

Exploring the Impact of Loadshedding on Households and Businesses: A Case of the Kingdom of Lesotho

Authors:

Kananelo Kota (kananelokota@gmail.com)

University of Free State, Bloemfontein, South Africa

Mark Marais (neander@absamail.co.za)

University of Free State, Bloemfontein, South Africa

Sipho Selatole Makgopa (makgoss@unisa.ac.za)

University of South Africa, Pretoria, South Africa

Abstract:

The reliable availability of electrical power is essential for the operation of industrial and commercial sectors, as well as for the execution of routine household activities in many countries, including the Kingdom of Lesotho. This paper seeks to investigate the impact of loadshedding on households and business organisations in the Kingdom of Lesotho. Complexity adaptive system theory was adopted in the study as a theoretical lens. A qualitative research design was adopted to achieve this objective. Interviews were conducted with corporate real estate professionals, and content analysis was used to examine the primary data. The study's results indicate that loadshedding has adverse economic consequences to both households and business organisations and reduces business productivity. Furthermore, the results show that, despite the absence of a coordinated national initiative, business organisations are adopting various sustainable practices. The paper provides recommendations for businesses and policymakers in the Kingdom of Lesotho on how to respond to loadshedding and concludes by outlining directions for future research.

Keywords:

Complex Adaptive System, Content Analysis, Loadshedding, Qualitative Research, Sustainable Energy Generation

Submitted: 2026-02-09. Revised: 2026-02-27. Accepted: 2026-03-08.

Introduction

Electricity is crucial to economic activity and the smooth operation of businesses in modern society. Electricity has led to profound changes, facilitating the efficient functioning and expansion of numerous sectors (Kabeyi & Olanrewaju, 2021; Ferguson, Wilkinson & Hill, 2000). A dependable and continuous power supply is crucial for drawing investment, boosting industrial productivity, and supporting technological progress (Zhang et al., 2017). In the current globalised economy, contemporary firms depend extensively on electricity to sustain their activities, including manufacturing, data centres, office operations, supply chains, and logistics. Reliable access to electricity improves productivity, lowers production costs, and equips businesses with a competitive advantage in international markets (Ali & Anwar, 2021). In Lesotho, as in many other parts of the world, the importance of electricity for business operations is immense. The persistent risk of loadshedding presents serious obstacles for companies operating in the country. Power cuts interrupt routine activities, causing production setbacks, financial losses, and reduced quality of customer service, which in turn negatively affects the broader economy (Nyanzu & Adarkwah, 2016). The Kingdom of Lesotho is currently experiencing a major energy crisis, marked by critical problems in its electricity sector. South Africa, the main supplier of Lesotho's imported electricity, is itself facing significant electricity challenges and has been dealing with increasingly frequent loadshedding. In 2023, this issue intensified considerably, representing the most severe period to date (Hohm Energy, 2021). Eskom, which produces roughly 95% of South Africa's electricity, holds a near-monopoly in the country's energy market (Nyanzu & Adarkwah, 2016). Since Lesotho's electricity supply is closely tied to Eskom, the difficulties confronting Eskom introduce additional concerns for Lesotho and may further heighten the country's susceptibility to loadshedding.

There is a shortage of electricity supply in Lesotho, and this has resulted in the introduction of loadshedding to safeguard the limited available production capacity (Sekonyela, 2023). Therefore, it becomes imperative to explore the impact of loadshedding on households and business organisations in the Kingdom of Lesotho to arrive at sustainable energy supply solutions. This study makes a significant theoretical contribution by employing complex adaptive systems theory to investigate the effects of loadshedding on households and businesses, and to identify contextually appropriate strategies for mitigating these impacts. Furthermore, it advances academic discourse by addressing a critical gap in the loadshedding literature that has not previously been examined in a comprehensive manner. Finally, the study formulates evidence-based recommendations for key stakeholders within the electricity supply sector, as well as for policy makers in the Kingdom of Lesotho.

Literature Review

This section provides the definitions of concepts relevant in the study, discusses the applicable theory and reviews previous studies.

