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ASSESSING THE EFFECTS OF LOADSHEDDING ON THE SUSTAINABILITY OF SMALL BUSINESSES: A SOUTH AFRICAN PERSPECTIVE

Tebogo Sylvia Matlou[1], Mahlodi Daniel Raphiri[2], Mohale Ernest Selelo[3]

[1,2,3] Department of Development Planning and Management, University of Limpopo, South Africa

Abstract

The paper investigated the effects of loadshedding on the sustainability of small businesses. The paper argues that one of the primary issues facing the country's small businesses is loadshedding, which has an adverse effect on their daily operations and forces some of them to shut down. Due to their inability to purchase backup power solutions such as generators to maintain business and operations as usual, small businesses such restaurants, barbershops and grocery stores are under a lot of pressure from loadshedding, resulting in dissatisfied clients and increased operating costs. The truth is that small businesses are still required to pay for necessary business expenses and to compensate their staff members even if they are unable to function and make a profit. The paper adopted a literature-based methodology to review secondary sources and to gain a comprehensive understanding of how loadshedding affects small businesses sustainability. The paper found that small businesses rely heavily on a consistent and stable supply of electricity, therefore, loadshedding results in disruption of their operations, decrease in sales and increase in costs. Additionally, loadshedding hinders internet and Wi-Fi connectivity, which is problematic for small businesses moving to digital platforms. The study recommended that small businesses follow Eskom's phased and timed loadshedding plans to prepare for loadshedding. By following the scheduled stages of load, small businesses can mitigate the effects of power-supply disruptions on their operations by anticipating and taking preventive measures. Small businesses can opt for business interruption insurance that only covers the fixed expenses incurred by the business during its unavailability for operations. The paper also recommends the use of solar panels and generators to sustain the small businesses.

Keywords: Loadshedding, sustainability, small businesses, South Africa.

1. Introduction

According to Mabunda, Mukonza and Mudzanani (2023), small businesses shut down because of loadshedding and load reduction. The productivity of small businesses and how they contribute to the economic success of municipalities are influenced by the standard of the electricity delivered (Mabunda et al., 2023; Mabuza & Maphosa, 2023). According to Mbomvu, Hlongwane, Nxazonke, Qayi, and Bruwer (2021), loadshedding has caused 75% of South African small businesses to fail after operating for less than three years, despite the fact that these businesses help the economy reduce poverty, grow the national economy, and create jobs (Apeh & Nwulu, 2024). The likelihood of small businesses surviving, their ability to compete, and their ability to contribute to the economy of the municipality are all affected by loadshedding (Mbungu and Inglesi-Lotz, 2022).

Electricity Act No. 42 of 1922 stipulates that Eskom had the duty to provide efficient electricity to all South Africans to meet its consumer's demands (Jonckie, 2020). Due to their limited financial resources, small businesses often lack backups like generators and inverters (Mkhwebane and Ntuli, 2019; Jonckie, 2020). As a result, the small businesses are obliged to shut down during loadshedding and restart when the electricity returns (Mabunda et al, 2023). Product damage, decrease in sales, increase in costs, health problems, and waste of time are the challenges and factors that affects small businesses due to loadshedding (Makhdoom, 2017). Small businesses have found it extremely difficult to create income and cash flow optimally as a result of loadshedding, which might potentially assist the national government in reducing poverty, distributing wealth, and overall boosting the country's economy (Semenya, 2019). This study focuses on assessing the effects of loadshedding on the sustainability of small businesses in South Africa. The emphasis is placed on examining the abilities of small businesses to be sustainable for long term despite the volatile supply of electricity.

