reduction of poverty. SSMEs often face a range of complex and multifaceted, significant economic and operational challenges that can significantly impede their growth prospects and sustainability in an increasingly competitive environment. From an economic perspective, SMEs frequently encounter obstacles related to limited access to financial resources, which hinders their ability to invest in expansion, technology, and the recruitment of skilled personnel. (MCTI, 2009). Operationally, SSMEs grapple with limited access to markets; lack of access to appropriate technology, machinery, inputs and equipment; poor working conditions; unstable income; and inadequate business infrastructure such as roads and telecommunication facilities, lack of expertise and occupational health and safety (OHS) challenges are also prevalent (Mbuta, 2007). Maintaining efficient supply chains, managing workforce dynamics, and devising effective marketing strategies. Many SSMEs lack sophisticated management frameworks, which may impede their capacity to optimize processes and engage in innovation. Furthermore, navigating regulatory compliance and adapting to evolving market demands presents additional challenges that can exacerbate their operational difficulties. Details of some challenges faced by SSMEs are discussed below

Lack of Capital

Access to financial resources represents a significant bottleneck for SSMEs, often undermining their potential for growth and operational sustainability. These entities face numerous barriers in securing necessary capital, ultimately diminishing their competitive positioning in the marketplace. This funding shortfall can be attributed to several factors, such as stringent lending criteria, a lack of sufficient collateral, and inadequate credit histories, which collectively inhibit their capacity to innovate and expand (Clement & Hansen, 2003). Research conducted by Kwame and Osei-Kojo (2016) highlights the impact of limited logistical and human resources as a critical impediment to small-scale mining operations in Ghana. In Tanzania, a mixed-methods study identified financial constraints, capital deficiencies, outdated technology, and rigorous governmental regulations as primary inhibitors of SSMEs growth (Nkwabi & Mboya, 2019). Similarly, in Zambia, the restrictive financial landscape is exacerbated by the prevalence of individually or family-owned SSMEs that often lack the immovable assets necessary to secure financing from traditional lending institutions (Sitharam & Hoque, 2016). During the COVID-19 pandemic, a study by Hapompwe, Simushi, & Sichoongwe (2021) aimed to determine the extent of support provided to SSMEs; findings revealed that although government initiatives, such as a financial stimulus package amounting to K10 billion, were established to mitigate the pandemic's impact, accessibility remained severely hindered by convoluted eligibility criteria. Consequently, many SSMEs exhibit a preference for internal financing methods over external options, driven by high-interest rates, complex application processes, and substantial collateral demands (NABII Zambia Policy Brief, 2021). This dependence on internal funding constrains their growth trajectories and limits job creation opportunities. Moreover, a deficient credit culture, characterized by low repayment rates and inadequate legal protections, discourages financial institutions from extending credit to SSMEs (Hapompwe et al., 2021). This aversion to debt financing has been further corroborated in the research by Sakala and Hapompwe (2023), which indicates a prevalent inclination among SSMEs to favor equity financing over debt due to greater repayment flexibility associated with equity investments.

Informality and Illegal Operations

One of the primary challenges within the small-scale mining sector is the prevalence of informality, which compels miners to operate without legal registration. Small-scale mining enterprises (SSMEs) have existed for centuries as unorganized and informal activities. For instance, Allchin (1962) discusses both small- and large-scale gold mining operations in India dating back to as early as 300 CE. The realization of the economic potential of SSMEs is significantly hindered by issues related to formalization and regulation (Debrah et al., 2014). Formalisation encompasses the integration of artisanal and small-scale mining into a government's legal and economic framework, including policies surrounding mineral rights, taxation, environmental regulations, and workplace safety (de Theije & Salman, 2018; Siegel & Veiga, 2010). Various obstacles impede the legalisation of operations for small-scale mining enterprises, ultimately resulting in a lower number of legally registered operators. Among these challenges, the substantial costs—both financial and temporal—pose significant barriers. Most small-scale mining activities occur in remote areas, necessitating considerable expenditures and efforts to travel to relevant mining offices to apply for a mining license. This process is often characterized by inefficiency, leading to multiple trips to the office.

Moreover, the application process is frequently complicated and time-consuming, particularly for miners who possess limited education and experience in navigating official procedures and obtaining necessary documentation. Hentschel et al. (2003) assert that the challenges faced by SSMEs include a lack of necessary knowledge regarding small-scale mining legislation among illegal miners, ingrained traditional and cultural practices, and minimal governmental incentives for legal operation, high tax burdens, restricted access to mining titles, and the demanding bureaucratic procedures required to establish and maintain formal operations. Consequently, small-scale mining entrepreneurs experience limited participation in the mainstream economy due to these pervasive challenges. Hilson (2001) noted that acquiring a small-scale mining license is a lengthy and intricate process, requiring potential miners to undergo a rigorous procedure to secure approval from central authorities. The Centre for Development Studies (2004) identified regularisation as a critical step in the regulation of small-scale mining. However, this process may become counterproductive if implemented with excessive stringency, rendering it inaccessible to artisanal small-scale mining livelihoods without consideration for their circumstances. Buxton (2013) suggests that structural challenges, including institutional weaknesses, governmental corruption, the ease of transporting minerals, and complex trading chains, further obstruct the enforcement of small-scale mining legislation. Thus, the potential economic contribution of SSMEs remains contingent upon effective formalization and regulation (Debrah et al., 2014).