Loadshedding

Bothwell and Zivanai (2021) describe loadshedding as a deliberate, short-term method of restricting electricity supply during periods of peak energy demand, which calls for thorough plans to manage its effects effectively. In other words, loadshedding is regarded as a planned and temporary interruption of electricity in selected areas to reduce pressure on the power grid when the available generation cannot fully meet overall demand. Rankumise (2017) similarly defines loadshedding as a power outage caused by electricity demand surpassing supply. Loadshedding helps to avert a total collapse or nationwide blackout of the power system, an event that could require several days or even weeks to restore.

Sustainable Corporate Real Estate Management (SCREM)

SCREM emerges as a promising avenue for mitigating risks associated with loadshedding (Fauzi et al., 2023). Corporate real estate, being a significant consumer of electricity, offers immense potential for energy optimisation and efficiency improvements through sustainable practices (Ziemba et al., 2015). Working towards a sustainable future, it is critical to deal with the negative effects of electricity shortages and loadshedding. SCREM can be used as a strategy to address electricity challenges. Implementing SCREM entails a detailed understanding of the potential impacts, costs, and benefits, specifically for addressing challenges such as loadshedding challenges (Van der Voordt, 2017). According to Fauzi et al. (2023), SCREM requires a comprehensive approach that involves the integration of principles of sustainability, energy efficiency, and environmental responsibility into the management and operation of real estate assets. Loadshedding is often due to insufficient electricity generation, maintenance or technical issues at power stations and insufficient fuel supply, such as coal, gas, or water for hydro power.

Complexity Adaptive System Theory

Complex Adaptive Systems (CAS) is derived from the scientific Complexity Theory. The scholars, Rogers, Medina, Rivera and Wiley (2005) argued that the Complex adaptive systems theory (CAS) can be utilised together in the construction of predictive or applied hybrid models of induced change in population behaviour. According to Rogers et al. (2005), the result of complex adaptive systems is the manifestation of disorganisation into a more ordered system, with more adaptable patterning and better fit. According to Alaa and Fitzgerald (2013), CAS theory implies that agents that form the system continuously interact with each other and with the global environment to form stable, global patterns that

suit the current settings in the system and the environment. This theory is relevant as electricity loadshedding in the business environment compels managers in organisations to make interventions to have alternative sources of energy to continue with business operations.

Review of Previous Studies

Many existing studies have focused on the broader structural and operational constraints facing businesses, particularly small, micro and medium enterprises (SMMEs), with comparatively few explicitly investigating loadshedding as a determinant that may adversely influence firm growth. For example, Mbuya, Meyer and Kalitanyi (2025) reported that SMMEs frequently encounter deficient managerial competencies, limited utilisation and integration of information and communication technology (ICT), suboptimal market orientation, inadequate institutional support, excessive bureaucratic impediments and various financial constraints. In a similar vein, Endris and Kassegn (2022) identified constrained access to finance as a critical challenge for SMMEs, particularly in least-developed countries. Furthermore, Mncube (2025) underscored insufficient financial resources, limited managerial and leadership capabilities, weak governmental support, low levels of digital readiness and ineffective crisis management as key obstacles confronting SMMEs.

Financial institutions and micro-lenders frequently refrain from extending funding or credit to small, medium and micro enterprises (SMMEs) (Rehman, Çela, Morina & Gura, 2019), as lending to start-up firms is perceived to entail elevated credit risk. In a related empirical investigation, Nkwabi and Mboya (2019) found that SMME owners encounter substantial obstacles in accessing credit because they often lack adequate collateral, do not possess robust or formally articulated business plans, undertake insufficient market research, and face constrained access to stable and sustainable markets.

Cameron and Hoque (2017) corroborate these findings, demonstrating that conventional lenders typically require comprehensive business plans containing detailed financial and operational information to support prudent credit-risk assessment and lending decisions. Consequently, SMEs are generally required to present carefully developed business plans, including projected cash-flow statements, to obtain external financing. However, many are disadvantaged in this process because they fail to maintain formal and reliable records of their business activities (Chowdhury & Alam, 2017).