2. Problem Statement

The central problem concerned in this paper is the unreliability, governance challenges in Eskom, which has led to the national electricity blackouts. The most vulnerable in the context of the paper are small business who face operational challenges due to loadshedding. Therefore, the effects of loadshedding on the sustainability of small businesses are a significant area of interest and with the intention of understanding and assessing how small businesses are profoundly affected by daily power cuts. According to Mabunda et al. (2023), loadshedding

continues to be a significant issue in the country, affecting daily business operations and causing small businesses to cease operations. Ahadu (2019), reports that loadshedding has resulted in the closure of 64% of township small businesses, which is approximately 523 small businesses in total. According to Phiri and Kabubi (2017), loadshedding reduces small businesses' capacity to survive by interfering with their ability to make money. The small businesses such as restaurants, salons, internet cafes, barbershops, repair, and grocery stores are working under a lot of pressure as loadshedding leads to unsatisfied customers and higher operational costs because they cannot afford to get backup power solutions such as generators to keep their business and operations running as usual. The challenge of loadshedding has been haunting South Africa since 2008 as small businesses are closing, people are losing their jobs due to reduced working hours and small businesses are unable to make enough profits.

2. Methods

A review of the literature was conducted for this study to collect data. Another name for this technique is secondary data/desktop study. The authors gathered data from a variety of sources, including academic journals on google search engine, google scholar search engine, books, Stats SA reports, publications from ResearchGate, and other internet sources. As a result, authors examined the literature regarding the nexus between small businesses and loadshedding. Owing to the nature of this paper, document analysis was undertaken to analyze data. It is One analytical approach that helps researchers to provide meaning, explanations and justifications for the theme (Selelo and Khwela, 2024). Furthermore, the approach enabled the authors to formulate themes related to topic of the paper. As a result, the themes were critically developed and provided context for the topic being discussed.

3. Findings

4.1. Historical Background of Loadshedding in South Africa

Eskom which was established in 1923 was an impressive project all the way to 2002, became one of the most prestigious energy institutions globally and became a backbone in South Africa. Hence, Ngoepe-Ntsoane (2024) indicates the government authorities of the time were warned and informed about the future electricity supply constraints by the year 2007. Perhaps, this was due to connecting many households to the national grid without increasing the capacity of Eskom to supply electricity. As a result, after years of having a reliable energy supply, South Africa found itself in an unpalatable milieu of load shedding for the first time in 2007 (Akinbami, Oke & Bodunrin, 2021). The Presidency of the Republic of South Africa, (2006), elucidated that loadshedding has been adopted as the measure of last resort to relieve pressure from the electricity grid and prevent nation-wide blackouts. Loadshedding is expressed as a reduction in percentages of demand by the systems operators and ranges from 5% at stage 1 to 30% at stage 6 (Ngoepe-Ntsoane, 2024). EcoFlow (2025) argues shows that loadshedding was or is still viewed as a “necessary evil” to stabilize the national grid; however, the disadvantage of such an evil goes beyond temporary darkness. Hence, the disadvantage of loadshedding affects individual lives, education health, jobs and businesses. EcoFlow (2025) reports that over 30% of small enterprises lack backup power, forcing closures during extended outages. Which means that people or institutions that are severely affected are small businesses. Thus, this paper delves into the effects of loadshedding on the sustainability of small businesses.

3.1 Theoretical Framework

- **Economics of Power System Reliability and Planning Theory**

The study has adopted the Economics of Power System Reliability and Planning Theory. Munasinghe (1979) asserts that the theory highlights the necessity of electricity for productive uses, including commercial, industrial, and agricultural ones. Power system reliability refers to the capacity of a power supply to provide consumers with a steady and uninterrupted power supply and planning theory deals with the creation and improvement of the infrastructure supporting the power system (Kufeoglu and Lehtonen, 2016). The theory highlights that power system must consist of three fundamental components: generation, transmission, and distribution to reliably supply small businesses with electricity (Anwar, Muratori, Jadun, Hale, Bush, and Denholm, 2022; Yohanandhan, Elavarasan, Pugazhendhi, Premkumar, Mihet-Popa, and Terzija, 2022). The theory also states that the manner in which loads shedding affects the small businesses vary depending on the application on how long the disruption lasts and when it occurs (Mutambo, Kawimbe, Meki-Kombe, and Mwange, 2023).

