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Understanding the Impact of Electricity Load Shedding on Small and Medium Enterprises: Exploring Theoretical Underpinnings

Maj. Humphrey Mutambo, (MBA)
Doctor of Business Administration (DBA) Candidate
ZCAS University, School of Business
PO Box 50497 RW, Lusaka Zambia
E-mail: hclmutambo21@gmail.com

Sydney Kawimbe, DBA
Lecturer/Director - Research, Innovation and Consultancy
ZCAS University
PO Box 50497 RW, Lusaka Zambia
E-mail: Sidney.kawimbe@zcasu.edu.zm

Charity Meki-Kombe, PhD
Director - Research and Postgraduate Studies/Lecturer/Consultant/SUSI Scholar
Mulungushi University
P.O. Box 80415,Kabwe, Zambia
E-mail: clmekikombe@gmail.com

Austin Mwange, PhD/DBA
Lecturer – Economics and Finance
The University of Zambia, Graduate School of Business
P.O. Box 32379, Lusaka, Zambia
E-mail: austin.mwange@unza.zm; austinmwange1@gmail.com; lecturer.researcher@gmail.com

Abstract

This paper aims to deepen the understanding of the effects of electricity load shedding on small and medium enterprises (SMEs) by exploring the theoretical frameworks that underpin these impacts. Drawing from resource dependence theory, institutional theory, and stakeholder theory, the article examines how power outages disrupt business operations, influence adaptation strategies, and shape stakeholder dynamics within the SME context. By delving into these theoretical perspectives, the paper provides valuable insights for policymakers, practitioners, and researchers seeking to mitigate the adverse consequences of electricity load shedding on SMEs.

Keywords: electricity load shedding, small and medium enterprises, theoretical underpinnings, institutional theory, stakeholder theory; Resource Dependence Theory (RDT), the Economics of Power System Reliability and Planning theory, Cybernetic theory of organisational stress, Theory of Constraints (TOC), Production Competence Theory, Systems Theory of Management, Dynamic Capabilities Theory, the Systems Theory of Management and Transformation Theory of Production
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INTRODUCTION

Electricity load shedding, characterized by planned power outages, continues to challenge the operations and viability of small and medium enterprises (SMEs) in various regions. SMEs play a pivotal role in economic growth and employment generation, yet their vulnerability to disruptions in power supply exposes them to a range of operational and financial uncertainties. This article delves into the theoretical frameworks that contribute to an enhanced understanding of the multifaceted impacts of electricity load shedding on SMEs.

Significance of The Study

The importance of studying the theories behind the impact of power cuts on small and medium-sized businesses goes beyond theoretical considerations. SMEs are an important part of the business landscape in many economies, serving as an important driver of economic growth and source of employment (Dhakal & Marpaung, 2017). As a result, the challenges they face due to power outages can have far-reaching consequences for economic development, job stability and shared prosperity.

Exploring the theoretical underpinnings provides a structured perspective for understanding the complexities of the impact of load shedding on SMEs. These theories provide valuable insights into why and how SMEs respond to power outages, adapt their strategies, and interact with stakeholders during times of scarcity. energy scarcity. By understanding the underlying mechanisms and impacts at play, stakeholders can design informed policies, strategies, and interventions to improve SME resilience and mitigate its consequences. adverse effects of shedding electrical loads. Theoretical framework

This paper is based on the synthesis of three main theoretical frameworks: resource dependency theory, institutional theory, and stakeholder theory. Together, these frameworks provide a holistic view of the challenges SMEs face when offloading electricity. Resource dependency theory emphasizes the importance of a stable power supply as an essential resource for the day-to-day operations of small and medium-sized enterprises. Institutional theory examines how the reduction of electricity load causes institutional pressures that cause SMEs to adjust their practices and strategies. Stakeholder theory further emphasizes the complex interactions between SMEs, their stakeholders, and the expectations that shape their response to power outages. Later sections of this article will delve deeper into each of these theoretical frameworks, providing insight into their applications and relevance to understand the multifaceted impact of load shedding on electrical loads. small and medium enterprises.

Scope and Structure

In the following sections of this article, we will discuss each of the three theoretical frameworks separately, examining their significance in understanding the impact of load shedding on electrical systems. small and medium enterprises. Through this exploration, we aim to provide a comprehensive understanding of how these theories collectively contribute to a holistic view of the challenges facing SMEs in the context of power-off. The synthesis of these theoretical foundations will pave the way for the development of strategies and interventions to strengthen the resilience of small and medium-sized enterprises and reduce the disastrous consequences of power outages (Mwange, 2017).

THEORETICAL UNDERPINNINGS

This section introduces and explains the theoretical framework that explains the existence of the research issue under investigation. It determines the variables that will be measured and their statistical relationships. According to Sakaran (2017), the term "theoretical framework" refers to a model that a researcher develops, a theoretical premise, or a logical understanding of the connection that exists between two or more significant factors that have been identified as being crucial to the problem. The main theories underpinning this investigation include the Resource Dependence Theory (RDT), the Economics of Power System Reliability and Planning theory, Cybernetic theory of organisational stress, Theory of Constraints (TOC), Production Competence Theory, Systems Theory of Management, Dynamic Capabilities Theory, the Systems Theory of Management and Transformation Theory of Production.The main theories underpinning this investigation include the Resource Dependence Theory (RDT), the Economics of Power System Reliability and Planning theory, Cybernetic theory of organisational stress, Theory of Constraints (TOC), Production Competence

Theory, Systems Theory of Management, Dynamic Capabilities Theory, the Systems Theory of Management and Transformation Theory of Production

Resource Dependence Theory

Resource dependence theory asserts that organizations rely on external resources to fulfill their objectives (Pfeffer & Salancik, 2003). In the context of SMEs and electricity load shedding, this theory highlights the critical role of a consistent power supply as an essential resource for daily operations. When load shedding occurs, SMEs experience a direct disruption to their primary resource, leading to production delays, missed deadlines, and potential financial losses.

The study is pegged on the Resource Dependence Theory (RDT) advanced by Pfeffer and Salancik (1978). This theory investigates how organisations' reliance on external resources affects their behaviour (Davis & Cobb, 2010). According to this notion, an external resource is any resource on which a corporation relies that comes from outside the company and this could comprise all raw materials, energy, and labour (Kavishe, 2015).

In this present research, an external resource is defined as electricity that comes from outside small scale firms. The RDT is a prominent framework in organizational studies that seeks to explain how organizations navigate their external environment and manage their resource dependencies (Hillman, Withers & Collins, 2009). This theory highlights the significance of resource acquisition, control, and allocation in determining an organization's behaviour and outcomes (Davis & Cobb, 2010).

RDT posits that organizations are influenced by their external resource dependencies and that their strategies and actions are aimed at maintaining and enhancing their access to critical resources.

The theory explains changes in an organization's activity, behaviour, and structure in relation to the external environmental resource on which it depends for survival (Kavishe, 2015). According to this theory, organisations can adjust their actions and working behaviours to match the availability of external resources (Hillman et al., 2009). In the context of this research, the external resource on which the small scale firms depend on for sustenance is electricity. This investigation is centred on small scale enterprises (organisation), electricity (external resource) and operations (outcome). Dependence on external resources is not a concern in the RDT but due to the lack of dependability of such external resources, the organisation must make appropriate changes to cope with the lack of reliability (Mwange, 2022).

The RDT is of great relevance to this present research. The Resource Dependence Theory was deemed a well-established framework that can be used to analyze the effect of load shedding on the business operations of the small scale enterprises. In this particular research study, electricity is the external resource and business operations represent the internal process. Basing on the Resource Dependency Theory, small scale enterprises are dependent on external resources such as electricity, which they need to survive and thrive. Thus, load shedding disrupts this resource dependency by creating uncertainty and instability in the business environment. Furthermore, the Resource Dependency Theory suggests that organizations develop strategies to manage their resource dependencies effectively. In this context, small scale enterprises can explore coping options such as investing in alternative energy sources like solar panels or generators. Hence, the theory was found useful to this research study as it aided in explaining the impacts of electricity load shedding on business operations and how the small scale enterprises cope with the situation as the small scale enterprises depend on electricity as one of the sources and inputs for production.

Precisely, the resource dependency theory was used in this study to aid in interpreting the results if small scale firms in Masala market depend electricity in their business operations. In conclusion, the Resource Dependency Theory provided a useful lens to understand the impacts of load shedding on small scale enterprises' business operation at Masala Market. The theory was also used in deriving the research question on load shedding and business operations of small scale enterprises at Masala Market in Ndola, Zambia. Moreover, the theory helped in generation of the hypothesis associated with load shedding and business operations of small scale enterpirses at the Masala Market.

Institutional Theory

Institutional theory examines how organizations conform to external norms and pressures (DiMaggio & Powell, 1983). Electricity load shedding introduces an institutional constraint, compelling SMEs to adapt their operations to accommodate energy scarcity. This adaptation may involve altering work schedules, investing in backup power solutions, or adopting energy-efficient practices to align with societal expectations and regulatory requirements.

Stakeholder Theory

Stakeholder theory emphasizes the influence of various stakeholders on organizational decisions (Freeman, 1984). Electricity load shedding triggers interactions among SMEs, customers, employees, suppliers, and investors. As power outages disrupt service delivery and employee productivity, SMEs must navigate the expectations and interests of these stakeholders, potentially affecting reputation, loyalty, and financial support.

Economics of Power System Reliability and Planning theory

The research is also anchored on the Economics of Power System Reliability and Planning theory put forward by Mohan Munasinghe in 1979. Power system reliability refers to the ability of an electrical grid to deliver a consistent and uninterrupted power supply to consumers while planning theory involves designing and optimizing the power system infrastructure (Küfeoğlu & Lehtonen, 2016). The theory is based on the prediction that electricity is essential for productive purposes (Olajuyin & Mago, 2022). According to Küfeoğlu and Lehtonen (2016), the theory posits that the provision of dependable electricity to consumers at the necessary time and place is contingent upon three key elements: generation, transmission, and distribution. Electricity can experience a lack of dependability in instances of power surges, blackouts or voltage fluctuations, load shedding, and blackouts (Olajuyin & Mago, 2022). Based on the theoretical framework, the impact of unreliable electricity, specifically load shedding, can be assessed through the estimation of industrial outage cost. This estimation is derived from a comprehensive examination of various factors, including spoilage, idle production, and the recuperation of lost production. These factors are evaluated in relation to both regular working hours and overtime, ultimately resulting in suboptimal business performance (Küfeoğlu & Lehtonen, 2016). Hence, in accordance with the aforementioned hypothesis, the perturbation of the various components involved in the production, distribution, and transmission of electricity will inevitably impinge upon the provision of energy to end-users (Olajuyin & Mago, 2022).

From the theory, power outages can lead to significant economic losses, impacting productivity, disrupting supply chains, and causing inconvenience to consumers. One key aspect of Munasinghe's (1979) theory is the concept of "value of lost load" (VOLL), which quantifies the economic impact of power outages (Gorman, 2022). By assigning a monetary value to each unit of lost load, decision-makers can assess the trade-offs between investing in additional capacity and accepting a certain level of unreliability. This approach allows for more informed decision-making in power system planning. Furthermore, it is postulated by the notion that the impact of power outages is contingent upon the specific industrial users or industry type, the length of the disruption, and the timing of the event (Gorman, 2022; Olajuyin & Mago, 2022).