In a similar vein, Abdelhafid and Mohammed (2019) reported that small and medium-sized enterprises (SMEs) infrequently secure financing from formal capital providers, as established financial institutions face multiple constraints when extending credit to smaller firms. These constraints are primarily attributable to the perceived elevation of credit risk, pronounced information asymmetries between lenders and borrowers, a systemic or institutional bias—often manifested as a traditional preference for financing larger enterprises—and relatively higher intermediation costs inherent in serving smaller

clients. The latter are further amplified by comparatively high interest rates and loan origination fees, which jointly increase the overall cost of capital for SMEs.

Parrilli, Tingbani, and Hansen-Addy (2023) report that customs procedures, cross-border payment systems, and onerous documentation requirements constitute significant impediments to growth, as they constrain small, medium, and micro enterprises' (SMMEs) ability to export goods and services. In a similar vein, Mhlongo and Daya (2023) identify weak leadership and entrepreneurial competencies, financial limitations, inadequate managerial and technical capabilities, infrastructural deficits, and regulatory frameworks as principal constraints on SMME expansion. Furthermore, Lekhanya and Ngibe (2020) argue that restricted access to finance imposes substantial pressure on manufacturing SMMEs, which consequently face difficulties in securing adequate funding for their operations.

In a distinct empirical inquiry, Moos and Sambo (2018) established that the sustainability of SMMEs is substantially undermined by a constellation of structural and operational constraints. These include limited access to financial resources, inadequate capital equipment, client-induced downward pressure on prices, insufficient managerial and entrepreneurial capabilities, weak bookkeeping and record-maintenance systems, onerous legislative and regulatory frameworks, and suboptimal technological infrastructure. In a complementary study, Makgopa and Mpetsheni (2022) examined the impact of loadshedding on small SMMEs in the Nelson Mandela Bay Municipality, South Africa, and reported deleterious effects on firm-level growth and, by implication, on aggregate economic performance. In a related contribution, Moos and Sambo (2018) further interrogated the wider array of constraints encountered by these enterprises within the broader South African macroeconomic and regulatory environment.

Muller (2023) conducted an analysis of the ways in which governance failures, inadequacies in technological policy, and deficiencies in the management of large-scale infrastructure projects collectively contribute to the persistence of loadshedding in South Africa, arguing that the principal source of the problem lies in systemic breakdowns at the political–technological interface. In addition, Muller (2023) found that loadshedding intensifies income inequality, especially with respect to disparities in energy access and the unequal distribution of energy-related burdens across income groups—and constrains overall economic growth. Complementarily, Ritchie, Engelbrecht, and Booyesen (2023) investigated the implications of increasing household adoption of battery backup systems for the incidence and severity of loadshedding and concluded that these technologies can mitigate its adverse effects, conditional on technical parameters such as battery charging rates and the level of inverter penetration.

Building upon these prior studies, this paper argues that loadshedding, as a binding constraint on both households and enterprises, has been largely overlooked and remains insufficiently investigated,

particularly with respect to its impacts in smaller economies such as the Kingdom of Lesotho. Accordingly, the present study aims to address this deficiency in the scholarly literature.

Methods and Data

The exploratory qualitative research design adopted in this study sought to obtain a detailed understanding of how loadshedding affects households and business organisations in the Kingdom of Lesotho. Primary data for the qualitative phase were gathered through in-depth interviews. A purposive sampling technique was applied to select 12 corporate real estate professionals from businesses operating in the Kingdom of Lesotho, based on their relevant work experience. A literature review was conducted using the Google Scholar platform to identify existing studies on electricity loadshedding. The primary qualitative data were analysed through content analysis using Atlas.ti software. To ensure validity and reliability, the researchers carefully followed established procedures for developing the interview guide, conducting the interviews, and maintaining the trustworthiness of the information.