According to Mutambo et al (2023), small businesses are adversely affected by loadshedding causing significant financial losses, reduce productivity and irritate customers. Being proactive includes making purchases of battery storage or backup generators, diversifying one's energy sources, and conserving energy (Mwange,

Kasongola, and Meyiwa, 2022). Olajuyin and Mago (2022) point out that the theory supports the idea that increasing small businesses' productivity requires a steady supply of electricity. The theory has provided a comprehensive understanding of how loadshedding affects small businesses' capacity to survive.

3.2 Challenges of Small Businesses

Financial resources are needed for small businesses to grow (Mabunda, Mukonza, et al., 2023). According to Muriithi (2017), one major obstacle preventing small businesses in Africa from surviving and growing is their inability to obtain money. Small business owners have an extremely tough time acquiring funding because of the high comparative interest rates, the necessity for collateral, and the loan guarantees of financial institutions (Makgopa and Mpetsheni, 2022; Mabuza & Maphosa, 2023). Banks also mention challenges in providing loans to owners of small businesses (Mutoko, 2015). They claim that expenses incurred in managing modest loans to small businesses simply serve to lower their earnings (Mutoko, 2015; Muriithi, 2017; Apeh & Nwulu, 2024). Olajuyin and Mago (2022), highlight that weak financial markets or unfavourable borrowing circumstances are related to a lack of sufficient or easily available capital, which prevents many small businesses from taking advantage of the opportunity to support their expansion. Small businesses and other business sectors cannot take advantage of opportunities or make the best investments if they do not have adequate access to financing. It could also imply that small businesses cannot establish the appropriate financial benchmarks for expansion (Mwange, Kasongola, and Meyiwa, 2022).

- **Poor Management Skills and Competencies**

According to Mbomvu, Hlongwane, Nxazonke, Qayi and Bruwer (2021), inappropriate management is a significant obstacle that small businesses face throughout the world. This is because many small business owners or managers lack business managerial expertise to manage their businesses. Therefore, they largely focus on performance, trial and error, and short-term benefits rather than strategic planning (Muriithi, 2017). It is noteworthy that small business owners are skilled in their industries and have feasible ideas, but lack managerial skills or business management knowledge, which leads to poor small business performance and management (Makgopa and Mpetsheni, 2022). Because of this, small businesses are thought to be less capable than large corporations that offer the necessary high-quality goods and services (Kintu, 2022).

Numerous studies point to various management components as the cause of failures. Among them are factors such as small businesses inability to handle their money, a lack of accounting knowledge, credit management, inventory management, cash flow management, marketing management, and human resource management (Muriithi, 2017; Pillay & Beharry-Ramraj, 2024). The aftermath of absence of defined legal frameworks, inadequate coordination, and a labour scarcity are the causes of these issues. Small businesses have several challenges are lack of infrastructure, a lack of specialized equipment to perform services, and a lack of entrepreneurial spirit (Rankumise, 2017). According to Lekhanya (2015), a deficiency in entrepreneurial expertise is another major factor contributing to the demise of small businesses.

Moos and Sambo (2018) state that the survival of small businesses is hampered by a lack of capital, a shortage of equipment, client price reductions, a lack of business acumen, and inadequate bookkeeping and recordkeeping abilities. Operating obstacles such as loadshedding pose a danger to the expansion and viability of small businesses (Makgopa and Mpetsheni, 2022). In South Africa, more than 70% of small businesses close their doors within five to seven years of opening. Incompetent company planning, inexperience, bad marketing, inadequate infrastructure, and an inability to control development and market access are all blamed for these failures (Bushe, 2019). In addition, fierce competition from more well-known businesses, the rapidly developing entrepreneurial climate, the deficiency of managerial expertise and entrepreneurial potential, and the inadequately cohesive business structure are significant factors contributing to the failure of small businesses in South Africa (Fatoki, 2014).

- **Economic Globalization**

Due to the intense competition brought about by economic globalization, small businesses face numerous difficulties (Gamage, Ekanayake, Abeyrathne, Prasanna, Jayasundara, and Rajapakshe, 2020). Small businesses find it difficult to adapt to environmental changes, making it harder for them to hold their ground against larger businesses. Due to economic globalization, small businesses have been placed on the development platform. During this time, changes in the global economy have presented small businesses with both opportunities and challenges (Dominguez and Mayrhofer, 2017). Furthermore, small businesses now face a new difficulty as a result of the actual effects of globalization and the acceptance of financial agreements: How to remain competitive in large marketplaces (Maarof and Mahmud, 2016). Specifically, the key area of worry has been small businesses' capacity to grow abroad and survive in the marketplace.