According to Olajuyin and Mago (2022), the idea posits that a consistent provision of power is a crucial factor for enhancing the productivity of small-sized enterprises. The other key aspect of power system reliability and planning theory is the assessment of power outage costs (Aklin *et al.*, 2016). These costs include not only the direct financial losses incurred by consumers during power outages but also the indirect costs such as lost productivity and damage to equipment (Aklin *et al.*, 2016). By quantifying these costs, policymakers can make informed decisions regarding investments in infrastructure upgrades or implementing measures to reduce outage durations (Aklin *et al.*, 2016; Gorman, 2022).

More so, the theory suppor the importance of planning for providing strategies for mitigating the effects of powe outages. This theory emphasizes proactive measures such as diversifying energy sources, implementing energy conservation practices, and investing in backup generators or battery storage systems (Olajuyin & Mago, 2022; Mwange, Kasongola, & Meyiwa, 2022). By incorporating planning into their operations, small scale businesses can minimize disruptions caused by load shedding and ensure continuity in their operations. Hence, this theory was found of great relevance to this study on load shedding and operations of small scale enterprises at Masala Market.

Since it predicts that power outages can lead to significant economic losses, impacting productivity, disrupting supply chains, and causing inconvenience to consumers, Economics of Power System Reliability and Planning theory was found applicable in this research to help in intereptation of the results on the impacts of load shedding on the operations of the small scale enterprises at Masala Market. More so, the theory helped in deriving the research question related to load shedding and business operations of the small scale enterpirses at Masala Market. The theory provided a framework for understanding the economic impacts of load shedding on operations of small scale enterprises as it allowed the researcher to understand the effects associated with load shedding on the operations of the small scale enterprises at Masala market. In conclusion, the economics of power system reliability and planning theory was found essential for understanding and addressing the impacts of load shedding on business operations of small scale enterprises.

Cybernetic theory of organisational stress

The research is also pegged on the theoretical lens of the Cybernetic theory of stress proposed by Edwards in 1992 and further expanded by Cummings and Cooper in 1998. The cybernetic theory of stress is a classic framework that seeks to explain how individuals perceive and respond to stressful situations (Biggs *et al.*, 2017). According to this theory, stress is not solely determined by external events but rather by the individual's appraisal of those events (Dewe, O'Driscoll & Cooper, 2012).

The cybernetic theory offers insights into the dynamic interactions between individuals, organizations, and their environments. In this theory, stress is seen because of an imbalance between the demands placed on an individual and their perceived ability to cope with those demands (Lombe & Tembo, 2023). The theory argue that individuals engage in a cognitive appraisal process when faced with potentially stressful situations (Dewe *et al.*, 2012). This appraisal involves evaluating the significance of the event (primary appraisal) and assessing one's resources for coping with it (secondary appraisal) (Dewe *et al.*, 2012). The theory further postulates that organizations function as self-regulating systems influenced by their external environments.

The primary appraisal determines whether the event is perceived as threatening or challenging. If it is seen as threatening, stress is likely to occur (Wethington & Cooper, 2000). The secondary appraisal focuses on evaluating one's ability to cope with the situation. If an individual believes they have sufficient resources or coping strategies, they are more likely to experience less stress (Cummings & Cooper, 1998). This theory emphasizes the role of perception in determining stress levels. Different individuals may appraise the same situation differently, leading to varying levels of stress experienced (Cummings & Cooper, 1998). Additionally, this theory highlights that stress can be influenced by both internal factors and external factors (Lombe & Tembo, 2023). This theory combines elements of cybernetics, psychology, and organizational behaviour to provide a holistic perspective on stress (Cummings & Cooper, 1998).

At the core of the theory is the idea that stress is a result of an imbalance between demands and resources (Wethington & Cooper, 2000). According to Edwards (1992), individuals or organisations experience stress when they perceive that they have insufficient resources to meet the demands of a situation. More so, the cybernetic theory lends itself to a systems-based approach to stress. By viewing organizations as interconnected systems rather than isolated entities, this theory underscores the significance of considering the broader context in which stressors emerge. It encourages organizations to identify and address systemic issues related to structure, culture, and policies for comprehensive stress management.

Another crucial element of Edwards' (1992) theory is the concept of feedback loops. Edwards (1992) argues that stress is a feedback process in which individuals or organisations continually respond to and evaluate their demands and resources. Through this ongoing cycle of appraisal, individuals or organisations constantly adjust their perception of stress and their coping strategies (Edwards, 1998). Feedback loops can either amplify or dampen the stress response, depending on how individuals or organisations interpret and manage their demands and resources (Edwards, 1992). Overall, the cybernetic theory of stress provides valuable insights into understanding how individuals or organisations perceive and respond to stressful situations. In this study, electricity load shedding is the external factor that can be stressful to small scale enterprises in Zambia. Hence, the theory was found applicable in this research. According to Lombe and Tembo (2023), load shedding stresses the business owners by forcing them to find alternatives following low production and productivity.

Hence, this theory was of great use to this research. The usefulness of the cybernetic theory of organizational stress in understanding the coping strategies to load shedding on business operations of small scale enterprises

could not be overstated. The cybernetic theory provided valuable insights into the coping strategies to load shedding of small scale enterprises. In this study, the cybernetic theory of organizational stress was found a valuable framework applicable and relevant to understand and address the coping strategies employed by small scale enterprises at Masala Market in response to load shedding. In conclusion, the cybernetic theory of organisational stress provided a useful framework for understanding how small scale enterprises cope with load shedding. Hence, the theory was used in developing the research question on the coping strategies of the small scale enterprises at Masala Market. Despite its usefulness to the study, the cybernetic theory has been criticized for lacking practical application. Ho0wever, the study was not interested in testing practical application of the theory but used the theory to assit in formulation of research questions and understanding how the small scale enterprises at Masala Market cope with load shedding.

Theory of Constraints (TOC)

The Theory of Constraints (TOC) also forms the theoretical framework for this research. The TOC is a management philosophy that aims to improve the performance of organizations by identifying constraints that limit their ability to achieve their goals and resolving bottlenecks or constraints. Developed by Eliyahu Goldratt in the 1980s, TOC provides a systematic approach to optimize processes and maximize efficiency. At its core, TOC suggests that every system has at least one constraint that limits its overall performance (Amadi-Echendu, 2013). By identifying and focusing on this constraint, organizations can achieve significant improvements in productivity and profitability. TOC emphasizes the importance of managing constraints effectively. It suggests three steps: identify the constraint, exploit it to its maximum potential, and then subordinate all other processes to support the constraint's output.

Furthermore, TOC encourages organizations to continuously improve by constantly reassessing their constraints and finding ways to overcome them. This iterative process allows for ongoing optimization and prevents new bottlenecks from emerging.

Furthermore, the TOC encourages organizations to view their operations as a system and take a holistic approach to problem-solving. Instead of focusing on individual bottlenecks, the theory promotes a system-wide perspective that helps organizations identify the root causes of problems and implement effective solutions. In conclusion, the TOC provides a valuable framework for improving organizational performance. By identifying constraints, exploiting them fully, subordinating other processes accordingly, and continuously improving operations, organizations can achieve higher levels of efficiency and effectiveness. Implementing TOC principles can lead to increased productivity, reduced costs, improved customer satisfaction, and ultimately greater success in today's competitive business environment. However, like any management philosophy, TOC has its limitations. It may not be suitable for all types of organizations or industries, as some systems may not have easily identifiable constraints. Despite its limitations, the TOC proven to be a valuable tool or framework for many organizations seeking to optimize their operations.

In the context of load shedding, which refers to the deliberate shutdown of power supply to certain areas during periods of high demand, the TOC was highly useful and relevant in understanding the effects of load shedding on the operations of small scale enterprises. While the theory of constraints is typically applied in manufacturing and production environments, it was also found applicable to load shedding scenarios. By applying TOC principles, such as identifying the system's constraint and exploiting it for maximum throughput, businesses can mitigate the impact of load shedding. Hence, the TOC was of great relevance to this study where load shedding represents constraints that affect operations of the small scale enterprises in Zambia.

The Theory of Constraints emphasizes the importance of identifying bottlenecks or constraints within a system. In this case, load shedding acts as a constraint that limits the availability and reliability of power supply. By recognizing this constraint, small scale enterprises can develop contingency plans or alternative power sources to ensure uninterrupted operations during periods of load shedding. In this regard, the Theory of Constraints was used in guiding the formulation of the research question on load shedding and business operations of the small scale enterprises. In other words, the Theory of Constraints offered valuable insights into understanding the effects of load shedding on small scale enterprises' business operations at Masala Market.

Production Competence Theory

The Production Competence Theory (PCT) also known as the competence-based theory of the firm forms part of the present study's theoretical framework. The Production Competence Theory initially advanced by Cleveland, Schroeder and Anderson in 1989 is a framework that focuses on the role of internal capabilities and resources in shaping a firm's competitive advantage. The Production Competence Theory focuses on a firm's ability to effectively manage its production processes and resources. It emphasizes the importance of developing core competencies that enable firms to achieve competitive advantage. In other words, it provides insights into why some firms outperform others in the marketplace and how they can sustain their advantage over time (Cleveland, Schroeder & Anderson, 1989). Cleveland *et al.* (1989) argued the appealing proposition that production competence directly affects the performance of the company.

According to Cleveland *et al.* (1989, p. 657), production competence is "the preparedness, skill, or capability that enables manufacturers to prosecute a product-market specific business strategy". At its core, the Production Competence Theory argues that firms achieve superior performance when they possess unique bundles of resources and capabilities that are difficult for competitors to imitate or replicate (Schmenner & Vastag, 2006). These resources and capabilities, often termed "core competences," can include tangible assets, such as state-of-the-art manufacturing facilities. One crucial aspect of the theory is the distinction between core competences and peripheral competences (Schoenherr & Narasimhan, 2012).

While peripheral competences are necessary for day-to-day operations and are common across firms in an industry, core competences are distinctive and specific to a particular firm (Schoenherr & Narasimhan, 2012). These core competences determine the firm's competitive advantage by enabling it to create value for customers in a unique and superior way. The Production Competence Theory further acknowledges that firms operate within a broader business ecosystem, and the ability to leverage external resources and capabilities is essential for sustained competitive advantage (Cleveland *et al.*, 1989). Furthermore, Production Competence Theory suggests that building and maintaining core competences require continuous investments in resources, capabilities, and knowledge (Schmenner & Vastag, 2006). Moreover, the theory emphasizes that the dynamics of the external environment, including technological advancements and changing customer preferences, necessitate a firm's ability to adapt, evolve, and innovate its competences over time (Schoenherr & Narasimhan, 2012).

In this context, load shedding represents a dynamic external environment that requires firms to adapt for improved production efficiency and competitiveness. In other words, electricity represents a significant resource for enhanced competitiveness. Thus, the Production Competence Theory wasfound valuable to this research seeking to establish the impacts of load shedding on operations of small scale enterprises in Zambia. Therefore, the theory guided in the formulation of the research objectices and questions regarding load shedding and its impacts on operations of the small scale enterpirses ofd the small scale enterprises at Masala market in Ndola, Zambia.

Transformation Theory of Production

The study also borrows on the theoretical lens of the Transformational Theory developed by Shephard in 1970. The theory is a fundamental theory that pertains to the process of production. The theoretical framework revolves around three key components, namely input, process, and output (IPO) (Njiraini, 2021). The theory allows for the decomposition of each process into discrete tasks carried out by individuals with specialized expertise (Koskela, 2000). All actions are methodically arranged and synchronized, aligning with the principles of traditional cost accounting and scientific management. According to Njiraini (2021), the theory posits that optimizing specific activities within the production process leads to overall optimization, under the assumption that reducing costs for each unit yields the greatest performance outcomes according to Koskela (2000). From this theory, production involves the transformation of inputs into the production of goods or services. Under this transformational theory of production, managers prioritize the achievement of efficiency at all stages of the production process, with a particular emphasis on the effective utilization of inputs from both technical and economic perspectives.

