

# EXPLORING THE IMPACT OF LOAD-SHEDDING ON SMME'S IN NELSON MANDELA BAY MUNICIPALITY

Sipho Makgopa, University of South Africa  
Zizipho Mpetsheni, Nelson Mandela University

## ABSTRACT

*South African enterprises are faced with load shedding electricity crisis which poses threat to business survival and growth. The purpose of this study is to contribute to academic literature by using contingency theory in examining the impact of load-shedding on Small Micro Medium Enterprises (SMME's) in Nelson Mandela Bay Municipality. A qualitative research method was adopted to gain an in-depth understanding of the impact of load shedding on SMMEs in Nelson Mandela Bay. In-depth interviews were conducted with SMMEs managers to collect the primary data. Content analysis method is used to analyse the primary data with the aid of Atlas. Ti version 8 software. The findings of this study revealed that load shedding result in business interruptions and poses security risks to SMMEs operating in Nelson Mandela Bay Municipality. This study provides recommendations to stakeholders of SMMEs by providing mitigating measures SMMEs should take against load-shedding and future research directions.*

**Keywords:** Content Analysis, Load Shedding, Small Medium and Micro Enterprises.

## INTRODUCTION

South Africa is facing an electricity crisis during 2019-2020. Recurrent load-shedding events have had a negative impact on the economy (Thurman, 2009). The possibility of load-shedding remains in electricity supplier in South Africa as the nation's electricity generation system is reaching a time to be replaced (Findt, Scott, & Lindfeld, 2014). Since the crisis began in 2007, the track record in developing potential for new generations has been lacking. The two most recent power plants in South Africa, Medupi and Kusile, are both over-budget and lagging behind scheduling (Inglesi-Lotz & BIGNAUT, 2017).

Therefore, the awareness of the possible economic impact of load-shedding is imperative to all South African businesses including SMMEs. The load shedding's economic impact is also applicable in the retail sector, considering the complicated and complex effect of load-shedding on customers. However, it is important to note the role and value provided by the retail sector in the economy is non-linear mode and differs from of output in factories where a power outage results in constant and observable productivity loss (van Scheers, 2016). Due complex nature of the value generated in retail context, the effect of load-shedding on the retail sector is not well known or documented, despite being one of the major role-players in South African economy (Alkaldy et al., 2019). The retail sector is one of the South African economy's largest industries, responsible for 15, 4 per cent of GDP in 2019 (Statistics South Africa, 2019). Retail is a hyper-competitive product- sector with thin margins of error, and that sustainability in the retail sector in South Africa relies on interconnected supply chain and logistics networks underpinned by a common denominator: secure supply of electricity (Ateba & Prinsloo, 2019). Therefore, this paper argues that South African retailers' profitability and their ability to deliver goods at affordable prices are theoretically put at risk by Eskom's problems.

## LITERATURE REVIEW

This section aims to provide definition of concepts relevant to this study and review literature on the challenges faced by Small Micro and Medium Enterprises (SMMEs).

### SMMEs

For the purpose of this study, it is imperative to define SMMEs from South African perspective. The South African act that provides the regulatory and support framework for SMMEs is the National Small Business Act 102 of 1996, which defines SMME as a separate and unique business entity, including cooperative enterprises and non-governmental organisations, managed by one owner or more which including its branches or subsidiaries, if any, predominantly carried on in any sector or subsector of the economy. SMMEs comprise an independent property which is individually owned by the owner or manager and which is active in a narrow market place.

The Department of Trade and Industry (DTI) (2010) defined SMMEs as small corporation entities providing work for a maximum of 100 workers, and 200 employees in the industrial sectors and manufacturing industry. However, defines SMME in South Africa is any business with fewer than 200 employees and an annual turnover of less than 5 million rands, capital assets of less than 2 million rands and the owner is directly involved in the management of the business. The definition for SMMEs includes broad range of organisations, some of which includes formally registered, informal and non-VAT registered organisations (The Department of Trade and Industry, 2008). SMMEs can take the form of street trading business, backyard manufacturing and services, retailer, and occasional home-based evening jobs (the Department of Trade and Industry, 2008). SMMEs range from informal, own-account enterprises to formal, employment-creating organisations. SMMEs are almost always informal and survivalist in nature. These organisations tend to struggle just to remain in business and need substantial support if they are ever to grow to become employment creating firms. Therefore, in the context of this study, SMME is defined as a business entity that is individually owned by the owner or manager and is active in a specific in market (Jabri, 2017).