Poor Mining Techniques

The classification of small-scale miners (SSMs) primarily stems from the type of equipment and machinery employed in their operations. Small-scale mining enterprises face significant challenges throughout both their startup and operational phases. These obstacles compel entrepreneurs to rely on rudimentary extraction methods. For instance, Priester et al. (1993) indicate that in Tanzania, SSMEs are often viewed as a mechanism for addressing poverty, as they function informally and outside established governmental frameworks. This informal nature allows for lower capital investment and less sophisticated machinery, resulting in greater employment potential compared to mechanized operations, which typically rely on skilled labor. The reliance on basic tools is widespread, leading to suboptimal recovery rates in mining and processing. Without improvements to both equipment and technology, these inadequate recovery rates persist. This issue is exacerbated not only by the shortcomings inherent in the extraction processes but also by the regulatory frameworks and practices attempting to govern them (Priester et al., 1993). In Zambia, SSMEs predominantly utilize traditional methods, employing low-tech tools and manual devices such as shovels, pans, buckets, and rudimentary sluice boxes for gold extraction. Consequently, individual miners are limited to processing small quantities, which yield minimal and often negligible returns.

This limitation prevents them from maximizing their operational potential. To enhance equipment accessibility for actors in the SSME sector, it is crucial that tools are designed for simplicity, locational production capability, and affordability for individual miners. Additionally, integrating both manual and mechanized processing techniques is vital. Implementing hire purchase loan schemes and establishing centralized processing centers

can facilitate alternative access to better equipment options, thereby improving overall productivity in this sector.

Land Tenure Issues

Artisanal and small-scale mining (ASM) operations often lead to intensified conflicts that adversely affect regional development, primarily stemming from disputes over land rights. In Zambia and several other African nations, traditional authorities, such as chiefs, maintain significant control over rural land, which frequently clashes with formal land rights and licensing protocols (Nyame & Blocher, 2010). While the Zambian government is responsible for issuing formal licenses and concessions for ASM, miners also require a social license to operate, given that the customary land owner—the chief—holds jurisdiction over the contested land. The Zambian Constitution designates the President as the overseer of land and mineral resources on behalf of the populace; however, the practical reality reveals that rural land governance remains predominantly in the hands of chiefs and local traditional leaders. As a consequence, miners who assert ownership or the legal right to exploit land based on government-issued licenses frequently face substantial resistance from traditional authorities. This dilemma illustrates why many so-called "illegal" artisanal miners do not perceive their activities as illegitimate. For many, there exists a perceived natural entitlement to the land, rooted in ancestral claims or transactions conducted with relevant local leaders, despite contrary stipulations in the national constitution.

Low Standards of Health and Safety coupled with a Significant Impact on the Environment

The absence of mechanization, long working hours, and extremely hazardous workplaces create biomechanical problems, caused by accidents, lifting, lugging, digging, and falling. The associated health impacts include musculoskeletal disorders, overexertion, and trauma (WHO, 2016). Other concerning problems include hearing loss from noise, heat stroke due to extreme temperature and humidity, and death from a variety of workplace accidents. Occupational health issues could drive an artisanal miner deeper into poverty. Not so obvious are health impacts with poverty as its cause, which can produce a similar result within communities of artisanal miners. Goodman and Conway (2016) provide examples of how “poverty collides with health.” Impoverished adults have shorter lifespans with a susceptibility toward serious chronic diseases (e.g., diabetes and cancer) related to poor nutrition. Endocrine disruption, as an outcome of living in stressful environments, contributes to cardiovascular diseases and stroke. According to Mrema et al. (2015) small-scale mining entrepreneurs extract gold from the ore using mercury (a highly toxic chemical), thus creating a gold-amalgamation. Additionally, to separate the gold from the amalgamation, the gold-amalgamation is heated in the open. The use of unorthodox business methods of extracting gold or other mineral resources are deleterious to the environment and human health. The disposal of processed rock and sediments containing residual mercury or volatilization from heating of the amalgam releases mercury to the atmosphere, soils, and aquatic systems, creating enormous and persistent environmental and health impacts (AMAP/UNEP, 2013). Of the many anthropogenic emissions of mercury to the atmosphere, ASM now is the largest source (as of 2013), comprising approximately 37% of total mercury releases (AMAP/UNEP, 2013).

Cognitive Challenges

Poor market information and limited access to it present significant cognitive challenges for small-scale mining enterprises (SSMEs) in Zambia. Many miners possess inadequate education, leading to a lack of understanding regarding the pricing of their products. This deficiency often manifests in the manner in which miners sell their stones and the prices they set, which may not reflect the true market value of these commodities. Artisanal miners find themselves at a considerable disadvantage during sales negotiations, primarily due to their limited knowledge of current mineral and metal prices. This issue aligns with the research conducted by Hilson and Pardie (2006), which highlighted that, in gold-mining communities, middlemen not only acquire gold but also offer ancillary services such as selling cyanide or mercury, providing insurance and issuing loans to miners. Given the remote nature of these communities and the volatile price fluctuations inherent to natural resources, small-scale miners encounter significant challenges in strategic long-term planning, often resulting in a complete dependence on middlemen for their transactions. Additionally, small-scale mining sites often struggle with transportation and market access due to their isolated locations, further complicating their operational capabilities.

Consequently, many artisanal miners resort to selling their products to the first link in a chain of middlemen, who, due in part to the supplementary services they provide, often purchase the minerals at prices substantially lower than their true market value. Being informed of the current market prices prior to selling would enable artisanal miners to realize considerable benefits from their efforts.

Social Culture Challenges

In simple terms, culture can be described as “the way we do things here.” It encompasses a set of values, symbols, and rituals that hold significance solely for those who belong to a specific culture. The essence of any culture is rooted in its values, which are general preferences for certain states of affairs over others (right – wrong, good – bad, natural – unnatural). Cultural values shape the attitudes, beliefs, and behaviors of individuals, affecting their likelihood of participating in entrepreneurial activities (Shane, 2012).