According to Prasanna, Jayasundara, Gamage, Ekanayake, Rajapakshe, and Abeyrathne (2019), small businesses have a major issue in that many them close down rather soon after they open for operation, particularly in developing countries. This is primarily due to the newly created competitive barriers in the free-market environment of the globalized economy. Regarding this, current research has identified three competitive obstacles that face businesses operating in the global economy: technological, global, and sustainability difficulties (Noe, Hollenbeck, Gerhart, and Wright, 2017). The business world has reached a historic point due to globalization, which has increased competition and brought about rapid technological changes. The small business sector has been particularly hard hit and is currently facing new challenges as it seeks to become competitive by globalizing its operations (Ocloo, Akaba, and Worwui-Brown, 2014).

Bushe (2019), highlight that the degree of competition and advancing technology had a significant effect on the competitiveness of small businesses. It poses several difficulties for large and small businesses, some of which could hurt their ability to compete in a global marketplace. This will probably determine how easily small businesses can operate in a constantly changing environment and realize synergies, as well as economies of scale and scope (Dewi, Mekaniwati, Nurendah, Cakranegara, and Arief, 2020). It is widely acknowledged that small businesses face certain difficulties that have an impact on their profitability and growth, reducing their ability to participate effectively in globalization and competitiveness (Dewi et al., 2020).

- **Operational Disruptions**

Small businesses continue to be the sector of emerging nations' economies that is growing at the fastest rate, but their operations have been hampered by inconsistent and insufficient power supply (Mutambo, Mwange, Manda, Chiseyengi, Mashiri, and Bwalya, 2023). Business production processes are disrupted by loadshedding, which can cause delays in delivery deadlines, service offerings, and manufacturing schedules (Sawhney, Khan, and Eskandarpour, 2019). The ability of small businesses to meet their contractual responsibilities within deadlines and goals is severely hampered by loadshedding (Ahadu, 2019). Most consumers prefer to pay with credit cards, which makes it more difficult to manage transactions and receive payments when purchasing goods when there is loadshedding (Goldberg, 2015). For transactions like cash registers, point-of-sale systems, vending machines, and e-transactions, reliable energy is required (Olajuyin and Mago, 2022).

This has a direct effect on small businesses' capacity to satisfy client requests, which could lead to a decline in consumer satisfaction and a possible loss of market share (Mkhwebane and Ntuli, 2019; Musabayana, 2023). Service lapses and business interruptions can aggravate customers and damaged the business image. Due to this, loadshedding causes employees to be unable to carry out their responsibilities, which reduces productivity and efficiency and causes delays in the delivery of services or goods. Many small businesses are compelled to close during loadshedding hours, which lowers turnover and profits and makes it more difficult for them to cover operating expenditures (Gerald, Garry and Patson, 2020). Walsh, Theron and Reeders (2021) state that most small businesses frequently lack the capital to invest in backup power solutions.

Loadshedding causes production delays, which reduces output. Small businesses are forced to stop operations for a long period of time during loadshedding, which has an adverse effect on their operations, financial performance and profitability (Olajuyin and Mago, 2022). Furthermore, loadshedding influences business communication networks (Mutambo, Kawimbe, Meki-Kombe and Mwange, 2023). Businesses may find it challenging to communicate with their clients, customers, and suppliers when loadshedding occurs because it can interfere with phone lines and internet connectivity (Amadi, 2015; Mbomvu, Hlongwane, Nxazonke, Qayi & Bruwer,2021). Missed chances and strained business relationships result from this (Mutambo et al., 2023).