### Load shedding

The Republic of South Africa faced repeated episodes of temporary power shutdowns in 2019–2020. Due to its inability to satisfy the power demand (because of loss of power generation) and in order to prevent uncontrolled blackouts, the monopoly power supplier Eskom implemented this practice, which is also known as rotational load shedding, for several hours a day in most of the country. Load shedding is an intervention of last resort when power demand exceeds supply: times and areas affected by load shedding have been communicated by Eskom to the public on short notice, for example via schedules published on Twitter and different dedicated homepages (Statistics South Africa, 2020). In this study, the definition by statistics South Africa is adopted, and load shedding is defined as electrical power cottage due to increased power demand that exceeds the supply (Rankumise, 2017).

## Challenges Faced by SMMEs

Czinkota et al. (2014) alluded that for SMMEs to become sustainable, regardless from the financial sustainability of a business, the reputation of the business is importance as it reflects the goodwill of such a business. If an SMME loses its reputation amongst its stakeholders, business sustainability becomes impossible (for a business to become sustainable, apart from the financial sustainability of a business entity, the reputation of the business is of equal importance; it reflects the goodwill of such a business. Czinkota et al. (2014) argue that when SMME loses reputation amongst stakeholders, business sustainability becomes impossible. Slabá (2016) added that SMMEs should aim to build and maintain relationships with their stakeholders such as competitors, customers and suppliers. Chinomona & Hove (2015) highlighted that South African SMMEs have reasonably good relationships with their stakeholders. From a different perspective, Bruwer et al. (2016) evaluated the relationships between two of the elements of a sound internal control system, namely internal control activities and managerial conduct, and the perceived sustainability of SMMEs. The results indicated that the management competencies in SMMEs had positive relationship with sustainability of the SMMs, and further revealed that majority of SMMEs tend to fail to survive in the first three years of existence. However, in the study by Malebana (2017) is argued that entrepreneurial support as an intervention can be directed at changing one or more of the antecedents of entrepreneurial intention and behaviour in business. Mamabolo et al. (2017) also shared the same view that entrepreneurship as a driver of sustainable economic growth as entrepreneurs create new businesses and employment. Because entrepreneurship contributes to economic growth, it is important to have the skills needed to be successful in business venturing (Kerrin, 2017).

In another study, Rankhumise (2017) explored the realities and challenges faced by owners of small and medium enterprises (SMMEs) in running their businesses. Rankhumise (2017) uncovered the following challenges which are faced by SMMEs; lack of entrepreneurial skills, proper infrastructure and lack of special tools to render services. Mamabolo et al. (2017) define entrepreneurial skill as the proficiency in performing tasks in the entrepreneurial phases as a result of human capital investments (formal and education, entrepreneurial education, work, industry and entrepreneurship experiences) and can be improved by training, practice and development. Lekhanya (2015) also identified lack of entrepreneurship education as a major reason for SMMEs failure in South Africa.

Despite the identified challenges may hinder the sustainability of SMMEs, Moos & Sambo (2018) explored general barriers faced by these businesses in townships of South African economy. Moos & Sambo (2018) uncovered the following challenges for the survival of SMMEs; lack of funding, lack of equipment, price dropping by clients, lack of business skills, poor bookkeeping/recording skills, legislative and regulatory frameworks, and technology resources. Considering the identified challenges faced by SMMEs which are uncovered in previous studies, it is clear that the impact of load shedding on SMMEs is yet to be explored. Therefore, this paper aims to address this gap in literature by exploring the impact of load shedding on SMMEs operating in Nelson Mandela Bay Municipality, South Africa.

## Problem Statement

The retail industry, one of the most critical engines of the South African economy, does not have credible estimates of the direct costs of load-shedding in the South African retail sector. Retailers, market players, creditors and policy makers need more accurate assessments of the

costs of load-shedding on Small Micro Medium Enterprises (SMME's) to use in order to make informed future decisions (Liu et al., 2013). Electricity is a critical input for efficiency and therefore load-shedding will lead to the failure rate of South African small-medium retailers. This is not only a problem for all business operators, but also has a negative effect on South Africa's industrial growth and development to the market as low profitability. This paper argues that the growth and survival of SMMEs are threatened by impediments that may exist in the operations such as electricity load shedding. The problem statement of this study is thus the lack of academic literature on the impact of load-shedding on SMMEs.

## Research Objectives and Questions

The primary objective of this study is to explore the impact of load-shedding on SMME's in Nelson Mandela Bay Municipality.