Ethical research approval was applied for and obtained from the University of Free State in line with the institution's research policy. In all circumstances, the researchers considered the ethical concerns and the emotional worries of the study on all participants. Researchers placed themselves in the "shoes" of the participants and test for possible risks and hazards to emotional health of participants, ideals, and decorum. To meet research ethical standards, researchers did not conceal information and/or misinform participants in any way. Researchers informed all the participants of the aim of the study and allowed them the chance to pull out of the study at any time. To protect the privacy of participants, all data collected was treated with strict confidentiality. Personal identifying information was anonymised, ensuring that participants' names and specific details remained undisclosed. Data was stored securely and accessible only to the researchers, and findings were presented in a form that avoids individual identification and without any falsification or fabrication.

Results

To address the purpose of the study concerning the impact of loadshedding on households and business organisations operating in the Kingdom of Lesotho, the following research question was posed to corporate real estate professionals: "What do you consider to be the implications of loadshedding in Lesotho?" Participants indicated that loadshedding exerts substantial negative impacts on the national economy as well as on the operational functioning of businesses. They specifically noted declines in productivity and consequent reductions in revenue, with particularly pronounced effects in the agricultural, mining, and tourism sectors. Furthermore, Participant 4 reported that loadshedding also affects the health sector and has detrimental implications for public safety and government investment. Participants 2 and 3 indicated that loadshedding affects the reputation of the country negatively as the

quality of services can be compromised due to these electricity interruptions. and Participant 4 emphasised that during loadshedding households are unable cook and must rely on buying food which affects their way of life. Participant 5 added that the biggest impact of loadshedding could be business shutdown or interference business failure and exodus of investors, and as this happens, unemployment would then worsen. This view was shared by participant 6. Participants 8 and 11 argued that load shedding results in an increase of operation costs as businesses end up acquiring alternative energy sources. To support these findings, the verbatims from participants are provided to justify these findings.

Loadshedding can disrupt commercial activities, manufacturing processes, and business operations, leading to productivity losses and revenue reduction. Industries reliant on consistent power supply, such as mining, agriculture, and tourism, may experience significant setbacks, hindering economic growth and employment opportunities. (P1)

The implications would be disastrous: the quality of services would be compromised, and the reputations of the country, businesses, stakeholders, and the government would all suffer. This would make people less willing to do business with us, especially for a developing country like Lesotho, which has a small economy and already struggles to attract investors. Such outcomes would be particularly dire for us as a nation. (P2)

The implications would be disastrous: the quality of services would be compromised, and the reputations of the country, businesses, stakeholders, and the government would all suffer. This would make people less willing to do business with us, especially for a developing country like Lesotho, which has a small economy and already struggles to attract investors. Such outcomes would be particularly dire for us as a nation. (P3)

It significantly negatively affects businesses, the health sector, government investment, and safety—it impacts everything. It even affects people's finances because some may not be able to cook and have to buy food, which, in this economy, can really affect people's livelihoods. We are already not doing well as a country, so loadshedding comes with very heavy implications for the economy, health, safety, and the well-being of people. (P4)

The biggest impact would be business shutdown or interference business failure and exodus of investors. And as this happens unemployment would then worsen and the livelihood of the citizens would follow suit. (P5)

Loadshedding can have an impact on the economy because Frequent power outages can disrupt business operations, leading to reduced productivity and financial losses. Industries reliant on continuous power, like manufacturing and services, may experience delays and increased costs.

Consistent power interruptions can erode confidence in the business environment, potentially deterring investment and hindering economic growth. (P6)

Households may have to invest in backup power which is a cost and can affect daily life activities such as cooking and daily chores. (P6)

Loadshedding will increase the cost of business as businesses look for alternative energy sources. It will also force some players out of business due to affordability challenges. (P7)

Lesotho is an emerging market. Although it still young and slow to progress loadshedding in Lesotho would halt all progress if not forced to push the country to regress. As there isn't already visible signs of corporations heading towards green practices, I fear that once we hit a stage where loadshedding becomes more frequent, most business would not be able to operate at a basic level. (P8)

Loadshedding will increase the cost of business as businesses look for alternative energy sources. It will also force some players out of business due to affordability challenges. (P9)

Loadshedding greatly hinders productivity in workplaces as it is not a very common occurrence and most business have not put in place measures to combat loadshedding such as generators etc. The result is minimal productivity and output when loadshedding occurs. (P11)

Participant 10 provided a detailed account of the consequences of loadshedding, highlighting operational disruptions, increased operating costs, heightened dependence on diesel-powered generators, and a consequent decline in overall business confidence in the country. These observations are substantiated by the verbatim excerpts from Participant 10 presented to support the findings.

