



INVESTIGATING THE IMPACT OF ELECTRICITY POWER OUTAGES ON GROCERY FOOD RETAILERS

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Abstract

Electricity power outages are a common phenomenon in South Africa. Businesses are confronted with electricity power outages or load shedding, which serve as a threat to the success and growth of retailers. The purpose of this study is to contribute to academic literature by adopting contingency theory during the investigation of the impact of electricity power outages on Grocery Food Retailers in the City of Ekurhuleni Municipality, South Africa. A qualitative research method was used, and in-depth interviews were conducted with managers of Grocery Food Retail stores. Primary data was analysed using the Content analysis method with the aid of Atlas. ti software. The findings of this study revealed the causes of electricity power outages, which result in high operational costs for businesses and pose security risks to the survival and growth of Grocery Food Retailers operating in the City of Ekurhuleni Municipality. This study offers recommendations to stakeholders of Grocery Food Retailers by providing alternative innovative intervention measures to address the challenge and future research directions.

Keywords: content analysis, electricity power outages, Grocery Food retailers, loadshedding.

1. INTRODUCTION AND BACKGROUND

Challenges in the production of electricity have been on the rise in recent years (Simshauser, 2023), specifically in developing countries (Mohamed, 2024; Mutate, Kanjanda & Mehta, 2023; Danso-Wiredu et al., 2016), attributed to the imbalance between energy demand and the capacity of generators within the country's power supply grid, fuel costs, and fuel supply shortage for energy generation leads to the generated energy falling short of meeting the demand. For example, South Africa used to have a well-functioning energy sector that was the envy of all Africa (Furchtgott-Roth, 2023). South Africa is facing an electricity crisis during 2019-2024. Electricity power outage due to load-shedding and load reduction led to power cuts in South African. Recently, things have come to a head, with South Africa experiencing up to 12 hours of blackouts a day in 2023, and



headlines declaring this as a crisis which made it difficult to keep electricity available to households and businesses. The possibility of electricity power outage remains a threat to success of ESKOM a major electricity supplier in South Africa.

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 schedule (Gupta, Inglesi-Lotz & Muteba Mwamba, 2017). Therefore, the knowledge of the impact of electricity power outages due to load-shedding or power reduction is imperative to all South African businesses including Grocery Food Retailers. The electricity power outage's economic impact is also applicable in the manufacturing, households and retail sector. 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. Due contribution of retail sector to employment and economic growth, the impact of electricity power outage on the retail sector is not well known or documented, despite being one of the major role-players in South African economy (Alkaldy, Albaqir and Akhavan Hejazi, 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 electricity power outages and mitigating costs to remain operational.

2. LITERATURE REVIEW

This section aims to provide definition of concepts relevant to this study and review literature on the challenges faced by SMMEs including retailers which formed basis of this study.

2.1 Defining Retailer and categories

Retailing is a socio-economic system, which brings people in the same space to exchange goods and services where the prices set for goods and services have a large impact on what customers can purchase (Gielens & Roggeveen, 2023). Hameli (2018) pointed out that retailers are categorised according to different characteristics, but the most important types of classification are those based



on the form of ownership, products and price. According to the ownership-based classification, the most important types are independent stores, chain stores, franchising and leased department stores. According to the product offerings classification, the important types of retailing are department stores, supermarkets, specialty stores, convenience stores, superstores and retailer services. According to the price-based classification, the important types of retailing are discount stores, factory outlets, category killers, off-price stores, warehouse clubs and hypermarkets. According to the place-based classification the important type of retailing includes shopping centres and shopping malls.

The most important types of retailing out of the store are direct selling, direct marketing and automatic vending machines selling snacks and drinks. Dakora and Rambe (2022) explained that food retailers sell perishable and non-perishable food items, including fresh produce, meat, dairy products, and packaged goods. Dakora and Rambe (2022) added that food retailers operate in a complex supply chain and logistics due to the perishable nature of many food products. In contrast, grocery retailing encompasses a broader range of products, including food items, household essentials, and personal care products (Dakora & Rambe, 2022), with a focus on convenience and a wide product assortment, allowing customers to purchase everyday essentials in one place. In this paper, grocery food retailers are classified based on the products they sell to customers in this case groceries and food products. The South African retail market is largely dominated by a small number of major retail and consumer goods companies. The four largest retailers in the country are Shoprite, Pick 'n Pay, Spar, Woolworths and Massmart and constitute a combined 60% market share. Shoprite is the biggest grocery retailer by market share (Makhitha, 2019).