The body of research on the impact of cultural factors on entrepreneurial behavior is vast and varied, illustrating the intricate relationship between culture and entrepreneurship. Wetherly (2011) characterizes the socio-cultural environment as including everything outside the economic and political systems. He argued that the socio-cultural context consists of a collection of activities and the interpersonal relationships individuals have in their personal and private lives, including aspects like population characteristics, age, ethnicity, religion, values, attitudes, lifestyles, language, education levels, and social connections.

Jonson et al. (2013), in their study of the impact of socio-cultural realities on Nigerian SMEs using qualitative research with 10 SMEs, found that socio-cultural factors are crucial in determining business performance. Mashenene et al. (2014), investigating socio-cultural influences on entrepreneurial capabilities among the Chagga and Sukuma SMEs in Tanzania through a questionnaire survey and case studies involving 254 owner-managers, revealed that values, social factors, beliefs, norms, and perceptions had positive effects, while attitudes exhibited a negative impact on entrepreneurial capabilities. In Zambia, there is a belief that certain aspects of local culture, norms, values, and beliefs adversely affect the performance of SMMEs. For instance, SMMEs are thought to be businesses for people in poverty. Additionally, there is a perception that SMMEs are predominantly male-operated and that losses outweigh profits in running SMMEs. Furthermore, women are not permitted to work underground, as their presence is considered to bring bad luck to mineral extraction. In some instances, women are even barred from entering mining sites during their menstrual periods. Moreover, while women may occasionally work in the sector, they do not have the same opportunities for financial, technical, or legal support to invest in their mining ventures. This is often attributed to women’s lack of collateral for loans and the negative biases of (mostly male) bankers towards women in business. The lack of formal education among many women may also hinder their ability to engage with formal lending institutions.

A Model of Challenge-Based Entrepreneurship

In their challenge-based model of entrepreneurship, Miller and Le Breton-Miller (2017) articulated that four primary challenges underpin entrepreneurial endeavors: (a) economic challenges, (b) sociocultural challenges, (c) cognitive challenges, and (d) physical and emotional challenges. This model posits that such challenges can necessitate specific adaptations that may both compel and enable entrepreneurial initiatives. These initiatives, while often modest in scale, are significant contributors to national economies (e.g., Bergmann & Sternberg, 2007; Jones & Latreille, 2011; Pagán, 2009) and serve a crucial role in improving quality of life for individuals in need (e.g., Hartmann, 2002; Kendall, Buys, Charker, & MacMillan, 2006; Shaheen & Myhill, 2009).

The economic, sociocultural, cognitive, and physical and emotional challenges represent conditions that are predominantly beyond individual control, thereby constituting circumstances that significantly shape personal development. These challenges intersect with various personality factors (McClelland, 1965; Miller, 1983) and contextual elements (Arora, Fosfuri, & Gambardella, 2004), which have traditionally been the focus of scholarly analysis in relation to entrepreneurial behavior. Nevertheless, the challenges themselves serve as vital drivers and are primary contributors to the notable prevalence of entrepreneurs within the aforementioned challenged demographics. The model delineates two foundational conditions and two experiential elements that accompany the categories of challenges, followed by an examination of three common adaptive requirements that arise.

Finally, it discusses how these adaptive requirements may foster several prevalent behaviors and capabilities that promote both entrepreneurial efforts and success. The model also postulates specific personal and environmental factors that may condition these positive outcomes. [Figure 1](#) presents an overview of the model.

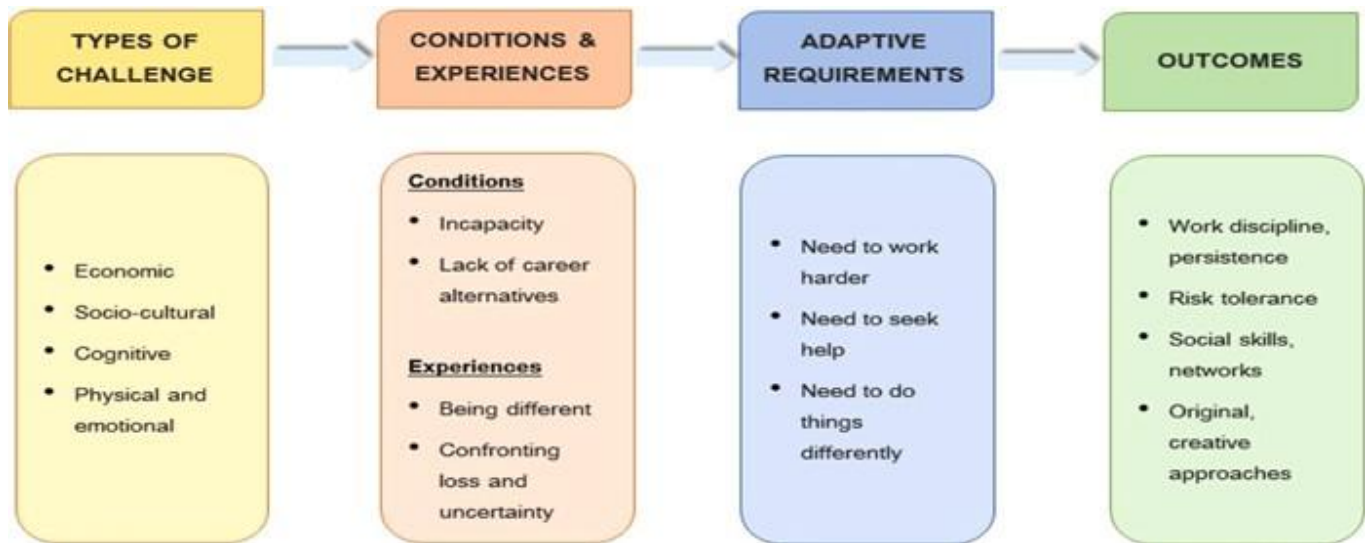


Figure 1: A Model of Challenge-Based Entrepreneurship

Source: adopted from Miller and Le Breton-Miller (2017)

Conceptual Model

This section integrates the application of the Challenge-Based Entrepreneurship Model within the context of small-scale mining enterprise performance research from the preceding section, creating a cohesive conceptual framework. The objective of this framework is to establish a robust analytical model that enhances both the theoretical understanding and empirical investigation of small-scale mining enterprise performance.

