



(RESEARCH ARTICLE)



Assessing the effect of Customer Relationship Management (CRM) on competitive advantage in the Mobile Network Organization (MNO) industry in Zambia (A qualitative cross case analysis of MTN, Airtel and Zamtel Zambia)

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Abstract

This study investigates the impact of Customer Relationship Management (CRM) on achieving competitive advantage within the Mobile Network Organization (MNO) industry in Zambia. Specifically, it explores CRM strategies employed by three major mobile network operators (MNOs) in Zambia: MTN, Airtel, and Zamtel. By employing a qualitative cross-case analysis, the research examines how CRM practices influence the firms' ability to differentiate themselves, build customer loyalty, and enhance their market position. The study aims to fill a gap in understanding the role of CRM in the Zambian telecommunications sector, a rapidly growing and highly competitive market. The research utilized semi-structured interviews with key stakeholders, including CRM managers, customer service representatives, and marketing experts, from each of the three mobile network companies. Thematic analysis was applied to the data collected, identifying patterns and themes that highlight the strategic importance of CRM in shaping competitive advantage. Through this analysis, the study found that CRM strategies significantly contribute to customer retention, satisfaction, and service personalization, which in turn, foster a competitive edge in the MNO industry. Additionally, the study identified several CRM-related challenges faced by these companies, such as the integration of new technologies, data management issues, and resource limitations. The findings revealed that while all three MNOs employ CRM as a tool for market differentiation, their strategies vary in terms of implementation and effectiveness. MTN, for instance, focuses on leveraging technology to personalize customer experiences, while Airtel emphasizes the importance of customer engagement and loyalty programs. Zamtel, on the other hand, has faced challenges in optimizing CRM systems due to resource constraints but continues to explore innovative ways to enhance customer relationships. Despite these differences, the overall consensus is that CRM plays a crucial role in fostering customer loyalty, enhancing customer satisfaction, and ultimately providing a sustainable competitive advantage in the Zambian MNO market.

The study concludes with recommendations for MNOs to invest in CRM technologies, develop more robust data analytics capabilities, and tailor their CRM strategies to meet the evolving needs of Zambian consumers. The research also suggests that further studies be conducted on the long-term effects of CRM implementation on MNO performance and market share in Zambia.

Keywords: Customer Relationship Management (CRM); Competitive Advantage; Mobile Network Organizations (MNOs); Zambia; Cross-Case Analysis

1. Introduction

This study assessed the impact of Customer Relationship Management (CRM) on competitive advantage within Zambia's Mobile Network Organization (MNO) industry, specifically focusing on MTN Zambia, Airtel Zambia, and Zamtel. In the competitive telecommunications sector, effective CRM strategies are vital for boosting customer loyalty, service

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delivery, and business growth. The research explores how CRM initiatives of these MNOs contribute to competitive advantage by examining customer retention, satisfaction, and brand loyalty. It includes a qualitative cross-case analysis of CRM practices and their connection to customer loyalty, as well as broader factors like infrastructure investment, customer engagement, and corporate social responsibility. The study aims to offer valuable insights into how CRM can strategically enhance market positioning and customer relationships. It provides recommendations for MNOs seeking to improve their CRM strategies, contributing to Zambia's telecommunications development and digital inclusion (Kotler et al., 2015; Payne and Frow, 2005).

1.1. Statement of the problem

In a competitive and unstable market, fostering long-lasting relationships with customers is essential for maintaining profitability (Reichheld and Sasser, 1990). Mobile Network Operators (MNOs), such as Airtel, face significant challenges in retaining a loyal customer base amidst intense competition. Airtel, for example, has experienced a decline in market share, from 48% in 2015 to 44% in 2018, due to poor customer service and weak relationship marketing efforts (ZICTA, 2017). This loss of market leadership underscores the importance of customer retention, as acquiring new clients is significantly more costly than retaining existing ones (Reichheld, 1990).

The MNO industry in Zambia is marked by fierce competition, which drives innovation but also complicates CRM strategies. Differentiating in a crowded market is challenging, leading to increased customer churn as consumers switch between providers based on price or promotions. Additionally, the introduction of new technologies, such as mobile banking, demands that MNOs adapt their CRM strategies to integrate multiple touch points and deliver a cohesive customer experience. The study highlights the need for CRM to incorporate customer insights into product development, assess product performance, and address industry challenges like OTT services, reduced data prices, and economic conditions. This emphasizes the need for effective CRM to achieve strategic differentiation and customer retention (Reichheld, 1990).

Research objectives

The main objective

This study's major goal was to examine how improving customer relationships improves service quality at the three MNOs in Zambia.