- **Lack of Funding**

Lack of funding is perceived to be one of the common challenges for small businesses. Therefore, Qaied, Ennab and Neamat (2015: 130) conclude that “small businesses funding in Jordan suffers from many obstacles, the most important is lack of sufficient funding with high interest lending rates, as well as the microfinance institutions militancy request guarantees”. Hasseno, Tefera and Taylor (2024) understand that lack of access to funding impairs on the development and sustainability of small businesses. Meanwhile, scholars such as Mutoko (2015) argues that at times access to funding by small business is due to their credit history, poor financial records and no business bank account. Therefore, this challenge may impede on the financial sustainability of the small businesses. It might even lead to small businesses not affording the generators and solar panels because of financial woes and loadshedding.

3.3 The Implications of Loadshedding on the Economy

According to the Global Entrepreneurship Monitor (2017), 36% of South Africa's GDP and 40% of all businesses are small businesses. By 2030, 90% of new jobs created in South Africa would be created by small businesses (NDP, 2030). For small businesses to expand and create more jobs for the community's economy, a supportive

environment is necessary. Long-term viability of small businesses can be threatened over time by the compounding economic effects of lost revenue, increasing operating expenses, and decreasing productivity (Mbungu and Inglesi-Lotz, 2022). The South African economy has suffered greatly because of loadshedding, which has resulted in a number of problems including small business closures, a rapid decline in productivity, unemployment, adverse effects on healthcare, and an education crisis (Naidoo, 2023). Because it affects business performance and productivity, an unstable power supply impedes the creation of jobs and economic progress (Gontsana, Ntongana and Washinyira, 2019). It has been discovered that the country's population's quality of life and economic advancement have been hampered by the complex regulatory environment, antiquated energy infrastructure, bad management, and weak leadership that have led to the current loadshedding situation (Mbomvu, Hlongwane, Nxazonke, Qayi and Bruwer, 2021). It has severe implications on all aspects of the country's socioeconomic life, including the closing of many small businesses, unemployment and the darkness that citizens must endure on a daily basis etc. (Naidoo, 2023). According to Twala, Ye, Xia and Zhang (2023), loadshedding in South Africa is intended to last for more than two hours per loadshedding outage, and the timetable and length of the outage vary daily. Small businesses are required to pay their employees' salaries and cover relevant business costs even in the event that they are unable to function and make a profit (Schoeman and Saunders, 2018). Because of loadshedding, small businesses are unable to operate as profitably and cash flow-generating as they could to help the national government to reduce poverty and generally boost the economy of the country (Semenya, 2019).

4. Discussion

Based on the above discussions, existing literature emphasizes that loadshedding in south Africa negatively affect small businesses, public safety, economic growth, economic development, promote social instability, and violence. Twala, Ye, Xia and Zhang (2023) state that loadshedding outages are meant to last longer than two hours, with daily variations in the duration and schedule of the outages. Because of this, it is impossible for people to predict when power outages will begin and stop, as well as how long they will last. According to Nduhuura, Garschagen and Zerga (2020), loadshedding patterns include evenly distributed rotational schedules, times during the day when power is turned off for specific areas, and stage-based schedules that show the intensity of loadshedding with higher stages, indicating more frequent outages. Due to the inability of homes and businesses to schedule when to use their appliances, these six-to-ten-hour loadshedding outages have left them less suited to resist the outages (Nduhuura, Garschagen and Zerga, 2020). During loadshedding, people are forced to reschedule their demands involuntarily to a less convenient time window. This means that some small businesses plan, while others postpone their economic activity. Since they cannot function without electricity, several of them modify their working hours by adding weekend and late shifts to compensate for missed time (Schoeman, van Wyk and Blaauw, 2024).

According to Masinga and Madzivhandila (2023), there could be an electrical surge that destroys electrical equipment and appliances, rendering refrigerators and other devices inoperable and causing food kept at cool temperatures to deteriorate once power is restored. Food waste is greatly affected by prolonged power outages; small businesses can experience outages for up to 12 hours per day (Olajuyin and Mago, 2022). Perishable goods such as fruits, vegetables, meat and dairy products might go bad during extended blackouts (Masinga and Madzivhandila, 2023). This shows that long periods of loadshedding can cause small businesses to lose their cold-stored food and damage their equipment, including hair dryers in salons, washing machines in laundry services, refrigerators in restaurants, and electric chargers in cell phone repair shops when the power comes back on.