Business Disruptions: Frequent power outages can disrupt business operations, leading to decreased productivity and financial losses. Tenant reliant on Electric power like salons, restaurants can be highly impacted. (P10)

Increased Costs: tenant will pay additional diesel costs proportionate to sqm, it will increase costs of doing business and this will hinder tenant growth. (P10)

Increased Reliance on Diesel Generators: To cope with loadshedding, businesses and households may rely more on diesel generators, which can increase greenhouse gas emissions and air pollution. (P10)

Hindered Economic Growth: Persistent power shortages can slow down economic development and progress in various sectors, affecting long-term growth prospects. (P10)

Reduced Business Confidence: Ongoing power issues can erode confidence in the stability of the business environment, impacting overall economic stability and future planning. (P10)

Participant 12 further indicated that loadshedding exerts an adverse impact on the economy by reducing gross domestic product (GDP), decreasing employment levels, diminishing productive time, and leading to revenue losses for business organisations. Moreover, Participant 12 reported that, beyond its economic impact, loadshedding adversely affects the daily living conditions and overall quality of life of households. To justify these findings, quotes taken from participant 12's verbatim are provided to justify the findings.

The first and probably most noteworthy implication is the negative impact loadshedding would have on the economy. Let us consider the industry/economic base of the country. Manufacturing and construction are significant employers and contributors to the country's GDP. Next, we find private businesses, public institutions and SMME's, whose establishment is encouraged to generate employment. From the experience of neighbouring South Africa, generators are the primary source of power supply in the absence of the main supply. This might be followed by solar power. From this experience, it is widely known that purchasing and operating a generator (through fuel purchases) is a costly endeavour that cannot be afforded by all. Those who can afford a generator are burdened with buying fuel. Those who cannot lose hours of productive time, and loss of productive time equals loss of revenue. I refer to South Africa again; news stations have discussed the issue of loadshedding with small businesses, and a majority really struggle, ultimately being forced to close. Therefore, there is a significant knock-on effect due to the loss of power. In Lesotho, this effect could be worsened because of the already small economy and reported high unemployment levels. Outside of the economy, loadshedding can have an impact on way of life; commutes become even more burdensome and dangerous. (P12)

Discussion

The implications of loadshedding in Lesotho include substantial disruptions to business operations, which in turn adversely affect aggregate economic performance and the routine functioning of households. The interruption of domestic activities due to loadshedding negatively influences economic productivity and household welfare. Additional consequences of load shedding in Lesotho encompass the disruption of individuals' daily routines, the deterioration of the country's international and domestic image, and reduced investor and consumer confidence in the business environment, all of which constrain economic growth. These findings align with those reported by Makgopa and Mpetsheni (2022) and Muller (2023), who found that loadshedding undermines business growth, business sustainability, and macroeconomic expansion. The findings of this study add new insights by uncovering that loadshedding has adverse effects on day-to-day routine activities of households.

The study provides a substantive contribution to the existing body of knowledge by introducing SCREM as a strategic framework that can be operationalised in Lesotho and comparable contexts to address loadshedding-related challenges. In addition, the study advances theoretical understanding through the

application of Complex Adaptive Systems (CAS) theory, illustrating that detrimental shifts in the business environment can be mitigated through the adaptation and implementation of targeted intervention strategies — such as the deployment of alternative energy sources — to manage and attenuate the impacts of loadshedding.

Conclusion

The implications of loadshedding in Lesotho include substantial disruptions to business operations, which in turn adversely affect aggregate economic performance and the routine functioning of households. The interruption of domestic activities due to loadshedding negatively influences economic productivity and household welfare. Additional consequences of loadshedding in Lesotho encompass the disruption of individuals' daily routines, the deterioration of the country's international and domestic image, and reduced investor and consumer confidence in the business environment, all of which constrain economic growth.