This study is grounded in transformation theory, as it focuses on the operational activities of small scale enterprises involved in managing production processes. Moreover, within this particular setting, electricity serves as a crucial factor of production, and thus any constraints on its availability have a direct impact on the operational efficiency of enterprises. The significance of energy in the production process has been emphasized in prior research, as exemplified by the work of Njiraini (2021). The production function is employed in certain

instances to examine the role of electricity as a direct input in the production process or as an indirect factor influencing the utilization of other direct inputs, such as equipment (Adenikinju, 2003). According to this theoretical framework, the occurrence of load shedding has the potential to impede the efficient conversion of inputs into outputs. Therefore, the theory was deemed pertinent to this study which pursued to understand the effects of electricity load shedding on business operations of small scale enterprises in Zambia.

The transformation theory of production provided a framework for analyzing how changes in input factors that is electricity supply, affect the production operations small scale businesses. By applying this theory to the context of load shedding, the researchers was able to assess the direct and indirect impacts of load shedding on the business operations of small scale enterprises. Thus, the transformation theory of production guided the formulation of research questions and interpretation of research findings regading load shedding and business operations of small scale enterprises. In conclusion, the transformation theory of production was invaluable in understanding the effects of load shedding on small scale enterprises' business operations. Nevertheless, the transformation theory of production has encountered criticism, with one notable critique being that the formulation of the production function does not stem from empirical practice or observation (Njiraini, 2021).

Dynamic Capabilities Theory

The Dynamic Capabilities Theory developed by Teece and Pisano (1994) as the extension of the Resource-Based View (RBV) also makes part of the theoretical framework for this study. Dynamic capability theory as a prominent area of study in the field of strategic management focuses on how organizations can develop and leverage their capabilities to adapt and thrive in a rapidly changing business environment (Breznik & Lahovnik, 2016; Samsudin & Ismail, 2019). Primarily, dynamic capabilities refer to a firm's ability to integrate, build, and reconfigure its internal and external resources to respond effectively to changing market conditions (Barreto, 2010; Teece, 2018). These capabilities are crucial in allowing organizations to not only adapt to environmental changes but also to proactively shape their competitive advantage (Breznik & Lahovnik, 2016). Dynamic capabilities involve three core elements: sensing, seizing, and reconfiguring (Gebauer, 2011; Qiu *et al.*, 2022). Sensing involves the ability to perceive market changes and opportunities (Teece, Peteraf & Leih, 2016), seizing refers to the ability to take advantage of those opportunities, and reconfiguring is the ability to adjust and modify existing resources and capabilities (Breznik & Lahovnik, 2016; Qiu *et al.*, 2022).

Dynamic capability theory suggests that sustained competitive advantage can be achieved through the creation and renewal of core competencies (Gebauer, 2011; Samsudin & Ismail, 2019). Precisely, the theory predicts a positive relationship between relationship between organizational performance and dynamic capabilities (Samsudin & Ismail, 2019). According to this Dynamic Capability Theory, organizations need to possess three key capabilities: sensing, seizing, and reconfiguring (Zhang, Yang & Liu, 2022). Sensing refers to the ability to identify and understand changes in the external environment, such as load shedding (Teece, 2018; Zhang *et al.*, 2022). On the other hand, seizing involves taking advantage of opportunities or mitigating threats presented by these changes whislt reconfiguring entails adjusting internal resources and processes to align with new circumstances (Zhang *et al.*, 2022).

According to Teece (2018), the concept of "seizing" capabilities refers to the ability of a system or organisation to promptly respond to identified and significant opportunities and threats. The actions encompassed in this process entail the allocation of resources towards the advancement of innovative technologies for commercial purposes, as well as the formulation and execution of business models for a diverse range of products and services (Teece, 2018); Teece *et al.*, 2016). More so, the tasks associated with the cognitive process of 'sensing' encompass environmental scanning, which involves the collection of unorganized information and unstructured data from the external environment, afterwards integrating it into the organizational system (Teece, 2018).

It further highlights the importance of developing organizational learning processes, fostering innovation and knowledge creation, and building strategic flexibility according to Barreto (2010). By continuously learning, adapting, and innovating, organizations can enhance their ability to sense market changes, seize emerging opportunities, and reconfigure their resources to respond proactively according to Breznik and Lahovnik (2016). One of the key aspects of dynamic capability theory is the concept of ambidexterity (Barreto, 2010; Teece, 2016). Ambidexterity refers to an organization's ability to simultaneously exploit existing competencies while exploring new ones (Deng, *et al.*, 2020). This balancing act according to Barreto (2010), allows firms to exploit current market opportunities while exploring new markets and technologies. Successful ambidexterity requires

the establishment of separate organizational units, one focused on exploiting existing capabilities and another dedicated to exploring and developing new ones (Deng, *et al.*, 2020).

Additionally, dynamic capabilities emphasize the importance of managerial decision-making processes (Deng, *et al.*, 2020). According to the theory, managers play a critical role in identifying and prioritizing opportunities, allocating resources effectively, and aligning the organization's capabilities with its strategic goals (Samsudin & Ismail, 2019). Effective decision-making at all levels ensures that the organization remains agile and responsive to changes in the business environment, thus enhancing its dynamic capabilities (Breznik & Lahovnik, 2016; Deng, *et al.*, 2020). In conclusion, dynamic capability theory provides a valuable framework for understanding how organizations can develop and leverage their capabilities in a constantly changing business environment (Teece, 2016; 2018). According to the theory, the absence of dynamic capabilities may impede the firm's ability to sustain its competitive edge, particularly in a dynamic and evolving environment (Samsudin & Ismail, 2019).

Moreover, the final major aspect of the Dynamic Capabilities Theory is strategy (Teece *et al.*, 2016). According to Teece (2018), strategy can be defined as the "coherent set of analyses, concepts, policies, arguments, and actions that respond to a high-stakes challenge". Teece (2018) argued that the dynamic capabilities that are core in enhancing processes and exploiting business possibilities must be guided and informed by strategies. According to the Dynamic Capabilities Theory, good strategies have prescient diagnoses that identify contraints and guiding policies that specify approaches to overcoming the identified constraints (Teece, 2018). Hence, the theory was found helpful in understsnding the coping strategies for the small scale enterprises to load shedding. Thus, the theory was found applicable to this current research, which sought to understand the coping strategies of the small scale enterprise to changes in the external environment that is load shedding.

The dynamic capabilities theory provided a valuable framework for analyzing how small scale enterprises at Masala Market respond and adapt to the challenges posed by load shedding. In other words, the Dynamic Capabiliies Theory guided formulation of research questions and interpretation of the research findings. In other words, the Dynamic Capabilities Theory offered a valuable lens through which the researcher analyzed the effects of load shedding on small scale enterprises' business operations as well as the coping strategies of the small scale enterprisers to load shedding. Through this theory, the researcher was able to understand how the small scale enterprises sense, seize, and reconfigure their resources in response to load shedding as well understanding the coping strategies that enable the enterprises to survive and thrive the challenge of load shedding.

Systems Theory of Management

The research is also anchored on the Systems Theory of Management advanced by Ludwig von Bertalanffy in 1968. General systems theory has found applications in a wide range of scientific disciplines, including biology, ecology, sociology, psychology, and management (Teece, 2018). In business management, general systems theory has offered a new perspective on organizational structures and processes. By considering organizations as dynamic and interconnected systems, managers can identify the factors that contribute to their efficiency and success, as well as the potential barriers to their growth and development (Teece *et al.*, 2016). The theory is a comprehensive framework that focuses on the interrelationships and interactions between various components within an organization (Rice, 2013).

This theory emphasizes the importance of understanding organizations as complex systems rather than isolated entities according to Teece (2018). It considers organizations as open systems that interact dynamically with their environment, constantly exchanging information, materials, and energy (Teece, 2018). This perspective provides a framework for studying organizations in a broader context, understanding their dynamics, intricacies, and effects of interdependencies (Von Bertalanffy, 2010). Systems theory is built upon five core principles: interconnectedness, complexity, emergence, feedback, and adaptation (Jackson, 2007; Teece, 2018).

In today's dynamic and unpredictable business environment, the systems theory of management provides valuable insights for addressing complexity and uncertainty (Chikere & Nwoka, 2015). The holistic perspective helps managers better understand the intricate relationships between internal and external factors, allowing them to anticipate potential disruptions and adapt accordingly (Rice, 2013).

Another important aspect of this theory is its focus on adaptation and flexibility. Organizations according to the theory are viewed as open systems that must constantly adapt to internal and external changes to survive and thrive (Teece, 2018). In this context, small scale enterprises need to be flexible enough to respond quickly to changes caused by load shedding while maintaining their core functions. By examining these adaptive

mechanisms within a systems framework, small scale businesses can identify areas where improvements are needed and implement coping strategies accordingly. Hecne, the theory was found to be of importance to this research.

According to this theory, an organization is composed of multiple subsystems that work together to achieve common goals. These subsystems include individuals, teams, departments, and even external stakeholders (Jackson, 2007; Von Bertalanffy, 2010). Each subsystem has its own unique characteristics and functions but is interconnected with others through feedback loops (Rice, 2013). One key concept of the theory is that changes or actions in one part of the system can have ripple effects throughout the entire organization (Chikere & Nwoka, 2015; Von Bertalanffy, 2010). For instance, a decision made by upper management can affect employees' morale and productivity. In this case, the decisions made by ZESCO of implementing load shedding impacts productivity of small scale firms whilst the coping strategies of the firms may also have impact on productivity of employees. Thus, the theory was pertinent to this research as it helped in explaining and interpreting the effects of load shedding on operations of small scale enterprises.

IMPLICATIONS, RECOMMENDATIONS, AND CONCLUSION

Understanding the theoretical underpinnings of the impact of power cuts on SMEs will provide insight into potential strategies to mitigate these impacts. Governments and policymakers can build SME resilience by investing in reliable energy infrastructure and creating supportive policy frameworks that encourage implementation. energy saving practice. Meanwhile, SMEs can consider diversifying their energy sources, implementing flexible production schedules, and increasing communication with stakeholders to manage expectations in the event of a power outage. This article sheds light on the complex effects of power cuts on SMEs by examining the theoretical underpinnings behind these effects. Resource dependency theory, institutional theory, and stakeholder theory together contribute to a comprehensive understanding of the challenges SMEs face during power outages. By recognizing and addressing these theoretical insights, stakeholders can work together to develop strategies that enable SMEs to navigate the uncertainties caused by power outages. and maintain their contribution to economic growth and innovation.

REFERENCES

Abbas, M., & Jibrilla, A. (2016). Impact of power (electricity) supply on the performance of small and medium scale enterprises in Adamawa state: Case study Mubi north local government area. *International journal of humanities and social science research*, *2*(12), 4-13.

Abdisa, L. T. (2018). Power outages, economic cost, and firm performance: Evidence from Ethiopia. *Utilities Policy*, *53*, 111-120.

Abeberese, A. B. (2012). *Electricity Cost and Firm Performance: Evidence from India*, Department of Economics, Columbia University, New York.

Abi Ghanem, D. (2018). Energy, the city and everyday life: Living with power outages in post-war Lebanon. *Energy research & social science*, *36*, 36-43.