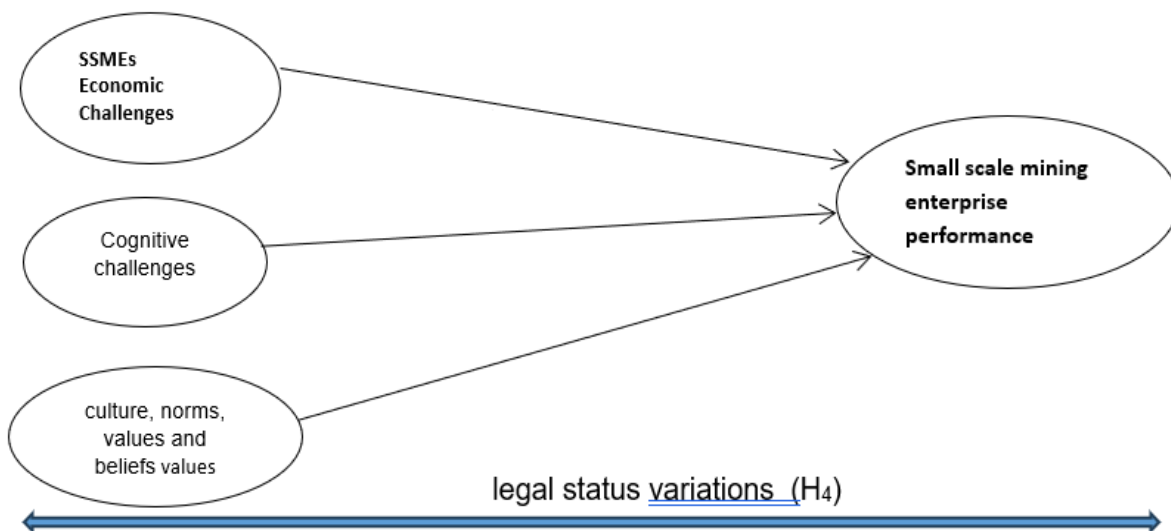


Fig. 2 Conceptual framework of this study

Source: author, 2022

SSMEs Economic Challenges

Refers to poor financial support and SSMEs performance, increased land tenure conflicts, increased SSMEs

informality, inadequate entrepreneur skills, Poor Mining equipment and Techniques which are negatively associated with SSMEs performance

Cognitive Challenges

The challenges associated with market access and linkage support, the availability of commercial services, financial resources, and technical assistance/training for Small and Medium-sized Enterprises (SSMEs) are critical issues that need addressing. The cognitive dimension of entrepreneurship offers a distinct perspective, as entrepreneurs engage in divergent thinking processes compared to non-entrepreneurs (Katz and Shepherd, 2003). Sánchez, Carballo, and Gutiérrez (2011) argue that a cognitive approach to entrepreneurship addresses shortcomings inherent in trait-based models by emphasizing constructs such as scripts, self-efficacy, cognitive styles, and heuristics. Furthermore, Stenholmand Wuebker (2013) suggests that this cognitive framework shapes the way individuals perceive and interpret their environment, directly influencing their ability to filter and utilize relevant information. The effect of cognitive processes on SSMEs is particularly significant, as it determines how entrepreneurs perceive and approach the problems and situations they encounter.

Normative Challenges (Social Cultural Challenges)

Normative challenges encompass the cultural frameworks, norms, values, and beliefs that shape societal attitudes. The prevailing perception towards small and medium enterprises (SMEs), which often categorizes them as ventures primarily associated with impoverished individuals or as male-dominated businesses prone to financial loss, adversely impacts their operational efficacy and overall performance. The norms and values embedded within society, along with the constructs that reinforce them, delineate what is deemed acceptable or commendable, thereby influencing the entrepreneurial landscape and organizational structures (Sine and David, 2010). This includes familial influences, beliefs, and societal norms (Arasti et al., 2012). The normative dimensions play a critical role in determining who may pursue entrepreneurship.

The normative aspect of the institutional environment indicates the degree to which entrepreneurial development, innovative thinking, and value creation are esteemed within a nation (Busenitz, and Spencer, 2000). Baumol et al. (2010) have noted that certain societies possess norms that both promote and facilitate entrepreneurship, including access to financing. Conversely, other societies create barriers, albeit unconsciously, which may discourage entrepreneurial endeavors without outright prohibition (Baumol et al., 2009; Soto, 2000). Davidsson and Wiklund (1997) asserted that the predominant values and beliefs among the populace can significantly influence an individual's inclination toward new venture creation. Williams and McGuire (2010) suggested that culture significantly shapes individuals' perceptions of risk, reward, and opportunity. Tominc and Rebernik (2007) demonstrated that the heightened growth aspirations of early-stage entrepreneurs may stem from a supportive cultural environment that motivates entrepreneurship. Furthermore, Hechavarria and Reynolds (2009) provided evidence that cultural values affect both opportunity-driven and necessity-driven entrepreneurship rates. Alvarez et al. (2011) noted that informal institutions, including cultural and social norms as well as perceptions of opportunities and the social image of entrepreneurs, exert a more profound influence on entrepreneurial activities than formal institutions.