The study provides a substantive contribution to the existing body of knowledge by introducing SCREM as a strategic framework that can be operationalised in Lesotho and comparable contexts to address loadshedding-related challenges. In addition, the study advances theoretical understanding through the application of Complex Adaptive Systems (CAS) theory, illustrating that detrimental shifts in the business environment can be mitigated through the adaptation and implementation of targeted intervention strategies—such as the deployment of alternative energy sources—to manage and attenuate the impacts of loadshedding.

In operationalising SCREM strategies to mitigate loadshedding in Lesotho, the following measures should be prioritised: the systematic promotion of energy-efficient consumer behaviours; the liberalisation of the electricity sector to allow entry of additional power supply entities and thereby eliminate the current monopoly of the Lesotho Electricity Company (LEC); the expansion of solar energy adoption; the scaling up of hydroelectric power utilisation; the development and integration of wind energy; the continuous maintenance, refurbishment, and upgrading of electricity generation infrastructure; the formulation and implementation of a comprehensive national power supply strategy; and the execution of sustained public awareness campaigns focused on energy conservation and national sustainability objectives.

The research participants exhibit heterogeneous durations and types of professional experience within the corporate real estate sector and, consequently, may not possess a comprehensive or fully representative understanding of the effects of loadshedding on households in general or on all economic sectors throughout the Kingdom of Lesotho. Furthermore, because the present study was restricted to corporate real estate professionals in Lesotho, future research should encompass the broader

population as well as other countries and regions currently subject to electricity supply constraints. Subsequent investigations should prioritise the systematic identification, evaluation, and comparison of sustainable electricity generation alternatives capable of alleviating, mitigating, or preventing such electricity supply crises.

References

Alaa, G. & Fitzgerald, G. 2013. Re-conceptualizing agile information systems development using complex adaptive systems theory. *Emergence: Complexity and Organization*, 15(3), 1-23.

Ali, B. J., & Anwar, G. (2021). Porter's generic competitive strategies and its influence on the competitive advantage. *International Journal of Advanced Engineering, Management and Science*, 7(6), 42–51. <https://doi.org/10.22161/ijaems.76.6>

Bothwell, M., & Zivanai, S. (2021). Perceived psycho-social effects of electricity loadshedding: Insight from Ward 1, Mucheke A, Masvingo. *Humanities Southern Africa*, 1(2), 131–140. <https://gzuscholar.gzu.ac.zw/index.php/HSAJ/article/view/104>

Cameron, J., & Hoque, M. 2017. Overcoming barriers by SMEs when accessing financial support from banks: a case study from Ethekwini Metro, KwaZulu-Natal. *Journal of Contemporary Management*, 14(2017), 1225-1242. <https://journals.co.za/doi/epdf/10.10520/EJC-e8369f3c5>

Chowdhury, M., & Alam, Z. 2017. Factors affecting access to finance of Small and Medium Enterprises (SMEs) of Bangladesh. *USV Annals of Economics and Public Administration*, 17(2), 55-68. https://touro scholar.touro.edu/gsb_pubs/12

Endris, E., & Kassegn, A. (2022). The role of micro, small and medium enterprises (MSMEs) to the sustainable development of sub-Saharan Africa and its challenges: a systematic review of evidence from Ethiopia. *Journal of Innovation and Entrepreneurship*, 11, 20. <https://doi.org/10.1186/s13731-022-00221-8>

Fauzi, N. S., Zainuddin, A., Chuweni, N. N., & Johari, N. (2021). The bridge of corporate real estate sustainable management. *International Journal of Research in Business & Social Sciences*, 11(1): 986–993. <http://dx.doi.org/10.6007/IJARBS/v11-i1/9035>

Ferguson, R., Wilkinson, W., & Hill, R. (2000). Electricity use and economic development. *Energy Policy*, 28(13), 923–934. [https://doi.org/10.1016/S0301-4215\(00\)00081-1](https://doi.org/10.1016/S0301-4215(00)00081-1)

Hohm Energy. (2021). Preventing energy crisis: How innovative technology can help meet energy demands. *Hohm Energy*. <https://www.hohmenergy.com/post/preventing-energy-crisis-how-innovative-technology-can-help-meet-energy-demands>

Kabeyi, M. J. B., & Olanrewaju, O. A. (2021). Relationship between electricity consumption and economic development. In *2021 International Conference on Electrical, Computer and Energy Technologies (ICECET)* (1-8). IEEE. <https://doi.org/10.1109/ICECET52533.2021.9698413>

Makgopa, S., & Mpetsheni, Z. (2022). Exploring the impact of load-shedding on SMMEs in Nelson Mandela Bay Municipality. *Academy of Entrepreneurship Journal*, 28(3), 1-7.