Abotsi, A. K. (2016). Power outages and production efficiency of firms in Africa. *International Journal of Energy Economics and Policy*, *6*(1), 98-104.

Abotsi, A.K. (2015). Foreign ownership of firms and corruption in Africa. *International Journal of Economics and Financial Issues, 5*(3), 647-655.

Aboubakar, B. O., Li, H. X., & Oumarou, A. B. (2022). Post COVID-19 electrical load shedding on Cameroon's northern interconnected grid: causes, safety impact and solution proposals. *International Journal of Reliability and Safety*, *16*(1-2), 1-26.

Adamu, P. (2015) Electricity Hikes. Zambia Reports. February 10,. Online newspaper. Retrieved Aug 3, 2022, from http://zambiareports.com/2015/02/10/pres-lungu-freezes-electricity-hikes/

Adanlawo, E. F., & Vezi-Magigaba, M. (2021). Electricity outages and its effect on small and medium scale enterprises (SMEs) in Nigeria. *The Business & Management Review*, *12*(1), 98-105.

Ahadu, E. (2019). The effect of electric blackout on the operation and productivity of small manufacturing enterprises. *IJRRIS*, *6*, 11-21.

Ahmad, A., Saqib, M. A., Kashif, S. A. R., Javed, M. Y., Hameed, A., & Khan, M. U. (2016). Impact of widespread use of uninterruptible power supplies on Pakistan's power system. *Energy Policy*, *98*, 629-636.

Ajibola, A. A., Sodeinde, G. M., Aderemi, T. A., & Yusuf, M. O. (2021). Impact of Electricity Supply on the Performance of Small and Medium-Scale Enterprises (SMEs) in Nigeria: A Case Study. *Economic Insights-Trends & Challenges*, 1(4), 1-10.

Aklin, M., Cheng, C. Y., Urpelainen, J., Ganesan, K., & Jain, A. (2016). Factors affecting household satisfaction with electricity supply in rural India. *Nature Energy*, *1*(11), 1-6.

Akpandjar, G. and Kitchens, C. (2017). From darkness to light: The effect of electrification in Ghana, 2000–2010. Economic Development and Cultural Change, 66(1):000–000.

Akpeji, K. O., Olasoji, A. O., Gaunt, C. T., Oyedokun, D. T., Awodele, K. O., & Folly, K. A. (2020). Economic impact of electricity supply interruptions in South Africa. *SAIEE Africa Research Journal*, *111*(2), 73-87.

Akuru, U. B., & Okoro, O. I. (2014). Economic implications of constant power outages on SMEs in Nigeria. *Journal of Energy in southern Africa*, *25*(3), 47-61.

Alam, M. (2013). Coping with blackouts: Power outages and firm choices. *Department of Economics, Yale University*.

Alam, M. (2013). Coping with blackouts: Power outages and firm choices. Department of Economics, Yale University.

Alban, M., & Moshi, J. (2014). Power rationing dilemma: a blow to small and medium enterprises (SMEs) performances in most Moshi municipality, Zambian. International journal of economics, commerce and management

Alby, P., Dethier, J.-J., & Straub, S. (2013). Firms Operating under Electricity Constraints in Developing Countries. The World Bank Economic Review, 27(1), 109–132. https://doi.org/10.1093/wber/lhs018

Alby, P., J-J Dethier and S. Straub (2011) Let There be Light! Firms Operating under Electricity Constraints in Developing Countries.

Allcott, H., Collard-Wexler, A., and O'Connell, S. D. (2016). How do electricity shortages affect productivity? Evidence from India. American Economic Review, 106(3):587–624.

Allerdice, A. & Rogers, J.H. 2000. "Renewable Energy for Microenterprise." National Renewable Energy Laboratory (NREL), Colorado, USA.

Alo, E. A., & Adeyemo, T. T. (2021). Distorted Electricity Supply and the Profitability of Small and Medium Scale Enterprises: A Survey of Selected Inhabitants in Southwest Nigerian States. *Journal of Economics and Allied Research*, *6*(1), 190-200.

Altman, M., Harris, H., van der Linde, A., Fleming, D., Davies, R., & van Seventer, D. (2010). *Electricity Pricing and Supply: With special attention to the impact on employment and income distribution*. Human Sciences Research Council, Pretoria.

Alumasa, S., & Muathe, S. (2021). Mobile Credit and Performance: Experience and Lessons from Micro and Small Enterprises in Kenya. *Journal of Applied Finance & Banking*, *11*(4), 135-161.

Amadi, H. and E. Okafor. 2015. Analysis of Methodologies for the Evaluation of Power Outage Costs. International Journal of Engineering Research and Technology 4.5: 956–960.

Amadi-Echendu, A. (2013). *An analysis of conveyancing business processes in South Africa* (Doctoral dissertation, University of South Africa).

Amoah, S. K., & Amoah, A. K. (2018). The role of small and medium enterprises (SMEs) to employment in Ghana. *International Journal of Business and Economics Research*, *7*(5), 151-157.

Andersen, T. B. and Dalgaard, C.-J. (2013). Power outages and economic growth in Africa. Energy Economics, 38:19–23

Ansar, A., B. Flyvbjerg, A. Budzie, and D. Lunn.(2019). Should We Build More Large Dams? The Actual Costs of Hydropower Mega Project Development. Energy Policy 69: 43–56.

Arnold, J. M., Mattoo, A., & Narciso, G. (2006). *Services inputs and firm productivity in Sub-Saharan African: Evidence from firm-level data.* World Bank, Washington, DC.

Arnold, J., A. Mattoo and G. Narciso (2006) Services Inputs and Firm Productivity in Sub-Saharan Africa Evidence from Firm-Level Data, World Bank Policy Research Working Paper 4048.

Arritt, R. F., & Dugan, R. C. (2015). Review of the impacts of distributed generation on distribution protection. In *2015 IEEE rural electric power conference* (pp. 69-74). IEEE.

Arthur, J. L., & Locher, G. (2022). Comparative Analysis of the Impact of Energy Security on Productivity of SMEs in the Accra Metropolis of Ghana. *African Geographical Review*, 1-12.

Ateba, B. B., Prinsloo, J. J., & Gawlik, R. (2019). The significance of electricity supply sustainability to industrial growth in South Africa. *Energy Reports*, *5*, 1324-1338.

Attigah, B., Rammelt, M., & Mayer-Tasch, L. (2015). Increasing the impact of electrification through the promotion of productive uses. In *Sustainable Access to Energy in the Global South: Essential Technologies and Implementation Approaches* (pp. 33-47). Springer International Publishing.

Attigah, B., Rammelt, M., & Mayer-Tasch, L. (2015). Increasing the impact of electrification through the promotion of productive uses. In *Sustainable Access to Energy in the Global South: Essential Technologies and Implementation Approaches* (pp. 33-47). Springer International Publishing.

Ayyagari, M., Beck, T and A. Demirgüç-Kunt (2003) Small and Medium Enterprises across the Globe: A New Database, World Bank Policy Research Working Paper 3127, August 2003.

Aziz, S., Burki, S. J., Ghaus-Pasha, A., Hamid, S., Hasan, P., Hussain, A., Pasha, H. A. and Sherdil, A. Z. K. (2010). Third Annual Report-State of the Economy: Pulling back from the abyss (p. 66). Lahore, Pakistan: Beaconhouse National University, Institute of Public Policy.

Azubuike, C. (2013). Perceptions of SME growth constraints: Global Perspective)". *Journal of small business management*. 34. (4), 258 – 271.

Bagher, A. M., Vahid, M., Mohsen, M., & Parvin, D. (2015). Hydroelectricity energy advantages and disadvantages. *America Journal of Energy Science, 2*(2), 17-20.

Bailey, A. (2022). *An investigation of the effects of potential electrical load-shedding on facility manager's strategic and operational decisions in industrial buildings: A case study of Perseverance Industrial Township, Nelson Mandela Bay* (Master's thesis, Faculty of Engineering and the Built Environment).

Bambaravanage, T., Kumarawadu, S., & Rodrigo, A. (2016). Comparison of three under-frequency load shedding schemes referring to the power system of Sri Lanka. *Engineer: Journal of the Institution of Engineers, Sri Lanka*, *49*(1), 1-10.

Banda, G., Simukoko, G. & Tailoka, P.F. (2020). Effect of Load Shedding on Small scale Entrepreneurs: A Case of Kitwe District of Zambia. *Economy*, *7*(2), 104–109.

Banderker, S. I. (2022). *The perceived psychosocial and economic impact of load-shedding on employees in selected small micro medium enterprises.* Cham: Springer International Publishing.

Barreto, I. (2010). Dynamic capabilities: A review of past research and an agenda for the future. *Journal of management*, *36*(1), 256-280.

Bassey, C. E., & Imoh, I. K. (2021). The Effect of Electricity Supply on the Performance of Small and Medium-Scale Enterprises in Nigeria: A Case Study of Calabar South and Calabar Municipality of Cross River State. *International Journal of Engineering and Management Research, 11*(4), 1-10.

Batidzirai, B., Moyo, A. and Kapembwa, M. (2018) Willingness to pay for improved electricity supply reliability in Zambia - A survey of urban enterprises in Lusaka and Kitwe. Cape Town.

Bayliss, K., & Pollen, G. (2021). The power paradigm in practice: A critical review of developments in the Zambian electricity sector. *World Development*, *140*, 105358.

Beck, T. and Robert, C. (2014) Small- and Medium-Sized Enterprise Finance in Africa. Africa Growth Initiatives, Working Paper 16 July 2014.

Beland, L. P., Fakorede, O., & Mikola, D. (2020). *Canadian small businesses' employees and owners during COVID-19* (No. 650). GLO Discussion Paper.

Bental, B., & Ravid, S. A. (1982). A simple method for evaluating the marginal cost of unsupplied electricity. *The Bell Journal of Economics, 13*(1), 249-253.

Ben-Zur, H., Zeigler-Hill, V., & Shackelford, T. K. (2019). Transactional model of stress and coping. *Encyclopedia of personality and individual differences*, 1-4.

Beukes, E. W., Manchaiah, V., Andersson, G., Allen, P. M., Terlizzi, P. M., & Baguley, D. M. (2018). Situationally influenced tinnitus coping strategies: a mixed methods approach. *Disability and rehabilitation*, *40*(24), 2884-2894.

Bevrani, H., & Hiyama, T. (2010). An intelligent based power system load shedding design using voltage and frequency information. In *Proceedings of the 2010 International Conference on Modelling, Identification and Control* (pp. 545-549). IEEE.

Biggs, A., Brough, P., & Drummond, S. (2017). Lazarus and Folkman's psychological stress and coping theory. *The handbook of stress and health: A guide to research and practice*, 349-364.

Bilgili, F & Ozturk, I, (2015) Biomass energy and economic growth nexus in G7 countries: Evidence from dynamic panel data. Renewable and Sustainable Energy Reviews 49, 132–8.

Bomani, M. (2015). *Government policies and strategies in dealing with challenges confronting small and medium enterprises: a case of Harare, Zimbabwe* (Doctoral dissertation, UKZN).

Bose, K.R., Megha Shukla, Leena Srivastava, and Gil Yaron. (2019). Cost of Unserved Power in Karnataka, India. *Energy Policy 34:* 1434–1447.

Bose, T. K., Uddin, M. R., & Mondal, A. (2013). Impacts of electricity access to rural SMEs. *International Journal of Managing Value and Supply Chains*, *4*(4), 17-27.