Study Hypotheses Summary

Following an in-depth analysis of the varying legal statuses and performances of Small and Medium Enterprises (SSMEs), we propose four testable hypotheses, which are presented in our conceptual model illustrated in Figure 2.

H1— A positive correlation exists between the economic challenges confronted by SSMEs and their overall performance.

H2— Cognitive challenges have a positive impact on the performance of SSMEs.

H3— There is a positive relationship between the normative challenges faced by SSMEs and their performance outcomes.

H4— Registered SSMEs demonstrate superior performance when compared to their unregistered counterparts.

METHODOLOGY

Study Design

A quantitative cross-sectional design was utilized in this study. This approach is advantageous as it permits the inclusion of a sufficiently large sample size, thereby enhancing the generalizability of the research findings while testing hypotheses in a quantitative framework.

Sampling Technique

The research employed a purposive sampling technique to identify key informants for the study. This approach allowed the researchers to select respondents who possessed comprehensive knowledge and insights regarding the status of small-scale mining enterprises in Zambia, ensuring a nuanced perspective on the small-scale mining sector. This sampling method involved the deliberate selection of individuals based on their specialized roles and expertise, facilitating in-depth interviews aimed at capturing a balanced and informed view (Merriam, 1998).

Data collection

The study utilized two primary data sources, adopting an eclectic methodological approach. To achieve comprehensive insights, three key procedures were employed: a literature review, survey implementation, and focused group discussions. Primary data was collected through a combination of survey questionnaires and semi-structured interviews with key informants. The choice of questionnaire as a data collection tool was deliberate, stemming from its cost-effectiveness, minimization of interviewer bias, and time efficiency for the researcher. The questionnaire featured several items on a five-point Likert scale, ranging from strongly disagree to strongly agree. These were either self-administered or distributed online via Google Docs to the participating Small Scale Mining Enterprises (SSMEs). The adoption of the five-point Likert scale aligns with established practices in mining research, facilitating meaningful distinctions between response options (Bergevoet et al., 2004; Hansson et al., 2012; Wang et al., 2018).

Data Analyses

Data analysis for this study was conducted using SPSS version 25. This software is well-suited for analyzing survey questionnaire data, offering robust descriptive and inferential statistical techniques for hypothesis testing (Pallant, 2016). The study also employs the Granger causality test in Eviews to explore the relationship between the formalization of Small and Medium-sized Enterprises (SMEs) and the subsequent improvements in their performance metrics. Granger causality is an econometric test used to verify the usefulness of one variable to forecast another (Granger, 1969).

Reliability Test

A reliability assessment was conducted to evaluate the internal consistency of the questionnaire items for the purpose of establishing internal validity. The items within the instrument were primarily derived from previous studies; however, there were no specific studies identified that addressed the differences in legal status of Small and Medium Enterprises (SMEs) and their performance. All Cronbach's Alpha values, as presented in Table 1, indicated favorable reliability. In addition to the reliability tests, an analysis for missing data, outliers, and normality was performed on the scale data. The descriptive statistics indicated that there were no missing data points for any variables across all respondents. With regard to outliers, an examination of boxplots and a comparison of actual means with the 5% trimmed means indicated no extreme scores that could significantly influence the overall means (Pallant, 2016). Furthermore, the normality assessment revealed that most constructs exhibited kurtosis and skewness values within the acceptable range of +2 to -2. According to Hair et al. (2014), larger sample sizes (i.e., those exceeding 200) are sufficiently robust to mitigate the adverse effects of non-normality. Consequently, the sample size of 408 participants is deemed adequate to satisfy these requirements.

Table 1: Internal consistency and Validity

Variable	Items	Cronbach's Alpha
Factor 1: Economical Challenges	9	0.855
Factor 2: Cognitive Challenges	6	0.724
Factor 3: Normative Challenges	3	0.759

Source Author, 2024

RESULTS AND DISCUSSIONS

Table 2: Respondents Sample Profile

Variable	Description	Frequency	Percent
Gender	Female	156	38.2
	Male	252	61.8
	Total	408	100
Age Group (Years)	below 20 years	6	1.5
	21 - 30 years	67	16.4
	31 - 40 years	117	28.7
	41 - 50 years	205	50.2
	Total	408	100
Education	Primary education	18	4.4
	secondary school	141	34.6
	college and other tertiary institutions	147	36.0
	University	102	25.0
	Total	408	100
Legal Status	not registered	166	40.70
	Registered	242	59.3
	Total	408	100
Years in SSMEs	1 - 5 years	204	50.0
	6 - 10 years	156	38.2
	11 - 15 years	42	10.3
	16 - 20 years	6	1.5
	Total	408	100

Source Author, 2024

In Table 2, we present the demographic characteristics of our sample involving small, medium, and micro-sized enterprises (SMMEs) in Zambia. The data reveals a predominance of male entrepreneurs, with 252 respondents (61.8%) identifying as male compared to 156 female respondents (38.2%). The primary motivation for engagement in SMMEs stems from the necessity to meet basic familial needs and ensure sustenance.

Our findings indicate that the active demographic consists predominantly of young and middle-aged individuals, with approximately 74% of participants falling within the economically productive age range. The average age of these respondents is 40 years. In terms of educational attainment, a noteworthy 36.6% have pursued college or other forms of tertiary education, while 34.6% completed secondary education, and 25.5% hold university degrees. A mere 4.4% have only received primary education, underscoring a significant representation of higher educational qualifications among the respondents.

It is also important to highlight that, despite the majority of SMMEs being formally registered, approximately 40.7% operate as non-registered entities. This lack of formalization is primarily attributed to a deficiency in awareness regarding the registration process and associated requirements. Lastly, it's observed that 50% of the SMMEs have been operational for the duration of the study period, largely indicating that most are relatively new entrants in the business landscape..