The specific goals

The following were the precise research goals

- To investigate and analyse the customer relationship management (CRM) strategies employed by MTN Zambia to enhance client retention.
- To assess the effectiveness of CRM practices in delivering high-quality services across MTN Zambia, Airtel Zambia, and Zamtel, the three major mobile network operators (MNOs) in Zambia.
- To evaluate the challenges encountered by MNOs in Zambia during the implementation of their CRM strategies, focusing on factors hindering successful execution and customer satisfaction.
- To explore and outline additional measures and initiatives planned by MNOs in Zambia to strengthen their CRM strategies, aiming to improve customer engagement, loyalty, and overall satisfaction levels.

1.2. Research Questions

- What CRM strategies does MTN Zambia employ to enhance client retention, and how effective are these strategies in retaining customers?
- How effective are the CRM practices of MTN Zambia, Airtel Zambia, and Zamtel in delivering high-quality services, and what are the differences in performance among these major MNOs in Zambia?
- What challenges do MNOs in Zambia face during the implementation of their CRM strategies, and how do these challenges impact successful execution and customer satisfaction?
- What additional measures and initiatives are planned by MNOs in Zambia to strengthen their CRM strategies, and how do they intend to improve customer engagement, loyalty, and overall satisfaction levels?

1.3. Significance of the study

This study provides valuable insights for Mobile Network Operators (MNOs) in Zambia, particularly Airtel, by exploring the impact of Customer Relationship Management (CRM) on customer loyalty. The findings offer actionable strategies

for improving customer connections and retention in a competitive market. Additionally, the research benefits other MNOs in Zambia, contributing to a broader understanding of CRM in African telecommunications and filling a gap in the existing literature. Ultimately, it aids future research and enhances customer-centric strategies in emerging markets (Peppard and Ward, 2021; Korczak, 2021).

2. Literature review

Customer Relationship Marketing (CRM) is a strategy aimed at building long-term relationships with customers by understanding their needs, preferences, and behaviors to deliver personalized experiences. Its goal is to foster loyalty, satisfaction, and maximize long-term value (Kotler and Keller, 2018). CRM strategies include customer segmentation, targeted communication, and tailored offerings based on customer data (Lemon and Verhoef, 2016). Studies show that CRM enhances satisfaction, loyalty, and business performance (Khan et al., 2021; Ha, 2020). Successful CRM requires a customer-focused culture, effective data management, and integration across touch points, providing companies with a competitive advantage (Lemon and Verhoef, 2016).

2.1. Key benefits of CRM

Customer Relationship Management (CRM) offers significant benefits for organizations by enhancing customer satisfaction, retention, and profitability. CRM helps companies build long-term relationships by understanding customer needs and preferences, allowing for tailored products and services that increase satisfaction and loyalty (Chen and Popovich, 2017; Ahmad et al., 2019). Retaining existing customers is more cost-effective than acquiring new ones, making CRM a valuable strategy for reducing customer acquisition costs (Reichheld, 1996). Additionally, CRM improves organizational efficiency by integrating functions like marketing, sales, and customer service, leading to better coordination and service delivery (Levine, 2000; Paraiyar and Sheth, 2022). In telecommunications, CRM systems gather customer feedback to enhance service quality (Etim et al., 2020). CRM also boosts profitability by targeting high-value customers and offering personalized incentives, which improve retention and competitive advantage (Davenport et al., 2021; Korczak, 2021). Ultimately, CRM is essential for fostering loyalty, streamlining operations, and improving financial outcomes (Kotler and Keller, 2018).

2.1.1. CRM strategies adopted by MNOS

Mobile Network Operators (MNOs) employ various Customer Relationship Management (CRM) strategies to boost client retention. Personalization, using customer data for tailored services, reduces churn by aligning offerings with customer needs, improving satisfaction and loyalty (Karbaches et al., 2021). Loyalty programs, like Vodafone's 'Vodafone Plus,' foster emotional connections and improve retention (Ernst and Young, 2020). Omnichannel engagement across multiple platforms enhances customer experience and retention by offering flexible interaction options (Choudhury et al., 2019). Data-driven decision-making allows MNOs to analyze customer behavior, refine CRM strategies, and anticipate needs, leading to improved service and increased lifetime value (Tadi and Ahmad, 2021). Additionally, AI-driven CRM systems personalize experiences, manage large datasets, and enhance retention and performance (Liba et al., 2020; Bag et al., 2021).