Botha, T. (2019). *The impact of'load-shedding'within the Nelson Mandela Bay restaurant industry* (Doctoral dissertation, The IIE).

Bowen, G. A. (2009). Document analysis as a qualitative research method. *Qualitative research journal*, *9*(2), 27-40.

Braimah, I., & Amponsah, O. (2012). Causes and effects of frequent and unannounced electricity blackouts on the operations of micro and small scale industries in Kumasi. *Journal of Sustainable Development*, *5*(2), 17-27.

Breznik, L., & Lahovnik, M. (2016). Dynamic capabilities and competitive advantage: Findings from case studies. *Management: journal of contemporary management issues*, *21*(Special issue), 167-185.

Bryman, A. & Bell, E. (2020). *Business research methods.* USA: Oxford University Press.

Burns N., & Grove, S. (2018). *The practice of nursing research: Conduct, critique, and utilization* 5th ed. St. Louis, MO: Elsevier/Saunders,.

Bwalya Umar, B., Chisola, M. N., Mushili, B. M., Kunda-Wamuwi, C. F., Kafwamba, D., Membele, G., & Imasiku, E. N. (2022). Load shedding in Kitwe, Zambia: Effects and implications on household and local economies. *Development Southern Africa*, *39*(3), 354-371.

Carsson, F., Martinsson, P. and Akay, A. (2011) The effect of power outages and cheap talk on willingness to pay to reduce outages. *Energy Economics, 30*: 1232-1245

Chakraborty, U., Pelli, M., and Marchand, B. U. (2014). Does the quality of electricity matter? Evidence from rural India. *Journal of Economic Behavior & Organization, 107*, Part A: 228 – 247.

Chawki, A., & Lemqeddem, H. A. (2021). The relationship between strategic management and SMEs performance in Morocco: Proposal for an analytical model. *Alternatives Managériales Economiques*, *3*(1), 289-311.

Cheruto, N. M., & Munene, P. (2019). Relationship between Power Supply Interruptions and Financial Performance of Manufacturing Companies in Machakos County. *Journal of Human Resource and Leadership, 3*(3), 1-26.

Chewe, R. (2020). *An Evaluation of Factors Enhancing Sustainable Growth of SMEs in Zambia* (Doctoral dissertation).

Chikere, C. C., & Nwoka, J. (2015). The systems theory of management in modern day organizations-A study of Aldgate congress resort limited Port Harcourt. *International Journal of Scientific and Research Publications*, *5*(9), 1-7.

Chisala, M. (2015).: The simple solution for load shedding. Zambia. *Energy Economics, 3,* 32-45.

Choongo, P., Van Burg, E., Paas, L. J., & Masurel, E. (2016). Factors influencing the identification of sustainable opportunities by SMEs: Empirical evidence from Zambia. *Sustainability*, *8*(1), 81-91.

Chukwulobe, O. O., Obi, P. I., Amako, E. A., & Ezeonye, C. S. (2022). Improved Under-Voltage Load Shedding Scheme in Power System Network for South Eastern Nigeria. *Journal of Science and Technology Research*, *4*(1), 1-11.

Cissokho, L. (2019). The productivity cost of power outages for manufacturing small and medium enterprises in Senegal. *Journal of Industrial and Business Economics*, *46*(4), 499-521.

Cissokho, L., & Seck, A. (2013). Electric power outages and the productivity of small and medium enterprises in Senegal. *Investment climate and business environment research fund Report*, *77*(13), 1-13.

Cleveland, G., Schroeder, R. G., & Anderson, J. C. (1989). A theory of production competence. *Decision sciences*, *20*(4), 655-668.

Cole, M. A., Elliott, R. J., Occhiali, G., & Strobl, E. (2018). Power outages and firm performance in Sub-Saharan Africa. *Journal of Development Economics*, *134*, 150-159.

Collis, J. & Hussey, R. (2019). *Business research: A practical guide for undergraduate and postgraduate students*. Macmillan International Higher Education.

Cooper, D.R. & Schindler, P.S. (2020). *Business research methods*. New York: Mcgraw-hill.

Creswell, J. (2015). *Research design: Qualitative, quantitative and mixed method* (4th ed.). California, USA: Sage: Publications Inc.

Creswell, J.W. & Creswell, J.D. (2018). *Research design: Qualitative, quantitative, and mixed methods approach*. Thousand Oaks, CA: Sage Publications.

Creswell, J.W. (2020). *Research design: Qualitative, quantitative, and mixed methods approaches*. Thousand Oaks, CA: Sage Publications.

Cummings, T. G., & Cooper, C. L. (1998). A cybernetic theory of organizational stress. *Theories of organizational stress*, 101-121.

Dallasega, P., Woschank, M., Ramingwong, S., Tippayawong, K. Y., & Chonsawat, N. (2019, March). Field study to identify requirements for smart logistics of European, US and Asian SMEs. In *Proceedings of the International Conference on Industrial Engineering and Operations Management* (Vol. 1, No. 1, pp. 844-854).

Davis, G. F., & Cobb, J. A. (2010). Resource dependence theory: Past and future. *Stanford's organization theory renaissance, 1970–2000*, *28*, 21-42.

Day, P., Sanders, C., & Fields, E. (2019). Influential Article Review-Factors that Affect SME Financing In Mozambique. *Journal of Accounting and Finance*, *19*(10), 1-16.

De Nooij, M., Lieshout, R. and Koopmans,C. (2008) Optimal blackouts: empirical results on reducing the social cost of electricity outages. Energy Economics, Vol. 31: 342-347

De Nooij,M.,Koopmans, C. and Biljvet, C. (2007) The value of supply security: the costs of power interruptions: economic input for damage reduction and investments in networks. Energy Economics, Vol.29:277-295

Degani, M. (2016). Emergency power: time, ethics, and electricity in postsocialist Tanzania. In *Cultures of Energy* (pp. 177-192). Routledge.

Deng, P., Liu, Y., Gallagher, V. C., & Wu, X. (2020). International strategies of emerging market multinationals: A dynamic capabilities perspective. *Journal of Management & Organization*, *26*(4), 408-425.

Dethier, J-J., Hirn, M. and Straub, S. (2011) Explaining enterprise performance in developing countries with business climate survey data, The World Bank Research Observer, vol. 26,

Dewe, P. J., O'Driscoll, M. P., & Cooper, C. L. (2012). Theories of psychological stress at work. *Handbook of occupational health and wellness*, 23-38.

Diboma, B. S., & Tamo Tatietse, T. (2013). Power interruption costs to industries in Cameroon. *Energy Policy, 62*, 582-592.

Diboma, B. S., & Tatietse, T. T. (2013). Power interruption costs to industries in Cameroon. *Energy policy*, *62*, 582-592.

Diboma, B. S., & Tatietse, T. T. (2013). Power interruption costs to industries in Cameroon. *Energy policy*, *62*, 582-592.

Dinkelman, T. (2011). The effects of rural electrification on employment: New evidence from South Africa. American Economic Review, 101(7):3078–3108.

Doe, F., & Asamoah, E. S. (2014). The effect of electric power fluctuations on the profitability and competitiveness of SMEs: A study of SMEs within the Accra business district of Ghana. *Journal of Competitiveness*, *6*(3), 32–48.

Drnovšek, M., Örtqvist, D., & Wincent, J. (2010). The effectiveness of coping strategies used by entrepreneurs and their impact on personal well-being and venture performance. *Zbornik radova Ekonomskog fakulteta u Rijeci: časopis za ekonomsku teoriju i praksu*, *28*(2), 193-220.

Dugan, R. C. (2000). *Electrical power system quality*. The McGraw Hill Companies.

Dunne, C. (2011). The place of the literature review in grounded theory research. *International journal of social research methodology*, *14*(2), 111-124.

Dunya, R., Chen, D., & Appiah, E. (2019). The Effect of Electricity Load Management on the Operations of Small and Medium Enterprises: A Case Study of La-Nkwantanang Madina Municipality. *Research Journal of Finance and Accounting*, *10*(2), 1-10.

Duru, I. & Yusuf, A. (2017). Effect of Electricity Services on Microenterprise: Evidence from Ganaja Village, Kogi State, Nigeria. *Asian Research Journal of Arts & Social Sciences,* 4(4), 1-11.

Dzansi, D. Y., Rambe, P., & Mathe, L. (2014). Cable theft and vandalism by employees of South Africa's electricity utility companies: A theoretical explanation and research agenda. *Journal of Social Sciences*, *39*(2), 179-190.

Eberhard, O. Rosnes, M. Shkaratan, and Vennemo, (2011): African's Power Infrastructure Investments, Integration, efficiency, Direction in Development; Infrastructure, Washington DC: Word Bank, pp. 1-12.

Ebohon, OJ, 1996. Energy, economic growth and causality in developing countries: A case study of Tanzania and Nigeria. Energy Policy 24, 447–53

Economic Association of Zambia (2015): Annual Report - Power Outages Will Affect GDP, (www.dailymail.co.zm/?tag=economic-association- of-zambia).

Economic Commission for Africa (2006). Report on "Energy for Sustainable Development", African Regional Implementation review for the 14th Session of the Commission on Sustainable Development (CSD-14).

Economics Association of Zambia (2015), Report on the Economic Cost of Load Shedding, Lusaka.

Edquist, H. and Henrekson, M. (2006) Technological Breakthroughs and Productivity Growth. Research Institute of Industrial Economics, IFN Working Paper No. 665

Edwards, J. R. (1992). A cybernetic theory of stress, coping, and well-being in organizations. *Academy of management review*, *17*(2), 238-274.

Edwards, J. R. (1998). Cybernetic theory of stress, coping, and well-being. *Theories of organizational stress, 1,* 122-152.

Ef Ii, P. P. (2021). *The impact of Electricity insecurity on the performance of small and medium size enterprises-The case of Cameroon* (Master's thesis, UiT Norges arktiske universitet).

Eifert, B., Gelb, A. and Ramachandran, V. (2008) The Cost of Doing Business in Africa; Evidence from Enterprise Survey Data in World Development, Vol 36, No 9, pp 1531-1546

Eisenhardt, K. M., (1989). Building theories from case study research. Academy of

EIZ. (2018). Report on ZESCO Load Shedding. Lusaka, Zambia: Engineering Institute of Zambia, Retrieved November 2015from http://www.eiz.org.zm/wp-content/uploads/2015/10/151008_Report_On_ZESCO_Load_Shedding.pdf.

ERB. (2019). Energy Sector Report. Lusaka: Energy Regulation Board. Retrieved January 4, 2016 from http://www.erb.org.zm/reports/EnergySectorReport2014.pdf.

Escribano, A. and Guasch, J.L. and Pena, J. (2009): Assessing the Impact of Infrastructure Constraints on Firm Productivity in Africa. Working Paper 9, Africa Infrastructure Sector Diagnostic, World Bank. Washington D.C.

European Commission (2019). *User guide to the SME Definition - European Commission.* [online]. Available at https://ec.europa.eu/docsroom/documents/42921/attachments (Accessed 29 August 2022).

Fabiyi, S. D., Abdulmalik, A. O., & Tiamiu, H. A. (2016). Dwindling electrical power supply in Nigeria: Causes and possible solutions. *International Journal of Science and Research*, *5*(5), 635-639.

Fagbenle, O. I., Katende, J., & Ajayi, S. O. (2020). Sustainable Electricity Infrastructure Development in Africa. Sustainable Energy Technologies and Assessments, 39, 100744.