Correlation Analyses

An assessment of the strength and direction of the relationships among the different variables was performed using Pearson correlation analyses. Pallant (2016) guides that the use of correlation analyses is appropriate for exploring the strength and direction of the relationships between two continuous variables. The correlation matrix was also used to assess multi-collinearity among the independent variables. Pallant (2016) indicates that multi-collinearity exists when the independent variables are highly correlated ($r = .9$ and above), such that some of them may be deemed to be practically measuring the same thing. From the correlation matrix (Table 3), none of the correlations among the independent variables (Economic Challenges, cognitive challenges and normative challenges). is 0.9 and above.

Table 3 shows the correlations, means and standard deviations of the dependent variable (SSMEs performance) and independent variables (Economic Challenges, cognitive challenges and normative challenges). The table 3 also includes results for control variables namely, Age Groups, experience in SSMEs business, Education Level and Gender.

Table 3: Correlation Matrix Table

Correlations											
Variables	Mean	Std. Deviation	N	1	2	3	4	5	6	7	8
Gender	1.618	.4866	408								
Age	3.369	.8433	408	.307**							
Education	3.772	.9711	408	-.060	.184**						
Experience in SSMEs	1.632	.7266	408	.144**	.389**	-.077					
Economic Challenges	3.8432	.74865	408	-.034	.156**	-.128**	.116*				
Cognitive Challenges	2.8432	.84378	408	.018	.140**	-.027	.137**	.326**			
Normative Challenges	2.1797	.73046	408	.163**	-.050	.108*	-.032	-.086	.007		
Enterprise Performance	2.076	.7160	408	.041	-.118*	.145**	-.145**	.052	.041	.166**	1

** . Correlation is significant at the 0.01 level (2-tailed).
* . Correlation is significant at the 0.05 level (2-tailed).

Source Author, 2024

The correlation matrix indicates that Economic Challenges are significantly associated with Enterprise Performance ($r = 0.052$), Cognitive Challenges ($r = 0.041$), and Normative Challenges ($r = 0.166$), all at a significance level of ≤ 0.01 (2-tailed). According to Cohen’s criteria for effect sizes, these relationships demonstrate a range from small to large (small = 0.10 to 0.29, medium = 0.3 to 0.49, large = 0.50 to 1.00). Consequently, Hypotheses 1, 2, and 3 receive empirical support, as evidenced by the positive correlation coefficients.

Furthermore, the data suggest that greater challenges encountered by Small Scale Medium Enterprises (SSMEs) correlate with a heightened intention to improve performance ($r = 0.052$), indicating a large effect size. This finding substantiates Hypothesis 4, highlighting that registered SSMEs outperform their unregistered counterparts ($r = 0.052$) alongside their antecedents, such as economic challenges ($r = 0.052$), cognitive challenges ($r = 0.041$), and normative challenges ($r = 0.166$). Essentially, the findings underscore that an increased level of challenge is positively correlated with the likelihood of enhanced performance among SSMEs.

In summary, challenges are pivotal to the growth trajectory of SSMEs for several reasons: they compel SSMEs to step beyond their comfort zones, fostering the development of new perspectives necessary for goal attainment; they facilitate the unlocking of potential and resilience as SSMEs navigate and adapt to obstacles; and they promote the acquisition of new skills, valuable experiences, and a positive mindset conducive to thriving amidst change. Each challenge thus presents an opportunity for self-improvement and transformation within the SSME landscape.

Independent Samples t-Test

To examine the impact of variations in legal status on the performance of SSMEs in relation to specific challenges, independent samples t-tests were conducted. The independent samples t-test is employed to compare the mean scores of two distinct groups or conditions (Pallant, 2016). To verify the assumption of equal variances, Levene’s test for equality of variance was performed. In instances where the p-value was 0.05 or lower, indicating the presence of unequal variances, the results for "equal variances not assumed" were utilized (Pallant, 2016). The results of the independent samples t-tests are detailed in Table 4.

Table 4: Independent Samples t-Test

	Un Registered N = 162		Registered N = 246		Levene's Test for Equality of Variances		t-test for Equality of Means						Eta squared	
	Mean	SD	Mean	SD	F	Sig.	T	Df	Sig. (2- tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference		
												Lower		Upper
Cognitive challenges	2.8162	.71865	2.8609	.91791	6.203	0.013	-.558	392.683	.577	-.04567	.08184	-.20657	.11523	0.003
Normative challenges	2.1281	.73540	2.2138	.72669	.001	.980	-1.008	402	.314	-.07474	.07413	-.22046	.07099	0.003
Economic challenges	3.6866	.56069	3.4534	.88219	32.694	0.00	3.238	401.230	.001	.23167	.07155	.09100	.37233	0.003
performance in 12 months	1.932	.6015	2.171	.7689	16.628	0.00	-3.505	394.057	0.001	-.2386	0.0681	-.3725	-.1048	0.003

Gender of respondent	1.599	.4917	1.630	.4838	.982	.322	-.509	402	.611	-.0252	.0495	-.1226	.0722	0.003
Age of respondent	3.335	.8287	3.390	.8537	1.363	.244	-.474	401	.636	-.0406	.0857	-.2091	.1278	0.003
Highest level of education attained	3.512	1.1270	3.943	.8112	14.638	0.00	-4.101	270.549	.000	-.4215	.1028	-.6239	-.2192	0.003
Involvement in SSMEs business	1.463	.6883	1.744	.7309	.003	.954	-3.861	402	.000	-.2808	.0727	-.4238	-.1378	0.003

Source Author, 2024

The findings of the study reveal a significant variance in scores pertaining to cognitive challenges between non-registered SSMEs and their registered counterparts. Specifically, non-registered SSMEs achieved a mean score of 2.8162 (SD = 0.71865, $p = 0.013$), while registered SSMEs scored a mean of 2.8609 (SD = 91791, $p = 0.013$). Notably, registered SSMEs demonstrated a higher mean score, with the resulting effect size indicating a small magnitude of difference (mean difference = -04567, eta squared = 0.003).