Rogers, E.M., Medina, U.E., Rivera, M.A. & Wiley, C.J. 2005. Complex adaptive systems and the diffusion of innovations. *The Innovation Journal: The Public Sector Innovation Journal*, 10(3), 1-26.

Mbuya, J.M., Meyer, N. & Kalitanyi, V. 2025. The nexus between small and medium enterprises critical success factors and financial performance: evidence from Southern and Central African countries. *Journal of Innovation and Entrepreneurship*, 14, 74. <https://doi.org/10.1186/s13731-025-00545-1>

Mncube, V. S. (2025). Perspective Chapter: Empowering Small and Medium-Sized (SME) Entrepreneurs with Crisis Management Capacity and Skills in Africa. *Crisis Management Dynamics-Strategies, Challenges, and Best Practices*. <https://doi.org/10.5772/intechopen.1008407>

Mhlongo, T., & Daya, P. (2023). Challenges faced by small, medium and micro enterprises in Gauteng: A case for entrepreneurial leadership as an essential tool for success. *The Southern African Journal of Entrepreneurship and Small Business Management*, 15(1), 1-12. https://hdl.handle.net/10520/ejc-sajesbm_v15_n1_a591

Moos M. & Sambo W. (2018). An exploratory study of challenges faced by small automotive business in townships: The case of Garankuwa, South Africa. *Journal of Contemporary Management*, 15(1), 467-494. <https://hdl.handle.net/10520/EJC-15269e6fd>

Muller, M. (2023). Loadshedding as a result of failures at the political-technological interface. *South African Journal of Science*, 119(9-10). <https://doi.org/10.17159/sajs.2023/16595>

Nkwabi, J., & Mboya, L. (2019). A review of factors affecting the growth of small and medium enterprises (SMEs) in Tanzania. *European Journal of business and management*, 11(33), 1-8. DOI: 10.7176/EJBM/11-33-01

Nyanzu, F., & Adarkwah, J. (2016). Effect of power supply on the performance of small and medium size enterprises: A comparative analysis between SMEs in Tema and the Northern part of Ghana. *MPRA Paper*, 74196. <https://mpra.ub.uni-muenchen.de/74196/>

Parrilli, M. D., Tingbani, I., & Hansen-Addy, A. (2024). The impact of trade facilitation on African SMEs' performance. *Small Business Economics: An International Journal*, 62, 105–131. <https://doi.org/10.1007/s11187-023-00756-4>

Rankumise, E.M. (2017). Realities and challenges of running SMME's in Mpumalanga, South Africa and Chuzhou, China'. *Unit for Enterprise Studies, Faculty of Management Sciences, Central University of Technology, Free State Hosted at the Hotel School 5-7 April 2017*, 56.

Rogers, E. M., Medina, U. E., Rivera, M. A., & Wiley, C. J. (2005). Complex adaptive systems and the diffusion of innovations. *The innovation journal: the public sector innovation journal*, 10(3), 1-26.

Ur Rehman, N., Çela, A., Morina, F., & Sulçaj Gura, K. (2019). Barriers to the growth of SMEs in Western Balkan countries. *Journal of Management Development*, 38(1), 2-24. <https://doi.org/10.1108/JMD-09-2018-0273>

Zhang, C., Zhou, K., Yang, S., & Shao, Z. (2017). On electricity consumption and economic growth in China. *Renewable and Sustainable Energy Reviews*, 76, 353–368. <http://dx.doi.org/10.1016/j.rser.2017.03.071>