Farquharson, D., Jaramillo, P. and Samaras, C. (2018) 'Sustainability implications of electricity outages in sub-Saharan Africa', Nature Sustainability, 1(October), pp. 589–597

Fashanu, F. A. (2021). Uninterrupted Power (Electricity) Supply: A Catalyst For Small And Medium Scale Enterprises (SMEs) Development In Nigeria. *Christopher University Journal of Management and Social Sciences (CUJMSS), 1*(2), 173-183.

Fay, M., Han, S., Lee, H. I., Mastruzzi, M., & Cho, M. (2019). Hitting the Trillion Mark: A Look at How Much Countries Are Spending on Infrastructure. World Bank Policy Research Working Paper, No. 8730.

Fedderke, J. and Bogetic, Z. (2006): Infrastructure and Growth in South Africa: Direct and Indirect Productivity Impacts of Nineteen Infrastructure Measures. World Bank Policy Research Working Paper, Washington D.C.

Fiawoo, E. E. (2016). *Assessing the effects of load shedding (dumsor) on SMEs and the coping strategies used to survive load shedding in Madina, Accra* (Doctoral dissertation, Ashesi University College).

Fisher-Vanden, K., Mansur, E. & Wang, Q. (2015). Electricity Shortages and Firm Productivity: Evidence from China's Industrial Firms. *Journal of Development Economics*, *11*(4), 172-188.

Fisher-Vanden, K., Mansur, E. T., & Wang, Q. J. (2015). Electricity shortages and firm productivity: Evidence from China's industrial firms. *Journal of Development Economics, 114*, 172–188.

Fjose, C.A. and Grünfeld, L.S. (2010) SMEs and Growth in Sub-Saharan Africa, Identifying SME Roles and Obstacles to SME Growth. MENON-Publication No. 14/2010.

Fjose, S., Grünfeld, L. and Green, C. (2011) SMEs and Growth in Sub-Saharan Africa: Identifying SME roles and obstacles to SME growth, Menon Business Economics.

Flinders, D. J. (1997). Review of the book Interviews: An Introduction to Qualitative Research Interviewing. Evaluation and Program Planning, 20(3), 287-288.

Forkuoh, S. K., & Li, Y. (2015). Electricity power insecurity and SMEs growth: A case study of the cold store operators in the Asafo market area of the Kumasi metro in Ghana. *Open Journal of Business and Management*, *3*(03), 312-322.

Foster and. Steinbuks, J. (2009): Paying the Price for Unreliable Power Supplies: In-house generation of electricity firms I Africa, Working paper 2, African Infrastucture Country Diagnostic, and Washington DC: World Bank.

Frederick, D. & Selase, A. E. (2014). The effect of electric power fluctuations on the profitability and competitiveness of SMEs: A study of SMEs within the Accra Business District of Ghana. *Journal of Competitiveness 6*(3), 32-48.

Fungwe, R., & Kabubi, M. (2019). Exploring Operational Challenges Faced by Small and Medium-Sized Enterprises (SMEs): Case Study of Lusaka Central Business District. *The International Journal of Multi-Disciplinary Research*, 1-31.

Garicano, L., Lelarge, C., and Van Reenen, J. (2016). Firm size distortions and the productivity distribution: Evidence from France. American Economic Review

Gebauer, H. (2011). Exploring the contribution of management innovation to the evolution of dynamic capabilities. *Industrial Marketing Management*, *40*(8), 1238-1250.

Gibson, T. & Van der Vaart, HJ. (2008). Defining SMEs: A Less Imperfect Way of Defining Small and Medium Enterprises in Developing Countries, Brookings.

Goldberg, A. (2015). *The economic impact of load shedding: The case of South African retailers* (Doctoral dissertation, University of Pretoria).

Gorman, W. (2022). The quest to quantify the value of lost load: A critical review of the economics of power outages. *The Electricity Journal*, *35*(8), 107187-107197.

Government Gazette (2018). Ministerial Statement on power situation in the country. Zambia National Assembly. Lusaka.

Grainger, C. A., & Zhang, F. (2019). Electricity shortages and manufacturing productivity in Pakistan. *Energy Policy*, *132*, 1000-1008.

Grimm, M., Hartwig, R. and Lay, J. (2012) How Much Does Utility Access Matter for the Performance of Micro and Small Enterprises? Accessed from http://www-wds.worldbank.org/external/default/WDSContentServer/.pdf Accessed on 20 June, 2022

Growitsch, C., Malischek, R., Nick, S., & Wetzel, H. (2013). The costs of power interruptions in Germany - an Assessment in the Light of the Energiewende. EWI Working Paper, No 13/07.

Hair, J. F., Page, M., & Brunsveld, N. (2019). *Essentials of business research methods*. Routledge.

Hameed, L., & Khan, A. A. (2016). Population growth and increase in domestic electricity consumption in Pakistan: A case study of Bahawalpur city. *The Explorer Islamabad: Journal of Social Sciences*, *2*(1), 27-33.

Hassen, S., & Degu, T. (2019). The Effect of Power Outage on Micro and Small Enterprise Productivity. *Ethiopian Journal of Economics*, *28*(1), 150-165.

Hillman, A. J., Withers, M. C., & Collins, B. J. (2009). Resource dependence theory: A review. *Journal of management*, *35*(6), 1404-1427.

Hlongwane, N. W., & Daw, O. D. (2022). Electricity consumption and population growth in South Africa: A panel approach.

Hussain, S. T., Khan, U., Malik, K. Z., & Faheem, A. (2012). Constraints faced by industry in Punjab, Pakistan. *Lahore J. Econ*, *17*, 135-189.

Jackson, M. C. (2007). *Systems approaches to management*. Springer Science & Business Media.

Jafar, H., Muda, I., Zainal, A., & Yasin, W. (2010). Profit maximization theory, survival-based theory and contingency theory: a review on several underlying research theories of corporate turnaround. *Jurnal Ekonom*, *13*(4), 1-10.

Jianjun, Z., Dongyu, S., Dong, Z., & Yang, G. (2018). Load shedding control strategy for power system based on the system frequency and voltage stability (Apr 2018). In *2018 China International Conference on Electricity Distribution (CICED)* (pp. 1352-1355). IEEE.

Karthik, S., Devaraj, B. N., Kashyap, A. K., Avinash, M., & Murthy, B. V. (2019). Dynamic Load Shedding Management for Optimizing Power Distrubution. In *2019 International Conference on Communication and Electronics Systems (ICCES)* (pp. 1719-1723). IEEE.

Kaseke, N. (2018). *An estimate of the cost of electricity outages in Zimbabwe* (Doctoral dissertation, Nelson Mandela Metropolitan University).

Kaseke, N., & Hosking, S. G. (2013). Sub-Saharan Africa electricity supply inadequacy: implications. *Eastern Africa Social Science Research Review*, *29*(2), 113-132.

Kateregga, E. (2009). The welfare costs of electricity outages: A contingent valuation analysis of households in the suburbs of Kampala, Jinja and Entebbe. Retrieved January 20, 2022, from ttp://www.academicjournals.org/article/article1379599097_Kateregga.pdf

Kavishe, T. E. (2015). *Coping with Power Interruptions in Tanzania: An Industrial Perspective A Case Study of One* Small scale *Animal Food Processing Industry in Moshi Municipality* (Master's thesis, University of Oslo).

Kawimbe, S. (2023). Framework of Entrepreneurship Theories in Augmenting Performance of Small and Medium Enterprises (SMEs) in Zambia. *International Journal of Latest Engineering and Management Research (IJLEMR), 8*(2), 47-52.

Kazmi, H., Mehmood, F., Tao, Z., Riaz, Z., & Driesen, J. (2019). Electricity load-shedding in Pakistan: Unintended consequences, opportunities and policy recommendations. *Energy Policy*, *128*, 411-417.

Kintu, M. (2022). *The effects of load shedding on the viability of small and medium enterprises in Chainda compound* (Doctoral dissertation, The University of Zambia).

Koskela, L. (2000). *An exploration towards a production theory and its application to construction*. VTT Technical Research Centre of Finland.

Kothari, C., & Garg, G. (2020). *Research Methodology: Methods and Strategy*. New age international.

Kothari, C.R. (2019). *Research methodology: Methods and Techniques*. New Age International.

KPMG. (2019). Southern Africa Power Outlook. Johannesburg, South Africa: KPMG. Retrieved June 2019 from http://www.kpmg.com/ZA/en/IssuesAndInsights/ArticlesPublications/General-Industries-Publications/Documents/2014%20Sub-Saharan%20Africa%20Power%20Outlook.pdf.

Kufeoglu, S., & Lehtonen, M. (2015). Electrical Power and Energy Systems Interruption costs of service sector electricity customers, a hybrid approach. *Electrical Power and Energy Systems, 64*, 588-595.

Küfeoğlu, S., & Lehtonen, M. (2016). A review on the theory of electric power reliability worth and customer interruption costs assessment techniques. In *2016 13th international conference on the European Energy Market (EEM)* (pp. 1-6). IEEE.

Kaplinsky, R., & Morris, M. (2016). Thinning and Weakening of the South African Supply Chain: The Case of Clothing and Textiles. World Development, 83, 155-166.

Kumar, R. (2020). *Research methodology: a systematic guide for beginners*. Sage.

Lazarus, R. S. (2020). Psychological stress in the workplace. In *Occupational stress* (pp. 3-14). CRC Press.

Leahy, E., & Tol, R. S. (2011). An estimate of the value of lost load for Ireland. *Energy Policy, 39*(3), 1514-1520.

Leedy, P.D. & Ormrod, J.E. (2019). *Practical research*. Saddle River, NJ: Pearson Custom.

Lin, S., Li, J., & Han, R. (2018). Coping humor of entrepreneurs: Interaction between social culture and entrepreneurial experience. *Frontiers in psychology*, *9*, 1449-1459.

Linares, P., & Rey, L. (2013). The costs of electricity interruptions in Spain: Are we sending the right signals? *Energy Policy, 61*, 751-760.

Lombe, C. & Tembo, S. (2023). Load Shedding and Coping Business Mechanisms of SMES: Case of Female Entrepreneurs in Lusaka Kabwata Market. *Management*, *13*(1), 15-20.

Lubasi, N. (2020). *Impact of Energy Distribution on Small and Medium Enterprise (A Case Study of Chongwe District)* (Doctoral dissertation).

Maarouf, H. (2019). Pragmatism as a supportive paradigm for the mixed research approach: Conceptualizing the ontological, epistemological, and axiological stances of pragmatism. *International Business Research*, *12*(9), 1-12.

Mabhena, M. S., & Nhamo, G. (2019). Energy Efficiency Practices in Zimbabwean SMEs: An Exploratory Study. Sustainable Production and Consumption, 19, 182-192.

Maende, S. O., & Alwanga, M. U. (2020). The Cost of Power Outages on Enterprise Performance in Kenya.

Makgopa, S., & Mpetsheni, Z. (2022). Exploring the Impact of Load-shedding on SMME's in Nelson Mandela Bay Municipality. *Academy of Entrepreneurship Journal*, *28*(03), 1-10.

Makhdoom, T. R., Nawaz, M., & Narejo, N. B. (2017). Effects Of Load shedding On Retail Business: A Glimpse From Hyderabad, Pakistan. *Grassroots*, *51*(1), 1-11.

Makhdoom, T. R., Nawaz, M., & Narejo, N. B. (2017). Effects of Load shedding On Retail Business: A Glimpse from Hyderabad, Pakistan. *Grassroots*, *51*(1), 166-199.