Regarding economic challenges, a significant difference was also observed. Non-registered SSMEs attained a mean score of 3.6866 (SD = 0.56069, $p < 0.001$), compared to registered SSMEs, which recorded a mean of 3.4534 (SD = 88219, $p < 0.001$). This data indicates that non-registered SSMEs outperformed their registered counterparts, with the difference in means reflecting a small effect size (eta squared = 0.003).

The analysis further demonstrates that the legal status of SSMEs significantly affected performance metrics, with the exception of normative challenges. Non-registered SSMEs recorded lower performance scores (mean = 1.932, SD = 0.6015, $p < 0.001$) than registered SSMEs (mean = 2.171, SD = 0.7689, $p < 0.001$). This finding underscores that registered SSMEs consistently achieved higher mean scores, although this was accompanied by a small effect size (eta squared = 0.003).

Conversely, scores related to normative challenges were not statistically significant. Non-registered SSMEs scored a mean of 2.1281 (SD = 0.73540, $p = 0.980$), in contrast to registered SSMEs, which achieved a mean score of 2.2138 (SD = 0.72669, $p = 0.980$). While registered SSMEs exhibited a higher mean score, the difference (mean difference = -0.2386) reflected a minimal effect size (eta squared = 0.003).

Granger Causality Test

A Granger Causality test determines whether one time series "Granger causes" another, meaning that the past values of the first series significantly improve the prediction of future values of the second series, essentially indicating that the first variable provides useful information for forecasting the second variable; if the test result is statistically significant, then it suggests a potential causal relationship between the two variables, where the "causing" variable helps predict the "caused" variable based on its past values

Table 5: Pairwise Granger Causality Test

Lags 4

Null hypothesis	Observations	F statistic	Probability
Legal status does not granger cause SSMEs performance	408	11.4166	9.E-09
SSMEs performance, does not granger cause legal status	408	2.2670	0.0655

According to Granger (1969), if the test result is statistically significant, then it can be concluded that past values of X provide information that helps predict future values of Y, suggesting that X "Granger causes" Y. If the test

result is not statistically significant, it means that past values of X do not provide any additional information for predicting Y.

Based on the performed granger tests as shown above in table 4, it can be concluded that the result that Legal status does not granger cause SSMEs performance is insignificant because the p-value associated with it is greater than a predetermined significance level (at 0.05), meaning that the null hypothesis that Legal status does not granger cause SSMEs performance is accepted. We also accept the null hypothesis that SSMEs performance, does not granger cause legal status since the p-value associated with it (0.0655) is greater than a predetermined significance level (at 0.05).

A comprehensive summary of these findings is presented in Table 6, supplemented by the correlation matrix in Table 3 , results of the Independent Samples t-test illustrated in Table 4 and granger tests results in table 5.

Table 6: Summary of these Findings

No.	Hypothesis	Statistic2	Test	Results
H1	There is a positive relationship between SSMEs economic challenges and their performance.	r = 0. 041 **	Correlation	Supported
H2	Cognitive challenges positively influence the performance of SSMEs.	r = 0. 052**	Correlation	Supported
H3	There is a positive relationship between normative challenges of SSMEs and their performance.	r = 0. 166**	Correlation	Supported
H4	Registered SSMEs perform better than unregistered SSMEs.	t- test	Independent t test	Partially Supported

Source Author, 2024

DISCUSSION

The findings from this study highlight that economic, cognitive, and normative challenges significantly influence the performance of Small Scale Mining Enterprises (SSMEs). These challenges are pivotal in shaping the developmental pathways of SSMEs for several key reasons. They prompt enterprises to step beyond their established boundaries, fostering the critical perspectives needed for achieving their objectives. Furthermore, these challenges unlock inherent potential and resilience as SSMEs navigate and adapt to diverse obstacles. Additionally, they encourage the acquisition of new skills, valuable experiences, and a constructive mindset, which are essential for thriving in adverse conditions. Each challenge encountered serves as a catalyst for self-improvement and transformation.

As a result, hypotheses 1 through 3 are validated, demonstrating effect sizes that range from small to large. Analysis of variations linked to legal status confirms support for all hypotheses, revealing significant discrepancies related to three antecedents that affect SSME performance: economic, cognitive, and normative challenges. A deeper examination reveals marked variations in legal status concerning these challenges. The relationship between SSME performance and the identified challenges aligns cohesively with existing literature on SSMEs. Specifically, Hypothesis 1 identifies a positive correlation between the economic challenges faced by SSMEs and their performance, a relationship that is robustly supported as illustrated in Table 6. This conclusion is consistent with the established conceptual framework (see Figure 1) and corroborates previous research that links economic challenges to SSME performance across different contexts, including studies conducted in Zambia (Mwami and Hapompwe, 2024; Hapompwe et al., 2021), Ghana (Mmieh and Mordi, 2017), and Bangladesh (Chowdhury and Alam, 2017). For example Firm performance improvement (profit increase) due to formalization may be explained by better access to credit (see for instance McKenzie & Woodruff, 2008) in turn allowing firms to increase their investments. Our findings are also similar to similarly to other studies (Fajnzylber et al., 2011; McKenzie & Sakho, 2010). Furthermore, The results confirm the findings from recent

studies that becoming officially registered leads to an increase in firm gross profits and investments (Rand and Torm, 2012). Furthermore, these findings align with the conclusions drawn by ZDA (2019) and Matoka (2001), who asserted that SSMEs have the potential to reap benefits from financial inclusion and access to financial products once their operational status is fully formalized. This may be explained by firms moving into formality being more compliant with regulations and/or more willing (and able) to invest with a view to increasing the productivity and longer term stability of the business (Rand and Torm, 2012).