2.2 Causes of electricity power outage

The Republic of South Africa faced repeated episodes of temporary power shutdowns in 2019–2024. Due to its inability to satisfy the power demand (because of loss of power generation) and to prevent uncontrolled blackouts, the monopoly power supplier Eskom implemented this practice, which is also known as rotational load shedding or load reduction, for several hours a day in most of the country. Load shedding and load reduction are interventions 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, 2025). In this study, the definition by statistics South Africa is adopted, and electricity power outage is defined as electrical power cottage due to



increased power demand that exceeds the supply, weather conditions and infrastructure damage. The damaging weather conditions are the results of climate change characterised by events, such as typhoons, wind or ice storms, hurricanes, extreme precipitation, heat waves, and drought (Ghodeswar, Bhandari & Hedman, 2025).

2.3 Contingency theory

Contingency Theory (CT) suggests that “organisational effectiveness results from fitting characteristics of the organisation to contingencies that reflect the situation of the organisation” (McAdam, Miller & McSorley, 2019). McAdam *et al.* (2019), classical contingencies or contingency variables, include for example, organisational strategy or competitive strategy, and from this view organisations seek to improve their business performance by ensuring the match of strategies and activities in line with a defined set of contingency variables in the changing external environment. Havemann and Wetts (2019:13) stated that CT assumes that organisational strategies and activities depend on the environmental conditions in which the organisation operates. CT acknowledges the interaction between the business environment and organisations. CT becomes relevant in this paper, as the organisations such as grocery food retailers are expected to make changes as a contingent measure during power outages to continue with business activities and serving customers.

2.4 Review of previous studies

Many studies investigated the challenges experienced by SMMEs in other sectors of the economy and few retailers such as (Makhitha & Soke, 2024; Nair & Landani, 2020). In other studies such as Phokwane (2020), Makhitha (2016), Hyder and Lussier (2016), and Chiliya and Roberts-Lombard (2012); the following factors were identified to be affecting the survival and growth of SMEs, namely; inability of SMMEs to prepare a business plan, ineffective in acquiring and retaining of employees, capital inadequacy and lack of access to commercial land which increases cost of doing business. In addition, it was uncovered that SMMEs lack time, resources, technology or expertise to research and develop new business ideas and innovations, lack the business experience needed to drive the performance of their businesses. Moreover, it was discovered that SMMEs lack of necessary education and training; and face challenges such as insufficient finance and bargaining power; finance costs; limited or no access to markets and poor products demand; trade regulations; and improper infrastructure.

Similarly, Phokwane (2020) discovered that lack of marketing research to be a challenge for SMMEs in that they are unable to segment the market and effectively market their products and



services. The point is these studies have not solely investigated the impact of electricity outages in retail sector, specifically, grocery food retailers. Complex supply chain and logistics due to the perishable nature of many food products. In contrast, grocery retailing encompasses a broader range of products, including food items, household essentials, and personal care products (Dakora & Rambe, 2022). In South Africa, supermarkets are facing increased competition from both local and international retailers. A study by Nair & Landani (2020) found that supermarkets need to re-evaluate their supplier development programs to ensure competitiveness. The study highlights the importance of empowering local suppliers, particularly small-scale farmers and emerging producers, to meet the demands of modern retail or supermarkets.

Other studies such as Badenhorst-Weiss and Cilliers (2019); Das Nair and Dube (2015); Makhitha (2016); Amoah and Jibril (2021); and Lányi et al. (2021) investigated factors affecting competitiveness and the impact of marketing strategies on profitability not the impact of electricity outages on the competitiveness, survival and growth of organisations such as grocery food retailers. Considering the proceeding studies, therefore, this paper aims to address this gap in literature by exploring the impact of electricity power outages on Grocery Food Retailers operating in the City Ekurhuleni Municipality, South Africa.

3 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 electricity power outages on retailers — to use to make informed future decisions (Liu, Wen & Ledwich, 2013). Electricity is a critical input for efficiency in businesses; therefore, electricity power outages will lead to the failure rate of South African 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 survival, sustainability and growth of Grocery Food Retailers are threatened by impediments that may exist in the operations such as electricity power outages. The problem statement of this study is thus the lack of academic literature on the impact of electricity power outages on Grocery Food Retailers.



4 RESEARCH OBJECTIVE

The primary objective of this study is to investigate the impact of electricity power outages on Grocery Food Retailers in the City of Ekurhuleni Municipality.