According to Mulonda (2023), loadshedding makes it impossible for small businesses to access digital retail systems, emails, and online banking. The communication networks of the company are impacted by loadshedding (Mutambo, Kawimbe, Meki-Kombe, and Mwange, 2023). When loadshedding happens, it might interfere with phone lines and internet connectivity, making it difficult for businesses to interact with their suppliers, clients, and consumers. The findings show that loadshedding limits the small businesses moving to digital spaces to conduct business online with inability to connect to internet and Wi-Fi access. Small business payment processing devices, such as speed points, need electricity and a network to function. Consequently, small businesses without backup electricity will have to send their customers home without providing any service because loadshedding prevents them from conducting online transactions. Therefore, loadshedding affects small businesses since it prevents them from transacting or sending information in time.

5. Recommendations

Small businesses should prepare for loadshedding by adhering to the phases and timetable provided by Eskom, the country's electricity provider. However, small businesses can prepare and take action to reduce the effects of power supply disruptions on their operations by adhering to scheduled stages of loadshedding. Small businesses can still be adversely affected by power outages. Determining the exact moment of an approaching power outage is crucial. Depending on the time of day and day of the week when it occurs, loadshedding has different effects on small businesses' operations. The consequences of loadshedding are significantly less severe when it occurs outside of work hours.

Small businesses that interact with suppliers and inventory must pay close attention to load-shedding periods. Monitoring the loadshedding schedule is the first and most crucial step in reducing the danger. This is made possible by the availability of digital technologies, which will also aid in determining the best scheduling strategy to use to meet performance standards. Anyone can check their region using several apps, and they can get confirmations by calling the power utility office the day before an outage is scheduled. Additionally, small businesses should make greater investments in production scheduling, which entails allocating specified resources, typically, people and machines, to finish orders within a predetermined time frame to meet deadlines, maximize system performance, guarantee timely order delivery, and customer satisfaction.

Small business owners could install batteries, inventories, and electrical backup generators to mitigate the loadshedding situation and prevent business disruptions. Since Eskom is the national company in charge of producing energy and modifying lease agreements to account for the effects of loadshedding, it is primarily their responsibility to find a solution. Eskom needs to raise rates, cut operational expenses, and pay a sizable portion of its debt to invest in infrastructure and meet demand for power. Furthermore, it is advised that Eskom divide the company into three subsidiaries: production, transmission, and distribution. Doing so will improve efficiency by increasing cost and disclosure of debt. The inclusion of people with extensive experience in large-scale industry turnarounds, customer dynamics, infrastructure, and project management, as well as thorough financial and management analysis, will enhance Eskom's management and executive committee.

Business interruption insurance is another backup option. Since it can be very costly, many small businesses do not have this coverage, but it can also mean the difference between a business surviving and closing its doors following a catastrophic disruption to its operations. It is possible to select a business interruption insurance option that only pays for the fixed costs the company incurs while it is unable to operate, or for a higher premium, it can also cover lost profits and additional costs related to having to find alternate plans for the business to continue operating. In addition, small businesses can produce their own power using SSEG and control their electrical bills, which can be advantageous during loadshedding or increases in electricity prices. The municipality should support Independent Power Producers (IPPs). The Act permits small businesses to enter the electricity market as producers of renewable energy or through power purchase agreements with IPPs.

6. Conclusions

The main objective of this paper was to present a concise overview of the key findings of loadshedding and small businesses in the country. When the degree of loadshedding 's impact on small businesses' operations was examined, it was mostly discovered that these businesses suffer. Many small businesses are affected by loadshedding when it is in effect and some are unable to make up for lost revenue due to lower customer satisfaction. The difficulties faced by small businesses were made clear by a study that found that they frequently suffered power surges that damaged their appliances. During prolonged blackouts, perishable items such as fruits, vegetables, meat, and dairy products, can spoil. Because small businesses rely on energy and a network to operate, loadshedding also affects their ability to use speed points and online banking, which prevents them from accepting payments via these channels.

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