Similarly, H2 is supported, noting that cognitive challenges—such as insufficient knowledge regarding market access, linkage support, and the availability of financial services as well as inadequate technical assistance and training, significantly influence SSME performance, as illustrated in the correlation matrix (Table 4). Lastly, H3 posits a positive relationship between normative challenges and SSME performance, a hypothesis that is also validated in accordance with the conceptual model and evidenced in Table 5. These findings are consistent with earlier studies conducted by Hapompwe et al. (2021), Sitharam and Hoque (2019), as well as Mmieh and Mordi (2017) and Chowdhury and Alam (2017) in Bangladesh.

H4 is partially supported because some unregistered SSMEs are able to perform better than registered SSMEs. This assertion is also supported by the granger causality tests performed in table 5. The study identified notable variations in legal status among Registered SSMEs in comparison to their unregistered counterparts across all facets of the performance model. Specifically, registered SSMEs demonstrated superior performance levels in relation to the three identified antecedents: economic challenges, cognitive challenges, and normative challenges. However, some unregistered SSMEs were performing positively. This is in line with the past studies by various scholars ([La Porta and Shleifer, 2008](#), [Beck et al., 2005](#) and de Mel et al., 2011) who asserted that inform SSMEs may benefit from no taxation costs in their operations that may result in increased profits. However, this does not necessarily translate to firm growth. [Beck et al. \(2005\)](#) found that formal small firms, in particular, benefit from lower financing obstacles under more efficient and more adaptable legal systems. Therefore, all in all we conclude that formalization is beneficial to SSMEs and there should be more focus on encouraging SSMEs to shift out of informality by exposing the potential gains associated with an upgrade in legal status. In fact, in the case of Sri Lanka de Mel et al. (2011) find that modest increase in the perceived benefits of being formal may substantially increase rates of formalization. In addition to a general perception that the costs associated with operating officially outweigh any potential gains, enhanced information, including on how to go about the registration procedure could presumably go a long way towards helping small informal firms realize their growth potential in the formal sector.

CONCLUSIONS

The dichotomous view of formalization – ‘registered’ versus ‘not registered’ – is a widely adopted approach for analyzing entrepreneurs and their businesses. This paper enhances the discourse on small-scale mining enterprises (SSMEs) formalization within the context of developing economies, focusing specifically on Zambia. We utilise an underexplored challenge-based entrepreneurship model to investigate the complex interplay between economic and operational hurdles, cognitive barriers, and normative considerations affecting SSME performance. Furthermore, the research delves into how variations in legal status influence operational outcomes.

Employing a quantitative correlational design, we analyzed data from 408 SSMEs, gathered via a structured questionnaire. In testing our hypotheses, we applied statistical correlation techniques alongside independent T-tests. Our findings indicate that economic, cognitive, and normative challenges each exert significant and distinct positive relationships with SSME performance. Notably, there are also pronounced variations in performance that correlate with the different legal classifications of these enterprises. Specifically, registered SSMEs demonstrated superior performance levels in comparison to their unregistered counterparts across all facets of the performance model. SSMEs benefits of operating officially include higher profits, better access to credit and increased investments (due to the ability of formal firms to issue VAT invoices), (Fajnzylber et al., 2011; McKenzie & Sakho, 2010). Therefore, all in all we conclude that formalization is beneficial to SSMEs and there should be more focus on encouraging SSMEs to shift out of informality by exposing the potential gains associated with an upgrade in legal status.

While the research adopts a cross-sectional framework, its implications are substantial for policymakers and stakeholders engaged in enterprise support initiatives. Our findings underscore the necessity of addressing both the challenges faced by SSMEs and the ramifications of their legal status on overall performance outcomes.

Contributions to Knowledge and Practical Implications

This study represents the inaugural application of the challenge-based entrepreneurship model within the context of the Zambian small-scale mining enterprises (SSMEs) sector. Additionally, the research addresses a significant knowledge gap concerning the impact of variations in legal status on the performance of SSMEs. It is noteworthy that unregistered SSMEs account for the majority of participants in this sector, highlighting the critical need for these entities to transition to registered status, a necessity that cannot be overstated. The findings of this study underscore the importance of targeted interventions for policymakers and developmental organizations, emphasizing the necessity for enhanced support for SSMEs.

Limitations of the Study and Directions for Future Research on Legal Status Difference of SSMEs

Like any other study, this research has limitations. This study recognizes several limitations that could affect the interpretation of the findings regarding legal status disparities among SSMEs. Firstly, the data collection was geographically restricted, which constrains the external validity of the results and their applicability to broader contexts. Moreover, the reliance on self-reported data introduces potential biases that may compromise the accuracy of the conclusions drawn. Additionally, the research may not have fully encompassed all pertinent legal frameworks and regulatory environments pertinent to SSMEs, potentially overlooking critical variables that impact their legal status.

To address these limitations, future research should aim to investigate the legal status differences among SMEs across a wider range of geographical regions and sectors. Furthermore, integrating a broader spectrum of legal frameworks and undertaking longitudinal studies will provide more nuanced insights into the dynamic nature of SSMEs legal statuses over time. Addressing these areas in subsequent research will facilitate a more comprehensive understanding of the challenges SMEs encounter across varied legal contexts.

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