## RESEARCH METHODOLOGY

A qualitative research method was used to gain an in-depth understanding of the impact of load shedding on SMMEs in the case of SMMEs operating in Nelson Mandela Bay Municipality, South Africa. Nelson Mandela Bay Local Economy agency database served as a sample frame to access the contact details of SMMEs operating in the Municipal district. In-depth interviews were used to collect the primary data during the qualitative phase of this study, respectively. In this study, the research population consisted of all the owners/managers of SMMEs in the retail sector of Nelson Mandela Bay Municipality. 15 owners/managers of SMMEs participated in the study through in-depth interviews which were contacted telephonically and through Microsoft Teams meeting tool. Content analysis method is used to analyse the secondary data during literature review and analysis of primary data collected during the qualitative phase with the aid of Atlas.ti version 8.

## FINDINGS AND DISCUSSIONS

To discover how load-shedding impacted SMME activities, fifteen (15) interviews were conducted with the managers. A qualitative data analysis culminated in nine main themes indicating that depending on the category of SMME and the location of the SMME retail outlet, the degree of load-shedding effect has been found to vary. Significant factors affecting the degree of effect were also found to be different factors relating to the nature of the particular load-shedding event, such as reliable notification of the incident, the day of the week, the time of the day and the duration. Load-shedding disrupts SMME businesses' operating activities. In this respect, the two most influential effects were found to be lighting and payment processing of clients. The management of the refrigerated cold products is a critical component of all activities in the retailing SMMEs and load-shedding is an especially destructive force in this regard. This finding concurs with Ateba & Prinsloo (2019) in that the sustainability of the retail sector in South Africa relies on interconnected supply chain and logistics networks underpinned by a common denominator, namely; secure supply of electricity Inglesi-Lotz (2014).

Costs and sales were the two primary themes. The assumption that these costs come directly from the bottom line was the underlying trend of costs, contributing to a reduction in the profitability of the firms. The related cost of opportunity is evident in the fact that many of the participants in the interview indicated that those funds would have been better targeted at

expansion. With regard to protection and minimizing the effect of load-shedding, the two most relevant cost elements were. During a load-shedding event, both internal and external security systems are breached, leaving stores vulnerable to employee pilfering and customer robbery. Huge capital investments and variable operating expenses are required to provide backup generation power in order to reduce the effect of load-shedding.

Revenues are affected as many stores stop selling during incidents of load-shedding. A drop in consumer demand, reduced capacity to deliver services and problems in handling payments contribute to a decrease in revenue when stores are able to begin selling. After a load-shedding event, some interview participants reported an improvement in revenue as some customers returned, but this could only account for a small recovery in lost sales.

SMME businesses and SMME landlords are the key parties impacted by load-shedding. Decreased levels of quality and discomfort are encountered by customers. The two main themes were expenditures and revenues. The underlying trend in costs was the belief that these costs came straight from the bottom line, leading to a decline in the company's profitability. Positive load-shedding results include improved market competitiveness and preparedness, as well as new product and service opportunities to help customers reduce the effects of load-shedding in their daily lives. The findings of this study add insight to academic literature by unpacking the impacts of electricity load shedding on SMMEs which has not been covered in previous studies.

### **RECOMMENDATIONS IN DEALING WITH THE IMPACT OF LOAD-SHEDDING**

To address the crisis of load-shedding, the SMMEs landlord should install electricity back-up generators to avoid business interruptions. The Energy supplier, Eskom should reduce operating costs, increase tariffs and reduce a large part of its debt in order to invest on its infrastructure to match the electricity demand. It is also recommended that Eskom to separate the entity into three subsidiaries, namely production, transmission and distribution as this will increase disclosure of costs and debt, and will contribute to increased efficiencies. The government should assist with finding a solution to the problem of local Municipalities' non-payment debts. The management and executive committee should be improved through an addition of individuals with broad knowledge in large-scale industry turnarounds, customer dynamics, infrastructure and project management, and comprehensive financial and management analysis. Thus, managers with sufficient experience should occupy empty executive roles, including Chief Executive Officer Position.

### **LIMITATIONS OF THE RESEARCH**

Some businesses' telephone numbers were not easy to find, and this made it very difficult to get hold of the businesses managers because the researchers were unable to visit the businesses physically because of the Covid-19 pandemic facing South Africa. This impacted negatively on turn-around time as the researchers spent long hours locating establishments. The subject covered by the interview questions was not sensitive, but some businesses felt that some of the information was confidential (particularly, financial reports), and therefore the researchers faced difficulties in gathering the information on some questions which were considered to be sensitive and strictly confidential.