2.2. Empirical Review of Customer Relationship Management (CRM) and Its Impact on Customer Loyalty

The importance of Customer Relationship Management (CRM) in various industries has been explored extensively in the literature, particularly its role in customer retention and loyalty. Numerous studies have examined the factors that influence CRM strategies, emphasizing their impact on customer satisfaction, loyalty, and business success. This empirical review synthesizes key global research on CRM, highlighting insights from various sectors, including telecommunications, banking, and retail, to understand how CRM practices contribute to organizational success and customer loyalty.

2.2.1. Customer Retention and Satisfaction as Key Drivers

Marikana (2018) highlights the importance of customer retention over acquisition, using metrics like satisfaction, future purchase intentions, positive word-of-mouth, and brand loyalty. He concludes that satisfied customers are more likely to promote a company and make repeat purchases, making retention more cost-effective than constant client acquisition. Similarly, Yadav and Sreenivasan (2021) emphasize that satisfied customers are likely to stay loyal, recommend the business, and contribute to positive word-of-mouth, ensuring long-term success. Al-Queen et al. (2017) explore CRM's impact in Jordan's banking sector, finding that CRM strategies are crucial for enhancing customer satisfaction, loyalty, and service quality, positioning CRM as a key tool for retention in competitive industries.

2.2.2. Customer satisfaction and customer retention

In the banking sector, CRM systems are a key competitive tool for fostering customer loyalty and retention. Ramlan (2018) emphasizes CRM's role in delivering personalized experiences, ensuring customer satisfaction and long-term loyalty. Uppal and Mishra (2017) highlight the importance of service quality—reliability, accuracy, confidentiality, and transparency—in building customer trust and strengthening CRM strategies. Sivarams and Krarist (2017) focus on the positive impact of e-CRM systems, noting their role in enhancing customer service attributes and relationship quality, which in turn boosts customer loyalty. In the retail sector, Sulaiman et al. (2014) demonstrate that effective CRM strategies, particularly those focused on operational excellence, are crucial for enhancing customer satisfaction, loyalty, and profitability. These studies underscore the growing importance of CRM systems in various industries for building strong customer relationships and ensuring business success.

2.2.3. CRM and Electronic Systems in Enhancing Customer Loyalty

The role of electronic CRM (e-CRM) systems in boosting customer loyalty has been highlighted by various studies. Mangaung et al. (2017) explore how both pre-service and in-service factors influence customer loyalty, particularly focusing on the growing significance of e-CRM systems. Their findings suggest that e-CRM systems have a positive impact on customer loyalty, especially as digital tools become central to managing customer relationships in today's technological landscape. In a related study, Dubey and Stricstia (2016) argue that CRM not only helps in retaining customers but also plays a vital role in increasing customer trust. Their research suggests that CRM practices, when effectively implemented, can strengthen the trust customers place in a company, contributing to long-term loyalty and satisfaction. The quality of services provided, according to the study, is critical in ensuring the success of CRM systems, as it directly influences customer perceptions and willingness to remain loyal to the company.

2.2.4. The Role of Corporate Culture in CRM Success

Wijaya (2023) explores the impact of corporate culture on CRM implementation, emphasizing that a company's internal culture significantly affects the effectiveness of CRM strategies. He argues that organizations with a positive customer-oriented culture are more likely to implement successful CRM practices. Such organizations prioritize customer satisfaction, foster collaboration, and maintain open communication, all of which are essential to the success of CRM. Furthermore, Wijaya highlights the importance of data-driven decision-making and continuous service improvement, both of which are vital in optimizing CRM outcomes.

2.2.5. CRM and Its Impact on Banking and Retail Sectors

In the banking sector, CRM systems are a key competitive tool for fostering customer loyalty and retention. Ramlan (2018) emphasizes CRM's role in delivering personalized experiences, ensuring customer satisfaction and long-term loyalty. Uppal and Mishra (2017) highlight the importance of service quality—reliability, accuracy, confidentiality, and transparency—in building customer trust and strengthening CRM strategies. Sivarams and Krarist (2017) focus on the positive impact of e-CRM systems, noting their role in enhancing customer service attributes and relationship quality, which in turn boosts customer loyalty. In the retail sector, Sulaiman et al. (2014) demonstrate that effective CRM strategies, particularly those focused on operational excellence, are crucial for enhancing customer satisfaction, loyalty, and profitability. These studies underscore the growing importance of CRM systems in various industries for building strong customer relationships and ensuring business success.