Manni, F., & Faccia, A. (2020). The business going concern: financial return and social expectations. In *Sustainable Development and Social Responsibility—Volume 1: Proceedings of the 2nd American University in the Emirates International Research Conference, AUEIRC'18–Dubai, UAE 2018* (pp. 201-213). Springer International Publishing.

Martin, P. D., & Daniels, F. M. (2014). Application of Lazarus's Cognitive Transactional Model of stress-appraisal-coping in an undergraduate mental health nursing programme in the Western Cape, South Africa: theory development. *African Journal for Physical Health Education, Recreation and Dance*, *20*(sup-1), 513-522.

Masule, D. (2022). *Situational analysis of the effects of load shedding on dairy milk production industry in Zambia: a case of Finta farms, 2013–2016* (Doctoral dissertation, The University of Zambia).

Mthanti, T. M., & Ojah, K. (2018). Determinants of Entrepreneurship in South Africa. International Journal of Entrepreneurial Behavior & Research, 24(1), 44-65.

Mazikana, A. T. (2019). The Effect of Automating Customs Systems on Performance of Zimbabwe Revenue Authority (ZIMRA). *Research Journal of Finance and Accounting*, *8*(18), 22-34.

Mbolonzi, W. K. (2016). *Operations management practices and performance of schneider electric Kenya* (Doctoral dissertation, University of Nairobi).

Mbomvu, L., Hlongwane, I. T., Nxazonke, N. P., Qayi, Z., & Bruwer, J. P. (2021). Load shedding and its influence on South African small, medium and micro enterprise profitability, liquidity, efficiency and solvency. *Business Re-Solution Working Paper BRS/2021/001. Available online: https://papers. ssrn. Com/sol3/papers. Cfm*.

Mchopa, A., Moshi, J. & Kazungu, I. (2014). Power Rationing Dilemma: A blow to Small and Medium Enterprises (SMEs) Performance in Moshi Municipality, Tanzania. *International Journal of Economics, Commerce and Management*, *2*(7), 1-14.

McMillan, J. H. (2012). *Educational research: Fundamentals for the consumer*. Harper Collins College Publishers.

Mensah, J. T. (2016). *Bring back our light: Power outages and industrial performance in sub-saharan africa* (No. 333-2016-14636).

Mkala, M. D., Wanjau, K. L., & Kyalo, T. N. (2018). Operations management and performance of manufacturing small and medium enterprises in Kenya. *International Journal of Research in Business and Social Science (2147-4478)*, *7*(2), 1-13.

Mohammed, E. (2012). *The Impact of Load Shedding on Small and Medium Enterprises in the City of Johannesburg*. (Unpublished Master's thesis, University of Johannesburg).

Mohammed, E. (2017). *The Impact of Load Shedding on Small and Medium Enterprises in the City of Johannesburg*. (Unpublished mini thesis, University of Johannesburg).

Moyo, B. (2012). Do power cuts affect productivity? A case study of Nigerian manufacturing firms. *International Business & Economics Research Journal (IBER)*, *11*(10), 1163-1174.

Moyo, B. (2012). Do Power Cuts Affect Productivity? A Case Study of Nigerian Manufacturing Firms. *International Business & Economics Research Journal*, *11*(10), 1163-1173.

Mukherjee, S., Nateghi, R., & Hastak, M. (2018). A multi-hazard approach to assess severe weather-induced major power outage risks in the us. *Reliability Engineering & System Safety*, *175*, 283-305.

Munasinghe, M. (1979). *The Economics of Power System Reliability and Planning Theory and Case Study*. The Johns Hopkins University Press: Baltimore.

Muthuswamy, S. (2022). Role of Microfinance Institutions on the Financial Performance of Small and Medium Enterprises in Lusaka, Zambia: A Case of Kalingalinga Compound, Zambia. *Bulletin of Social Sciences (ISSN: 2348-7992)*, *7*(1), 22-28.

Mutambo, N., Mwange, A., Manda, R., Chiseyeng'i, J., Mashiri, G., & Bwalya, J. (2022). Principles and Practices of Strategy for Effective and Efficient Performance of Business Organisations

Mwange, A. (2017). Exploring Levels of Financial Literacy Among University of Zambia Final Year Students. *EPH-International Journal of Business & Management Science*, *3*(1), 39-28.

Mwange, A. (2022). An empirical investigation of the impact of monetary policy on economic growth in Zambia.

Mwange, A., Kasongola, P., & Meyiwa, A. (2022). An Assessment of the Effect of Mobile Money Services on the Profitability of the Banking Sector in Zambia. *Economics and Business Quarterly Reviews*, *5*(3).

Mwewa, K. (2018). A Study To Find Out The Factors Affecting The Economic Growth Of SMEs In Retail Sector (Case Study Of Mbala District). *The International Journal of Multi-Disciplinary Research, 1*(1), 1-40.

Mwika, D., Banda, A., Chembe, C., & Kunda, D. (2018). The impact of globalization on SMEs in emerging economies: A case study of Zambia. *International Journal of Business and Social Science*, *9*(3), 59-68.

Neelsen, S., & Peters, J. (2013). Productive use of energy (PRODUSE): micro-enterprise electricity usage in two export-oriented fishing communities at Lake Victoria, Uganda. *Uganda. 'GIZ, Eschborn*.

Nepal, R., & Paija, N. (2020). Energy security, electricity, population and economic growth: the case of a developing South Asian resource-rich economy. *TIDEE: TERI Information Digest on Energy and Environment*, *19*(1), 63-64.

Ngenda, L. (2020). *The Impact Of Load Shedding On Manufacturing Industries In Lusaka, Zambia* (Doctoral Dissertation, University of Zambia).

Ngoma, R, Tambatamba, A, Oyoo, B, Mulongoti, D, Kumwenda, B & Louie, H, 2018. How households adapted their energy use during the Zambian energy crisis. Energy for Sustainable Development 44, 125–38.

Ngowi, J. M., Bångens, L., & Ahlgren, E. O. (2019). Benefits and challenges to productive use of off-grid rural electrification: The case of mini-hydropower in Bulongwa-Tanzania. *Energy for Sustainable Development*, *53*, 97-103.

Njiraini, W. (2021). *Effects of electric power outage dynamics on the performance of manufacturing firms in Kenya* (Doctoral dissertation, University of Nairobi).

Nsupila M, Chimfwembe L. (2015) Electricity Sector Reforms: A Case for Restructuring ZESCO. ZAM Report,

Nurudeen, Y. Z., Nafiu, A. T., & Jibo, A. I. (2018). An investigation of electricity power fluctuation and the performance of small and medium enterprises in Dekina, Kogi State. *Journal of Energy Research and Review, 1*(3), 1 -10.

Nyamwanza, T., Mavhiki, S., Mapetere, D., & Nyamwanza, L. (2018). An analysis of SMEs' attitudes and practices toward tax compliance in Zimbabwe. *Sage Open*, *4*(3), 215-234.

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 No. 74196.

Nyoni, T., & Bonga, W. G. (2018). Anatomy of the small & medium enterprises (SMEs) critical success factors (CSFs) in Zimbabwe: Introducing the 3E model. *Dynamic Research Journals' Journal of Business & Management (DRJ-JBM)*, *1*(2), 01-18.

OECD (2008). *Review of Innovation Policies in China*. OECD Publishing, Paris.

OECD (2020). *Financing SMEs and Entrepreneurs 2020: An OECD Scoreboard.* [Online]. Available at https://www.oecd.org/industry/smes/SMEs-Scoreboard-2020-Highlights-2020-FINAL.pdf (Accessed 29 August 2022).

Ogujiuba, K., Nico, R., Nasiru, M., Ogujiuba, C., & Estelle, B. (2020). SMEs and sustainable entrepreneurship in South Africa: impact analysis of contextual factors in the services sector. *EuroEconomica*, *39*(3), 1-10.

Olajuyin, O. F., & Mago, S. (2022). Effects Of Load-Shedding On The Performance Of Small, Medium And Micro Enterprises In Gqeberha, South Africa. *Management and Economics Research Journal*, *8*(4), 1-8.

Olatunji, O. D., & Umukoro, S. (2018). Electricity insecurity and the performance of small scale businesses in Akoko Area of Ondo State, Nigeria. *International Journal of Business and Social Science, 10*(7), 1-10.

Oliveira, G. A., Piovesan, G. T., Setti, D., Takechi, S., Tan, K. H., & Tortorella, G. L. (2022). Lean and Green Product Development in SMEs: A Comparative Study between Small-and Medium-Sized Brazilian and Japanese Enterprises. *Journal of Open Innovation: Technology, Market, and Complexity*, *8*(3), 123-133.

Oseni, M. O. (2012). Power Outages and the Costs of Unsupplied Electricity: Evidence from Backup Generation among Firms in Africa. *Proceedings of the USAEE 2012.* Austin: Internation Association of Energy Economics.

Owusu, D., Agyemang, P. O., & Agyeman, D. O. (2022). Electricity energy access and profitability of micro and small enterprises in Ghana. *Journal of Entrepreneurship and Innovation in Emerging Economies*, *8*(1), 46-59.

Pandya, V. M. (2012). Comparative analysis of development of SMEs in developed and developing countries. In *The 2012 International Conference on Business and Management* (Vol. 6, No. 7, pp. 1-20).

Perdana, A., Lee, H. H., Arisandi, D., & Koh, S. (2022). Accelerating data analytics adoption in small and mid-size enterprises: A Singapore context. *Technology in Society*, *69*, 101966.

Pfeffer, J. G. & Salancik, R. (1978). *The external control of organizations: A resource dependence perspective*. New York: Harper & Row.

Phiri, J (2017). Electricity Demand and Load shedding: Affect Zambian Businesses: A Case Study of Selected Solwezi Businesses. International Journal of Multidisciplinary Research and Development, Vol.4 No. 5

Phiri, J. (2018). *Electricity demand and load shedding: Impact on Zambian business: A case study of selected Solwezi based businesses*. LAP LAMBERT Academic Publishing.

Phiri, J. (2018). *Electricity demand and load shedding: Impact on Zambian business: A case study of selected Solwezi based businesses*. LAP LAMBERT Academic Publishing.

Pinkovetskaia, I., & Lebedev, A. (2019). Entrepreneurial capital and the volume of small enterprises production: Russian regions data. *Journal of Developmental Entrepreneurship*, *24*(02), 1950013.

Polit, D.F. & Hungler, B.P. (2020). *Essentials of nursing research*. Wolters Kluwer Health/Lippincott Williams & Wilkins.

Price, J. H., & Murnan, J. (2004). Research limitations and the necessity of reporting them. *American journal of health education*, *35*(2), 66-76.

Qiu, X., Holmen, E., Havenvid, M., De Boer, L., & Hermundsdottir, F. (2022). Open for business: Towards an interactive view on dynamic capabilities. *Industrial Marketing Management*, *107*, 148-160.

Raghu, C. N., & Manjunatha, A. (2017). Assessing effectiveness of research for load shedding in power system. *International Journal of Electrical and Computer Engineering*, *7*(6), 3235-3245.

Rahman, M., Nesa, M., & Ghose, D. (2018). The prospects and causes of failure of small and medium enterprises (SMEs): A case study of Bangladesh. *Journal of Green Business School*, *1*(1), 91-108.

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.

Reichl, J., Schmidthaler, M., & Schneider, F. (2013). The value of supply security: The costs of power outages to Austrian households, firms and the public sector. *Energy Economics*, *36*, 256-261.

Rice, A. L. (Ed.). (2013). *The enterprise and its environment: A system theory of management organization* (Vol. 10). Routledge.

