I J C R M
International Journal of Contemporary Research In Multidisciplinary

Research Article

An Evaluation of The Prepayment Metering System: A Case of Manase, Blantyre, Malawi

Ronard J Chikabadwa*[1], Dr. J. Merlin Sheela Magdaline [2]
[1] Master of Commerce Finance and Accounts, DMI-St. Eugene University, Zambia
[2] Senior Lecturer, DMI-St. Eugene University, Zambia

Corresponding Author: *Ronard J Chikabadwa

DOI: https://doi.org/10.5281/zenodo.17328615

Abstract

This study evaluates the implementation and impact of the prepayment metering system in Manase Township, Blantyre, Malawi. The research assesses the system's effectiveness in improving revenue collection for the Electricity Supply Corporation of Malawi (ESCOM) and enhancing customer satisfaction. Data were collected through surveys, interviews, and secondary sources, involving 180 residential customers and ESCOM officials. Findings indicate a significant reduction in outstanding debts and operational costs, alongside improved cash flow and customer budgeting capabilities. However, challenges such as meter malfunctions, limited vending access on weekends and holidays, and network issues were identified. The study concludes that the prepayment system is largely beneficial but requires infrastructural and operational improvements for optimal performance. Recommendations include investing in high-quality meters, expanding vending access, and enhancing stakeholder engagement.

Manuscript Information

- **ISSN No:** 2583-7397
- **Received:** 05-08-2025
- **Accepted:** 28-09-2025
- **Published:** 11-10-2025
- **IJCRM:**4(5); 2025: 310-311

- **Plagiarism Checked:** Yes
- **Peer Review Process:** Yes

How to Cite this Article

Chikabadwa RJ, Magdaline JMS. An evaluation of the prepayment metering system: A case of Manase, Blantyre, Malawi. Int J Contemp Res Multidiscip. 2025;4(5):310-311.

Access this Article Online

www.multiarticlesjournal.com

KEYWORDS: Prepayment metering, revenue collection, customer satisfaction, ESCOM, energy management.

1. INTRODUCTION

- **Background of the topic**: Prepayment metering systems have been adopted globally to address revenue loss and operational inefficiencies in utility services. In Malawi, ESCOM introduced the system in 2012/2013 to mitigate rising customer debts and improve financial sustainability.
- **Importance and purpose of the article**: This study examines the system's effectiveness, challenges, and socio-economic impacts in Manase Township, providing insights for future implementations.

- **Objectives of Research**
- Measure system effectiveness in revenue collection and loss reduction.
- Diagnose implementation barriers.
- Gauge user perspectives on satisfaction and fairness.
- Compare regional outcomes and analyze utility impacts.
- Recommend system enhancements.

- **Scope of the discussion**: The study focuses on Manase Township, covering technical, operational, and customer-centric aspects of the prepayment system.

2. LITERATURE REVIEW

- **Overview of previous studies or relevant research**: Prepayment metering has been widely studied in contexts like South Africa and Kenya, where it reduced non-technical losses and improved cash flow (Faruqui et al., 2010; Eskom, 2015). However, issues of energy poverty and accessibility persist (Graham & Apt, 2018).
- **Theoretical framework**: The study draws on systems theory (Chadwick, 1978) and transactional interface concepts (Austin, 2002), framing meters as tools for measurement, mediation, and communication between utilities and consumers.

3. MAIN CONTENT / DISCUSSION

- **Explanation of key concepts**: Prepayment metering involves upfront payment for electricity, using tokens or smart cards, with automatic disconnection upon credit exhaustion.

- **Analysis with supporting evidence**:
- ESCOM's revenue increased from MK 484 million to MK 650 million annually post-implementation.
- Operational costs decreased due to reduced meter reading and disconnection activities.
- **Case studies, examples, or data**: Survey data from Manase Township revealed that 89% of customers found bill payment easier, and 94% reported improved budgeting and consumption monitoring.

4. Findings / Observations

- **Key insights derived from the discussion**:
- The prepayment system reduced outstanding debts by over 60% within six months.
- Customer satisfaction was high due to financial control and transparency.
- System flaws included meter failures (18% of surveyed meters) and limited vending access on non-working days.
- **Any statistical analysis or results**: Chi-square tests (χ^2 = 122.66) and regression analysis (r = -0.985) confirmed a significant negative correlation between time and outstanding debt, validating system effectiveness.

5. CONCLUSION AND RECOMMENDATIONS

- **Summary of the main points**: The prepayment metering system has proven effective in enhancing revenue collection and customer empowerment in Manase Township. However, technical and operational challenges need to be addressed.
- **Suggestions for future research or actions**:
- Invest in high-quality, durable meters.
- Expand vending access via automated machines and mobile platforms.
- Enhance stakeholder communication and training.
- Conduct further research on socio-technical integration and meter durability before nationwide rollout.

REFERENCES

1. Austin BJ. Metering for utilities. American Lewa Inc., 2002.
2. Chadwick G. A system view of planning. Oxford University Press, 1978.
3. Faruqui A, et al. The impact of prepayment meters on energy consumption. Energy Policy. 2010.
4. Graham P, Apt J. Equity in energy access: Prepayment meters in developing nations. Energy Res Soc Sci. 2018.
5. Simpson R. Energy measurements: A customer perspective. Energy Measurements Ltd, 1996.

About the Corresponding Author

Ronard J. Chikabadwa is a postgraduate scholar pursuing a Master of Commerce in Finance and Accounts at DMI-St. Eugene University, Zambia. His research interests include financial management, energy systems, and prepayment metering. He aims to contribute to sustainable economic practices through academic research and practical applications.