2.2.6. Challenges of implementing CRM among MNOs

Mobile Network Operators (MNOs) face various challenges when implementing Customer Relationship Management (CRM) strategies, which impact their ability to enhance customer engagement and retention. A significant challenge is the high cost of CRM systems, which is particularly burdensome for smaller MNOs that struggle to afford such systems, limiting their CRM capabilities (Lee et al., 2018). Additionally, the rapid pace of technological advancements means MNOs must continually upgrade their systems to stay competitive, making it difficult to maintain effective CRM practices. Data management and privacy also pose challenges, as MNOs are tasked with managing large volumes of sensitive customer data while complying with regulations like GDPR and CCPA (McKinsey and Company, 2020). Inadequate data protection can erode customer trust and negatively impact retention rates.

Another challenge is the rise of Over-the-Top (OTT) services, such as WhatsApp and Skype, which bypass traditional mobile networks, reducing demand for mobile voice and text services. This shift has led to a decline in revenue for many MNOs, forcing them to innovate by offering bundled services or digital products to retain customer loyalty (Zhang et al., 2021).

To address these challenges, MNOs are increasingly investing in advanced technologies, such as artificial intelligence (AI), machine learning, and data analytics, to improve CRM practices. These technologies enable automation in customer support and allow for service personalization, enhancing customer satisfaction and retention (Nguyen and Simkin, 2021). MNOs are also expanding loyalty programs, such as Vodafone’s “Verme,” and leveraging data analytics for targeted service offerings (Sharma and Singh, 2019).

Research highlights the importance of service quality and perceived value in driving customer satisfaction and loyalty. For example, NerdWallet et al. (2019) found that service quality was a significant factor in customer satisfaction in Malaysia. In Zambia, poor service quality contributed to Airtel's decline in market share, emphasizing the need for better CRM strategies (ZICTA, 2017). In Kenya, Safaricom has effectively used CRM practices like loyalty programs to boost customer retention (Gitonga, 2016), whereas Airtel Kenya faces challenges in fully implementing customer recognition (Onyango, 2017).

Globally, CRM strategies focus on trust, communication, and service quality. In Nigeria, Onu and Akinlabi (2020) highlight the importance of service quality and relationship commitment for customer loyalty in telecom sectors. Similarly, Makutu (2022) found that despite outdated CRM systems, the Zambia National Broadcasting Corporation achieved positive customer satisfaction through effective CRM practices. The studies across different regions show that while MNOs face common CRM challenges, effective service delivery, customer engagement, and technological innovation are critical for enhancing loyalty and sustaining business performance in competitive telecom markets.

2.3. CRM Strategies and Their Impact on Competitive Advantage

Table 1 CRM Strategies and Their Impact on Competitive Advantage

CRM element	Description	Impact on Competitive Advantage	Key References
CRM Systems	Help organizations manage activities throughout the customer lifecycle and cultivate relationships with profitable customers. Analyzing internal and external data to refine CRM strategies.	Enhances ability to attract, acquire, retain, and expand customer base. Ultimately improves market position.	Greve and Albers (2006), Bablah et al. (2004), Park and Kim (2003)
Customer Attraction	Focus on attracting potential customers through targeted marketing and engagement strategies.	Lays the foundation for acquiring customers.	-
Customer Acquisition	Converting potential customers into actual buyers through strong relationships and compelling incentives (discounts, loyalty rewards).	Establishes a solid customer base for long-term success.	-
Customer Retention	Maintaining long-term relationships with customers by providing exceptional service, addressing feedback, and meeting customer needs.	Ensures customer loyalty and reduces the risk of switching to competitors.	Wa’el Hadi (2015), Sin et al. (2005)
Customer Expansion	Expanding relationships with existing customers by offering additional products/services, upselling, or cross-selling to increase customer value.	Increases profitability and strengthens long-term customer loyalty.	-
Customer Commitment	Result of met expectations and perceived value in the relationship; loyal customers are more profitable.	Loyal customers drive profitability over time.	Park and Kim (2003)

Customer Lifetime Value (CLV)	Refers to the total profit expected from a customer over the duration of the relationship. CRM systems track and predict CLV.	Focuses resources on high-value customers, maximizing ROI.	Kumar and Shah (2004)
Personalized Experiences	CRM systems create personalized experiences, leading to loyalty and competitive advantage.	Drives customer loyalty and differentiation in the market.	Sin et al. (2005), Payne and Frow (2005)
Integration of CRM Strategy	Align CRM with business goals to directly contribute to competitive advantage through processes, technology, and organizational culture.	CRM becomes an integral part of business strategy, strengthening the overall competitive position.	Payne and Frow (2005)
Customer Satisfaction	Key to customer retention, influencing loyalty. Satisfied customers are less likely to switch to competitors.	High satisfaction leads to higher retention and strengthens market position.	Ghavami and Loyal (2006), Fornell (1992), Díaz (2017)
Customer Service Quality	Influences customer behavior, decision-making, and perceptions. Firms that meet or exceed expectations have a competitive advantage.	Consistently high service quality leads to customer loyalty, repeat business, and market differentiation.	Johnson and Sirikit (2002), Cronin and Taylor (1992), Berry et al. (1994)
SERVQUAL Model	Measures the gap between customer expectations and perceptions of service. Optimizing service across five dimensions: reliability, responsiveness, assurance, empathy, and tangibility.	Helps identify areas for improvement, ensuring service quality aligns with customer expectations, which enhances loyalty.	Berry et al. (1994)
Sustained Competitive Advantage	Achieved by consistently delivering high service quality, which makes it difficult for competitors to replicate.	Creates a unique position in the market, building long-term competitive advantage.	Porter (1996), Rijamampianina et al. (2003)