## CONCLUSION

This study was small in scale, although the impact of the topic has permanent consequences for the economy of the Nelson Mandela Bay Municipality, and the country as a whole, hence the researchers believe that the following recommendations can help with future studies in the same line of investigation. The interviews were conducted by selecting 15 businesses due to the Covid pandemic therefore the researcher couldn't reach more businesses as a precaution and safety practice. For a vast representation of views, the researchers recommend adding more businesses, and a sample of a larger group will be a good fit for a study of this magnitude. Therefore, businesses from a variety of industries should be included in future research to compare the results. Secondly, selecting participants through convenience sampling makes the process easier to reach the businesses and from which each participating business was requested to recommend an interviewee. The recommendation for future studies will be to request a large pool of potential candidates could be included following quantitative research.

## REFERENCES

- Alkaldy, E.A.H., Albaqir, M.A., & Hejazi, M.S.A. (2019). A new load forecasting model considering planned load shedding effect. *International Journal of Energy Sector Management*.
- Ateba, B.B., & Prinsloo, J.J. (2019). Strategic management for electricity supply sustainability in South Africa. *Utilities Policy*, 56, 92-103.
- Bruwer, J.P., Coetzee, P., & Meiring, J. (2017). Can internal control activities and managerial conduct influence Business Sustainability? A South African SMME perspective. *Journal of Small Business and Enterprise Development*.
- Chinomona, R. (2015). The Influence of Supplier Involvement on Communication, relationship longevity and business performance in small, medium and micro enterprises in South Africa. *Journal of Economics and Behavioral Studies*, 7(3 (J)), 63-75.
- Czinkota, M., Kaufmann, H.R., & Basile, G. (2014). The relationship between legitimacy, reputation, sustainability and branding for companies and their supply chains. *Industrial Marketing Management*, 43(1), 91-101.
- Findt, K., Scott, D.B., & Lindfeld, D.C. (2014). Sub-Saharan Africa Power Outlook. KPMG Infrastructure & Major Group. Johannesburg: KPMG.
- Ingesi-Lotz, R., & Blynnaut, J. (2017). Estimating The Opportunity Cost Of Water For The Kusile And Medupi Coal-Fired Electricity Power Plants In South Africa. *Journal of Energy in Southern Africa*, 23(4), 76-84.
- Ingesi-Lotz, R. (2014). The sensitivity of the South African Industrial Sector's electricity consumption to electricity price fluctuations. *Journal of Energy in Southern Africa*, 25(4), 2-10.
- Jabri, P. (2017). Current power crisis to end by first week of May: Khawaja Asif. Retrieved from Business Recorder: <http://www.brecorder.com/2017/04/19/344497/current-power-crisis-to-end-by-first-week-of-may-khawaja-asif/>
- Kerrin, M., Mamabolo, M.A., & Kele, T. (2017). Entrepreneurship management skills requirements in an emerging economy: A South African Outlook. *The Southern African Journal of Entrepreneurship and Small Business Management*, 9(1), 1-10.
- Lekhanya, L.M. (2015). Public outlook on small and medium enterprises as a strategic tool for economic growth and job creation in South Africa. *Journal of Governance and Regulation (Online)*.
- Liu, W., Lin, Z., Wen, F., & Ledwich, G. (2013). A Wide Area Monitoring System Based Load Restoration Method. *IEEE Transactions on Power Systems*, 28(2), 2025-2034.
- Malebana, M.J. (2017). Knowledge of entrepreneurial support and entrepreneurial intention in the rural provinces of South Africa. *Development Southern Africa*, 34(1), 74-89.
- Kerrin, M., Mamabolo, M.A., & Kele, T. (2017). Entrepreneurship management skills requirements in an emerging economy: A South African Outlook. *The Southern African Journal of Entrepreneurship and Small Business Management*, 9(1), 1-10.
- Moos, M., & Sambo, W. (2018). An exploratory study of challenges faced by small automotive businesses in townships: The case of Garankuwa, South Africa. *Journal of Contemporary Management*, 15(1), 467-494.

- 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.
- Slabá, M. (2016). Stakeholder Profile And Stakeholder Mapping of SMEs. *Littera Scripta, 1*, 124-139.
- The Department of Trade and Industry (DTI). (2008). Available from <http://www.smmes.co.za> (accessed 14 November, 2020).
- Thurman, C. (2009). Load shedding: Writing on and over the edge of South Africa: Edited By Liz Mcgregor And Sarah Nuttall. *English Studies in Africa, 52*(1), 116-121.
- Scheers, V.L. (2016). The Importance That Customers Place On Service Attributes Of Sale Personal In The Retail Sector. *Investment Management and Financial Innovations, 13*(3), 222-227.

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