Rodríguez-Espíndola, O., Cuevas-Romo, A., Chowdhury, S., Díaz-Acevedo, N., Albores, P., Despoudi, S., & Dey, P. (2022). The role of circular economy principles and sustainable-oriented innovation to enhance social, economic and environmental performance: Evidence from Mexican SMEs. *International Journal of Production Economics*, *248*, 108495-505.

Rosman, M., Sabil, S., Hassan, Z., & Kasa, M. (2020). Organizational factors and work-life balance among policewomen in Sarawak: Emotion Based coping strategy as mediator. *International Journal of Academic Research in Business and Social Sciences*, *10*(1), 171-179.

Sabo, A., & Lekan, O. K. (2019). Does electricity access relate to stakeholders' satisfaction? Empirical Evidence from small and medium enterprises in North-West, Nigeria. *Asian Business Research Journal*, *4*, 35-43.

Salm, A., Dinsdale, P., MacDonald, D., Martelli, C., Hill, K., & Kabissa, J. (2012). *Tanzania Textiles and Garment Situational Analysis and Development Strategy.* World Bank Group.

Samboko, P., Chapoto, A., Kuteya, A., Kabwe, S., Mofya-Mukuka, R., Mweemba, B., & Munsaka, E. (2016). *The Impact of Power Rationing on Zambia's Agricultural Sector.* IAPRI Working Paper 105. Indaba Agricultural Policy Research Institute.

Samsudin, Z. B., & Ismail, M. D. (2019). The Concept of Theory of Dynamic Capabilities in Changing Environment. International Journal of Academic Research in Business and Social Sciences, 9(6), 1071–1078

Saunders, M., Lewis, P. & Thornhill, A. (201620). *Research methods for business students*. Pearson education.

Sawhney, R., Khan, F., & Eskandarpour, M. (2019). Impact of Power Outages on Supply Chain Performance: An Empirical Investigation. International Journal of Production Economics, 211, 1-17.

Schmenner, R. W., & Vastag, G. (2006). Revisiting the theory of production competence: extensions and cross-validations. *Journal of Operations Management*, *24*(6), 893-909.

Schober, P., Boer, C., & Schwarte, L. A. (2018). Correlation coefficients: appropriate use and interpretation. *Anesthesia & Analgesia*, *126*(5), 1763-1768.

Schoeman, T., & Saunders, M. (2018). The impact of power outages on small businesses in the City of Johannesburg. *Conference on Education, Business, Humanities and Social Sciences Studies, 18*(10), 328-333.

Schoenherr, T., & Narasimhan, R. (2012). The fit between capabilities, priorities, and its impact on performance improvement: revisiting and extending the theory of production competence. *International Journal of Production Research*, *50*(14), 3755-3775.

Scott, A., Darko, E., Lemma, A., & Rud, J. P. (2014). How does electricity insecurity affect businesses in low- and middle-income countries? *Shaping policy for development*, 1-80.

Sekaran, U. & Bougie, R. (2019). *Research methods for business: A skill building approach*. John Wiley & sons.

Shah, M., Khan, A., Ali, Z., Shah, A. A., & Ali, B. (2021). The Costs Of Load Shedding To Small Scale Industries (Firms) At District Swat, Buner & Lower Malakand. *Webology (ISSN: 1735-188X)*, *18*(6), 1-10.

Siankwilimba, E. (2019). Effects of Climate Change induced electricity load shedding on small holder agricultural enterprises in Zambia: The case of Five Southern Province Districts. *Journal of Agriculture and Research, 5*(8), 1-150.

Sichone, Y. M., Mulenga, P., Phiri, C., Kapena, S., & Fandamu, H. (2016). Electricity load shedding. An econometric analysis of the productivity of firms in the manufacturing sector in Lusaka. *International Journal of Commerce and Management Research*, *2*(12), 151-157.

Silverman, D. (2020). *Doing qualitative research: Theory, method, and practice*. Thousand Oaks, CA: Sage

Simwaya, A. A. (2017). *Income generating activities in Zambia: a case study of entrepreneurs and SMEs in Masala market, Ndola* (Master's thesis, NTNU).

small scale

Tapula, T. (2013). *China's involvement in resource extraction in Africa: the South African case.* China-Africa Relations 2013 Annual Report, Center for Chinese Studies.

Tashakkori, A. & Teddlie, C. (2019). *Mixed methods research*. Sage Publications.

Teece, D. J. (2016). Dynamic capabilities and entrepreneurial management in large organizations: Toward a theory of the (entrepreneurial) firm. *European Economic Review*, *86*, 202-216.

Teece, D. J. (2018). Dynamic capabilities as (workable) management systems theory. *Journal of Management & Organization*, *24*(3), 359-368.

Teece, D. J. (2018). Dynamic capabilities as (workable) management systems theory. *Journal of Management & Organization*, *24*(3), 359-368.

Teece, D., Peteraf, M., & Leih, S. (2016). Dynamic capabilities and organizational agility: Risk, uncertainty, and strategy in the innovation economy. *California management review*, *58*(4), 13-35.

Tembe, Z. N., & Hlengwa, D. C. (2022). Strategies Used by B&B's and Guesthouses to Mitigate the Impacts of Load Shedding in South Africa. *Strategies*, *11*(3), 1020-1037.

Tembe, Z. N., & Hlengwa, D. C. (2022). Strategies Used by B&B's and Guesthouses to Mitigate the Impacts of Load Shedding in South Africa. *Strategies*, *11*(3), 1020-1037.

Tembe, Z. N., & Hlengwa, D. C. (2022). Strategies Used by B&B's and Guesthouses to Mitigate the Impacts of Load Shedding in South Africa. *Strategies*, *11*(3), 1020-1037.

Tichapondwa, S. (2013). *Preparing your dissertation at a distance: A research guide*. Vancouver: Virtual University.

Timilsina, G. R., Sapkota, P., & Steinbuks, J. (2018). How much has Nepal lost in the last decade due to load shedding? an economic assessment using a CGE model. *An Economic Assessment Using a CGE Model (June 7, 2018). World Bank Policy Research Working Paper*, (8468).

Toke, L. K., & Kalpande, S. D. (2020). Total quality management in small and medium enterprises: An overview in Indian context. *Quality Management Journal*, *27*(3), 159-175.

Tollefson, G., Billinton, R., Wacker, G., Chan, E., & Aweya, J. (1994). Canadian customer survey to assess power system reliability worth. *IEEE Transactions on Power Systems, 9*(1), 443-450.

Tsuruta, D. (2020). SME policies as a barrier to growth of SMEs. *Small Business Economics*, *54*(4), 1067-1106.

Umar, B. B., & Kunda-Wamuwi, C. F. (2019). Socio-Economic effects of load shedding on poor urban households and small business enterprises in Lusaka, Zambia. *Energy and Environment Research*, *9*(2), 20-29.

United Nations Economic Commission for Africa (UNECA) (2022). *Financing small and medium scale industries in Africa*. Washington, DC: United Nations

Van Breda, A. D. (2018). A critical review of resilience theory and its relevance for social work. *Social Work*, *54*(1), 1-18.

Varpio, L., Paradis, E., Uijtdehaage, S., & Young, M. (2020). The distinctions between theory, theoretical framework, and conceptual framework. *Academic Medicine*, *95*(7), 989-994.

Vernet, A., Khayesi, J. N., George, V., George, G., & Bahaj, A. S. (2019). How does energy matter? Rural electrification, entrepreneurship, and community development in Kenya. *Energy Policy*, *126*, 88-98.

Volkwyn, B. J., & Kleynhans, E. P. (2014). The supply of electricity by Eskom: The impact of load shedding and higher prices on the South African economy. *Suid-Afrikaans Tydskrif vir Natuurwetenskap en Tegnologie/South African Journal of Science and Technology*, *33*(1), 11-21.

Von Bertalanffy, L. (2010). General systems theory. *The science of synthesis: exploring the social implications of general systems theory*. The University Press of Colorado.

Walsh, K., Theron, R., & Reeders, C. (2021). Estimating the economic cost of load shedding in South Africa. In *Paper submission to Biennial Conference of the Economic Society of South Africa (ESSA)* (Vol. 22).

Wang, L., Ur Rehman, A., Xu, Z., Amjad, F., & Ur Rehman, S. (2023). Green Corporate Governance, Green Finance, and Sustainable Performance Nexus in Chinese SMES: A Mediation Moderation Model. *Sustainability*, *15*(13), 9914-9924.

Wethal, U. (2023). Practices, provision and protest: Power outages in rural Norwegian households. In *Consumption, Sustainability and Everyday Life* (pp. 135-170). Cham: Springer International Publishing.

Wethington, E., & Cooper, C. L. (2000). *Theories of Organizational Stress. Administrative Science Quarterly, 45*(3), 640-645.

World Bank (2008) The Welfare Affects of Rural Electrification: A Reassessment of the Costs and Benefits, An IEG Impact Evaluation, World Bank.

World Bank (2010) Getting Electricity: a pilot indicator set from the Doing Business project, World Bank.

World Bank (2010) Review of Small Business Activities. World Bank, Washington, DC.

World Bank (2013) Business Environment in Zambia - World Bank Enterprise Survey of

World Bank (2014a) "World Development Indicators 2014" at: http://data.worldbank.org/data-catalog/

World Bank (2014b) "Doing Business Database" at: http://www.doingbusiness.org/

World Bank (2020) Policy Research Working Paper. Effectiveness of infrastructure investments

World Bank (2022). *Small and Medium Enterprises (SMEs) Finance*. [Online]. Available at https://www.oecd.org/industry/smes/SMEs-Scoreboard-2020-Highlights-2020-FINAL.pdf (Accessed 29 August 2022).

World Bank Group (2015), Economic Brief; Powering the Zambia Economy, Lusaka.

World Bank SME Survey (2021). *W-SME Survey Report: Access to Finance and Capacity Building of Women-led Small and Medium Enterprises in Zambia.* [Online]. Available at https://documents1.worldbank.org/curated/en/576591618321561334/pdf/Access-to-Finance-and-Capacity-Building-of-Women-led-Small-and-Medium-Enterprises-in-Zambia.pdf (Accessed 1 July 2023).

World Bank. (2013). Cairo Traffic Congestion Study: Final Report. Washington DC.

World Bank. (2018) Project Appraisal Document–Increased Access to Electricity Services Project. Washington, DC: World Bank. Retrieved June 2022 from http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2008/04/30/000020953_20080430101922/Rendered/PDF/413080PAD0GEFR20081000611.pdf

World Bank. (2018). National Accounts Data. Retrieved from https://data.worldbank.org/indicator/ny.gdp.mktp.cd?end=2014&start=2013

World Bank. (2019). Electricity Uptake for Economic Transformation in Sub-Saharan Africa

Yakama, B. M., Murtala, M. K. and Babagana, K. (2017). An Empirical Analysis of Household Energy Demand in the North East Region of Nigeria. *Research Journal of Economics and Business Studies. 6*(11, 10-16.

Zachariadis, T., & Poullikkas, A. (2012). The costs of power outages: A case study from Cyprus. *Energy Policy*, *51*, 630-641.

Zafar, A., & Mustafa, S. (2017). SMEs and its role in economic and socio-economic development of Pakistan. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, *6*(4), 1-10.

Zhang, Y., Yang, J., & Liu, M. (2022). Enterprises' energy-saving capability: Empirical study from a dynamic capability perspective. *Renewable and Sustainable Energy Reviews*, *162*, 112450-112460.