2.4. Literature Gap

The literature on Customer Relationship Management (CRM) provides valuable insights into its potential to enhance organizational performance and competitive advantage. However, there remain significant gaps in understanding how CRM contributes to gaining a competitive edge within Zambia's Mobile Network Organization (MNO) sector. While CRM's role in improving customer satisfaction and loyalty has been studied extensively in various countries, the unique dynamics of the Zambian market have not been adequately explored, particularly in the context of the telecommunications industry.

2.4.1. CRM and Competitive Advantage in Zambia's MNO Sector

Research globally has indicated that CRM systems can significantly improve customer satisfaction and operational efficiency, with CRM tools being shown to enhance customer relationships, particularly in larger telecom firms (Bablah et al., 2012). However, much of the existing literature emphasizes the relationship between CRM, customer satisfaction, and loyalty, with limited attention given to how these factors contribute directly to competitive advantage (Husain et al., 2013; Jadhav, 2018). In Zambia, few studies have explored how CRM impacts customer loyalty and satisfaction, and whether these factors translate into a competitive advantage for key players in the telecom industry, such as MTN, Airtel, and Zamtel.

2.4.2. The Role of ICT and CRM Technologies in Zambia's MNO Sector

Several studies have examined the role of Information and Communication Technologies (ICT) and CRM technologies in influencing organizational intellectual capital and customer relational capital, particularly in contexts such as Malaysia and Kenya. However, research on how these technologies are utilized within Zambia's MNO sector remains

scarce. Husain et al. (2013) found that while ICT can improve efficiency, it can also lead to customer dissatisfaction if the focus is solely on cost reduction, a challenge that could be especially relevant to Zambia, where network reliability and service quality are crucial to customer loyalty. There is a notable gap in understanding how Zambian telecom companies balance efficiency with customer experience to gain a competitive advantage.

2.4.3. CRM Practices and Organizational Performance in Zambia

The relationship between CRM practices and organizational performance has been studied in other African countries, such as Ghana and Nigeria, where studies have shown a positive correlation between CRM implementation and improved business performance (Mensah et al., 2019; Onu and Akinlabi, 2020). However, research on CRM's direct impact on competitive advantage in Zambia's telecom sector is limited. The Zambian market presents unique challenges, such as limited infrastructure and lower levels of technological adoption, which may impact the effectiveness of CRM strategies. Further studies are needed to explore how CRM practices can improve organizational performance and help telecom firms in Zambia gain a competitive edge.

2.4.4. CRM and Smaller Telecom Companies in Zambia

Much of the existing research on CRM focuses on large, well-established telecom firms. There is insufficient research examining how smaller players, such as Zamtel, can leverage CRM strategies to compete effectively against larger firms like MTN and Airtel. The limited research on this topic in Zambia presents an opportunity to explore how CRM can be optimized for different company sizes, especially in a developing market where smaller players often face significant resource constraints. Understanding how CRM strategies can provide a competitive advantage for smaller companies in Zambia's MNO sector could address an important gap in the literature.

2.4.5. CRM Adoption Challenges in Zambia

Makutu (2022) highlighted the gap in CRM adoption at ZNBC, where outdated systems contributed to inefficiencies. This issue is not limited to public institutions; many organizations in Zambia, particularly smaller telecom firms, face challenges in adopting advanced CRM systems. The slow adoption of new technologies in Zambia presents a significant barrier to improving service delivery and achieving competitive advantage. There is a need for more research into the challenges faced by telecom companies in adopting CRM technologies and how these challenges can be overcome to enhance their competitive position in the market.