5 RESEARCH METHODOLOGY

A qualitative research design was the chosen methodology based on its ability to answer the research questions suitably (Saunders et al, 2023). The exploratory research strategy undertaken in this study was used to gain an in-depth understanding of the impact of electricity power outages on Grocery Food Retailers operating in the City of Ekurhuleni Municipality, South Africa. Grocery Food retailers operating in the City of Ekurhuleni. 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 managers of Grocery Food Retailers operating in the city of Ekurhuleni Municipality. 11 managers of Grocery Food Retailers participated in the study through in-depth interviews which were contacted face-to-face from the 01st of September 2024 to 30th of November 2024. Systematic literature review is used to search literature on electricity power outages and causes of electricity power outages on google scholar platform. Content analysis method is used to analyse the primary data collected during the qualitative phase with the aid of Atlas.ti version 8.

6 FINDINGS, DISCUSSIONS AND CONCLUSIONS

To investigate how electricity power outages impacted grocery food retailers' business activities, eleven (11) interviews were conducted with the managers. A qualitative data analysis revealed that the degree of load-shedding effect has been found to vary amongst grocery food retailers. Significant factors affecting the degree of effect were found to be different factors relating to the nature of the electricity power outages or load-shedding event, such as availability of back-up generators at shopping malls, reliable notification of the incident, the day of the week, the time of the day and the duration. Load-shedding disrupts grocery food retailers' businesses operating activities as it affects internet network systems. The main effects were found to be internet accessibility, slow internet connectivity, lighting and payment processing of customers. The cold-rooms and refrigeration of cold products is given priority in grocery food retail stores during power



outage. The findings revealed that grocery food retailers have mini-generators and power inventors as stand-by back-ups in case the main back generator supplied by shopping malls fail during power outages.

In addition, the findings discovered that having these stand-by mini generators and power inventors come at a cost including purchase costs and maintenance costs. The profitability of these grocery food retail stores is impacted by the costs of alternative electricity power sources. Participants during interviews indicated that those additional funds allocated to counter electricity power outages could have been channelled to other business activities and business growth. Regarding protection and minimising the effect of power outages, participants indicated that electricity power outages impact on security systems which expose grocery food stores to shoplifting, employee stealing and customer robbery. Additional capital investments and variable operating expenses are required to provide backup electricity generation for security devices and lighting during electricity power outages.

Revenues of grocery food retailers are affected due power outages effects on internet connectivity which lead to long customer ques. Slow network brings reduced capacity to deliver services, acquisition of alternative electricity sources and problems in handling payments contribute which further lead to a decrease in revenue. In addition, participants added that customers feel a level of discomfort in stores during electricity power outages. The two main themes were expenditures and revenues. The findings of this study add insight to academic literature by unpacking the impacts of electricity power outages on Grocery Food Retailers which has not been covered in previous studies. In addition, this paper adds significant contribution to theory by demonstrating that grocery food retailers respond to power outages by using back alternative electricity supply sources to continue serving customers.

7 RECOMMENDATIONS IN DEALING WITH THE IMPACT OF ELECTRICITY POWER OUTAGES

To address the challenge of electricity power outages, the Grocery Food Retailers landlord in this case shopping mall management should install electricity back-up generators and solar energy sources to avoid business interruptions and security threats. The government should assist with



finding solutions to the problem of electricity power outages and find alternative energy suppliers to support local Municipalities. In addition, local Municipalities should settle electricity bills with energy supplier in South Africa to all ESKOM to fund electricity supply plants. Furthermore, the local Municipalities should implement new debt recollection methods including cutting-off energy supply to debtors to recover the owed electricity debts by households and business. Moreover, local Municipalities should set an electrical energy limit on business landlords and household users and to avoid exorbitant debt accumulation by these clients.

8 LIMITATIONS OF THE RESEARCH

Only South African grocery food retailers were included in the study, and this made it very difficult to generalise findings. The subject covered by the interview questions was not sensitive, but some businesses felt that some of the information was confidential such as financial reports, and therefore the researcher faced difficulties in gathering the information on some questions which were sensitive and strictly confidential accessible to store managers.

9 RECOMMENDATIONS FOR FUTURE RESEARCH

This study was small in scale, although the impact of the topic has permanent consequences for the economy of the City of Ekurhuleni Municipality, and the country, 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 11 grocery food retailers, the study recommends adding more businesses, and a sample of a larger group will be a good fit for a study of this magnitude. Therefore, other businesses in other sectors of economy should be targeted in future research to determine impact of electricity power outages on factors such as revenue, service delivery, service quality and consumer satisfaction. The recommendation for future studies will be to request a large pool of potential candidates could be included following quantitative research.



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