2.4.6. The Need for Context-Specific CRM Strategies in Zambia

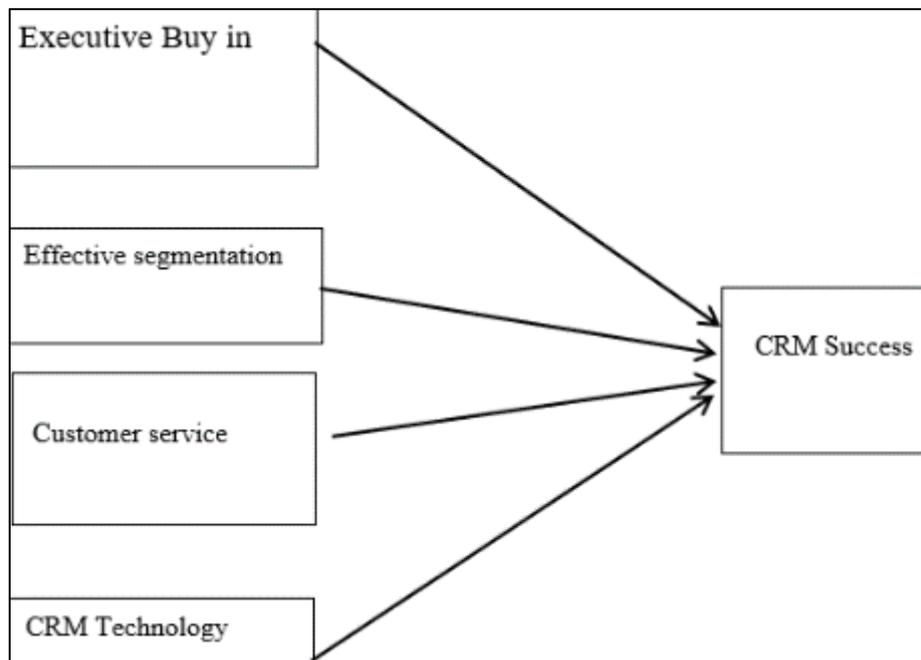
While CRM frameworks and strategies have been widely studied globally, the specific needs and characteristics of the Zambian telecom market have not been sufficiently addressed. CRM strategies that work in well-established markets may not be fully applicable in Zambia, where market conditions, customer expectations, and infrastructure challenges differ. Studies from other regions, such as Sin et al. (2005), Kumar and Shah (2004), and Payne and Frow (2005), provide valuable insights into CRM's role in customer relationship management and competitive advantage, but there is a clear need for research that tailors these strategies to Zambia's unique context.

2.5. Theoretical Framework

This study explores key theories explaining the role of Customer Relationship Management (CRM) in gaining competitive advantage within Zambia's mobile network industry. Competitive Advantage Theory (Porter, 1998; Abdel-Wahab, 2012) emphasizes that organizations gain superior performance through unique capabilities, such as cost leadership, differentiation, or focus strategies. In the telecom industry, companies like MTN, Airtel, and Zamtel leverage these strategies through customer satisfaction, service quality, and technological innovation (Papu ova, 2006; Al-Dulari, 2015). The Service Quality Theory (Berry et al., 1988) defines service quality through five dimensions: tangibility, reliability, responsiveness, empathy, and assurance, which are crucial for building customer loyalty and competitive advantage in the telecom sector (Al-Rashed, 2018). The Service Profit Chain (Reichheld and Sara, 1990) links service quality to customer loyalty, which drives profitability (Rogers and Gupta, 2019). Similarly, Customer Lifetime Value (CLV) focuses on the long-term value of loyal customers and the role of CRM systems in increasing retention and maximizing value (Kotler and Keller, 2012; Al-Rashed, 2018). Marketing Orientation stresses the importance of using customer data to create personalized services, vital for maintaining a competitive edge (Jobber, 2012). The Resource-Based View (RBV) (Barney, 1991) highlights internal resources like CRM systems and customer data as key to sustainable competitive advantage (Etim et al., 2020). Lastly, the Technological Adaptation Model (Grant, 2018) emphasizes the need for adopting advanced CRM technologies, such as AI tools, to improve service delivery and differentiate in the market.

2.6. The conceptual model

The conceptual framework is based on the theoretical concepts gathered from the literature reviewed and related to the theories used in the research which summarized the factors that will lead to greater success in CRM



Source: Author (2025)

Figure 1 Conceptual framework

CRM success refers to the effectiveness of a company's Customer Relationship Management strategies in enhancing customer loyalty, satisfaction, and retention (Buttle, 2009; Payne and Frow, 2005). Several independent variables influence CRM success

- **Executive Buy-In:** The support of senior management ensures sufficient resources and alignment with organizational goals, driving CRM initiatives (Krasnik et al., 2009; Chamita, 2006).
- **CRM Technology:** Technology tools and platforms are essential for managing customer data, providing insights, and enhancing customer interactions (Stefanou et al., 2018; Chen and Popovich, 2019).
- **Customer Service:** High-quality customer service is vital for building long-term relationships by addressing customer needs and creating positive experiences (Klaus, 2018; Zeithaml et al., 2016).
- **Effective Segmentation:** Segmenting customers based on characteristics allows for personalized and targeted CRM strategies, improving engagement and satisfaction (Wedel and Kamakura, 2018; Boulding et al., 2015).

These factors collectively contribute to the successful implementation of CRM systems.

3. Research methodology

The research design was a mixed-methods approach, combining both qualitative and quantitative techniques. This design was chosen to enable a comprehensive exploration of the research problem, allowing the researcher to gather both numerical data and rich, descriptive insights. The study population consisted of 240 managerial and supervisory staff from three major telecommunications companies: Airtel, Zamtel, and MTN, located in Zambia. The total target population was 65 managerial and supervisory staff at Airtel, 105 at Zamtel, and 70 at MTN.

A sample size of 90 was selected, representing approximately 37.5% of the total population. The researcher applied quota sampling, which ensured that the sample reflected the proportions of each company's staff within the total population. Specifically, the researcher calculated the proportional distribution of the sample size based on the target population, allocating 24 staff members from Airtel, 39 from Zamtel, and 27 from MTN. The data collection instrument used was an interviewer guide designed to capture qualitative data. This instrument was pre-tested for reliability and validity to ensure it would generate meaningful and accurate results. The data collection protocol adhered to ethical

standards, ensuring informed consent and confidentiality. The researcher personally administered the interviewer guide to ensure consistency and that all participants fully understood the study's purpose and their rights

This study was both content analysis and thematic analysis. Sekaran and Bougie (2016) describe content and thematic analysis as key techniques for analyzing qualitative data. Content analysis categorizes and quantifies textual data, revealing patterns and recurring themes, allowing for a structured approach to organizing responses. Thematic analysis, on the other hand, explores deeper meanings and broader themes, focusing on the context and subtleties in participants' narratives. By coding and organizing data into themes, thematic analysis uncovers underlying insights related to the study objectives. The combination of these two methods provides a comprehensive understanding, with content analysis quantifying patterns and thematic analysis offering nuanced interpretations, capturing both the prevalence of ideas and the richness of qualitative data (Sekaran and Bougie, 2016).

Having been approved by UNZABREC Finally, the study was conducted with a commitment to integrity, characterized by transparency, honesty, and an avoidance of biases or conflicts of interest. This approach ensured that findings accurately reflected the data, contributing to a reliable understanding of CRM's role in enhancing competitive advantage. Together, these ethical principles upheld the study's credibility and safeguarded participant and organizational rights throughout the research process.

4. Results and discussion

In Zambia's telecommunications sector, Customer Relationship Management (CRM) plays a crucial role in enhancing customer loyalty, service reliability, and competitive advantage. Companies like MTN Zambia, Airtel Zambia, and Zamtel Zambia use CRM systems to personalize services, engage customers, and maintain consistent service delivery.

MTN Zambia employs Salesforce and mobile apps to track customer interactions and satisfaction, enabling personalized services and empowering customers to manage accounts. Data analytics strengthens its CRM by allowing tailored promotions and swift responses to inquiries. Airtel Zambia integrates AI and predictive analytics to anticipate customer needs, offering personalized promotions via the Airtel customer care app. However, service inconsistencies during peak times remain a challenge. Zamtel combines traditional CRM tools with modern technologies, such as the My Zamtel app, and emphasizes staff training to improve customer interactions.

A common focus for all three companies is ensuring service consistency and reliability. CRM systems provide customer service representatives with real-time data across various touch points, ensuring prompt follow-ups and seamless service. Customer feedback loops are integral for refining CRM practices, with MTN actively using feedback to optimize services and Zamtel introducing a real-time feedback mechanism to address service issues swiftly.

Despite these advancements, CRM implementation faces challenges like data complexity, lack of senior management support, resistance to new technologies, and resource constraints. Data fragmentation at Zamtel and integration issues with other business systems hinder personalized services. To address these obstacles, telecom companies need to invest in user-friendly CRM systems, improve data management, and integrate systems effectively. Strong leadership and continuous employee training are crucial for successful CRM implementation.

The CRM strategies of these companies are designed to improve customer satisfaction and loyalty through personalized services, targeted promotions, and proactive engagement. MTN Zambia focuses on data-driven personalization, offering tailored promotions based on customer behavior. Airtel Zambia uses segmentation to target customer groups such as students and businesses with personalized offers and loyalty programs. Zamtel focuses on customer loyalty through its "Zamtel Plus" program and engages with communities through events and sponsorships.

Technology plays a significant role in CRM, with mobile apps and digital platforms tracking customer interactions and preferences, improving service delivery and customer trust. These companies measure the effectiveness of their CRM strategies using key performance indicators (KPIs) like customer satisfaction scores, Net Promoter Scores (NPS), and retention rates, which help refine CRM efforts and ensure long-term customer loyalty.

In conclusion, MTN, Airtel, and Zamtel's CRM strategies, which include customer segmentation, personalization, and loyalty programs, provide a competitive advantage in Zambia's telecom market. These efforts enhance customer satisfaction and retention, contributing to long-term business success (Kotler and Keller, 2015; Stone et al., 2019; Wijaya, 2023). Future research could explore how emerging technologies like AI can further enhance CRM practices.

5. Conclusion

This study provides a comprehensive analysis of the Customer Relationship Management (CRM) strategies employed by MTN Zambia, Airtel Zambia, and Zamtel. MTN Zambia leads with advanced data analytics, AI, and machine learning to personalize services. Airtel Zambia focuses on customer loyalty programs but lacks proactive data analytics. Zamtel faces challenges due to limited technological investments, affecting customer engagement. Key challenges identified include limited infrastructure in rural areas, data privacy concerns, and a lack of skilled personnel. Despite these, MTN, Airtel, and Zamtel are improving their CRM strategies with AI investments, data analytics, and infrastructure upgrades. Future prospects are promising, with MTN expanding AI services, Airtel exploring analytics tools and mobile-based rewards, and Zamtel enhancing rural coverage and digital infrastructure.

Recommendations

To enhance CRM strategies, Mobile Network Operators (MNOs) in Zambia should focus on several key areas.

- Leverage Advanced Data Analytics: MNOs should use data analytics and AI to better understand customer behavior and personalize services, promotions, and rewards, thus improving customer retention and loyalty.
- Enhance Mobile Applications and Self-Service Channels: Investment in user-friendly mobile apps and self-service portals will increase convenience, enabling customers to manage their accounts, troubleshoot issues, and access services efficiently.
- Implement Omnichannel Customer Support: Building a robust omnichannel support system with AI-powered chatbots and integrated CRM platforms will offer a consistent, seamless experience, improving satisfaction and loyalty.
- Offer Targeted Loyalty and Rewards Programs: MNOs should segment customers based on usage, spending, and tenure, offering personalized rewards and incentives to foster loyalty and engagement.
- Promote Data Protection and Privacy: The government should enforce strong data protection policies to ensure customer privacy and security, enhancing CRM effectiveness.
- Regulate Fair Competition: Policies should ensure fair competition, transparent pricing, and investment in customer service and infrastructure.
- Encourage Investment in Rural Connectivity: MNOs should be incentivized to expand into rural areas, with government support for digital literacy programs to drive customer engagement and digital inclusion.

Contribution of the study

This study offers valuable insights into the CRM strategies of MTN Zambia, Airtel Zambia, and Zamtel, emphasizing how each operator utilizes technology to enhance customer engagement and loyalty. The analysis highlights the diverse approaches these MNOs take, from MTN's advanced data analytics and AI integration to Airtel's focus on customer loyalty programs, and Zamtel's efforts despite limited technological resources. The originality of this study lies in its comprehensive exploration of CRM in Zambia's telecom sector, examining key challenges such as infrastructure limitations, data privacy, and resource constraints. By providing actionable recommendations for MNOs and proposing areas for future research, this study contributes significantly to the understanding of CRM strategies and their impact on customer satisfaction and retention in emerging markets.

Future Research

Future studies could explore the comparative application of Socio-Technical Theory (STT) across different MNOs, focusing on how each operator balances technological and social aspects in CRM. Research could also examine the impact of employee training on CRM effectiveness, particularly how it influences customer satisfaction and loyalty. Furthermore, investigating customer perceptions of data privacy within CRM systems would provide insights into how MNOs can balance personalization with privacy concerns, ensuring continued customer trust and engagement.

Compliance with ethical standards

Disclosure of conflict of interest

The authors whose names are listed certify that they have NO affiliations with or involvement in any organization or entity with any financial interest (such as honoraria; educational grants; participation in speakers' bureaus; membership, employment, consultancies, stock ownership, or other equity interest; and expert testimony or patent-

licensing arrangements), or non-financial interest (such as personal or professional relationships, affiliations, knowledge or beliefs) in the subject matter or materials discussed in this manuscript.

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