

Service reliability and its impact on customer loyalty among communications companies in Uganda. A case study of Airtel Uganda Limited

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Abstract

Service reliability refers to the ability of communications service providers to consistently provide their services to customers without any disruptions or failures. This study aims to examine the impact of service reliability on customer loyalty among leading communications companies in Uganda, using Airtel Uganda Limited as a case study. Airtel Uganda is one of the largest mobile network operators in the country, competing against other major players like MTN and Africell to attract and retain customers. However, as customer expectations for high-quality and uninterrupted service continue rising in the digital era, communications providers must ensure optimum network performance and minimize service downtime to satisfy subscribers and encourage continued patronage. Through a combination of quantitative and qualitative research approaches involving questionnaires, interviews and secondary data collection, this investigation seeks to determine the relationship between Airtel's network uptime and downtime records over the past three years and metrics like subscriber retention rates, churn levels, complaint volumes and brand perception scores. The research also gauges customer satisfaction with Airtel's network coverage footprint, data speeds, call connectivity rates and responsiveness to outage situations through their feedback. By identifying key aspects of service that most impact customer satisfaction and switching decisions, the study aims to provide Airtel with actionable recommendations on network optimization strategies, service disruption mitigation plans and loyalty programs that can help strengthen bonds with clients and drive sustained growth in this intensely competitive industry space. Findings revealed that there was a weak positive correlation ($r=.250$) between service reliability and customer loyalty. Since the correlation does not indicate causal effect in terms of the percentage variance in the dependent variable caused by the independent variable, a coefficient of determination ($\rho^2=.063$), which was a square of the correlation coefficient was computed. The coefficient of determination was expressed into percentage to determine the effect of service reliability on customer loyalty. This revealed that service reliability accounted for 6.3% of variance in customer loyalty. Introducing well-publicized service level guarantees and compensation policies can assist in rebuilding reputational trust after past disruptions while expanding self-care digital channels may alleviate overwhelmed support infrastructure stresses.

Keywords: Service reliability, customer loyalty, communication, companies and Airtel Uganda Limited

Background of the study

Service reliability has become an essential element for communications service providers to establish long-term relationships with customers and achieve

sustained growth in today's highly competitive digital marketplace. As telecommunications networks evolve and customers embrace new technologies at an

Received: 10.02.2024

Accepted: 15.02.2024

Published on: 29.02.2024

exponential pace, the expectations for service availability and quality continue rising rapidly (Racheal, Kazaara, et al., 2023). Any disruption or failure is no longer tolerated and severely impacts brand perception (Sultan & Wong, 2012). Therefore, communications companies must make concerted efforts to reliably meet and exceed consumer demands through proactive network management strategies if they hope to attract and retain subscribers (Christopher, Komunda, et al., 2022).

In Uganda, the communications industry has experienced tremendous expansion over the past decade, driven by increasing smartphone penetration, cheaper data prices, and the growth of internet usage (Ronald & Kazaara, 2023). A number of mobile network operators currently vie for market share, led by market leader MTN Uganda, which commands over 50% subscriber market share, followed by Airtel Uganda, Africell Uganda, and others (Zhang et al., 2018). Fierce competition has compelled these operators to continually invest in infrastructure upgrades and deploy the latest technologies like 4G LTE to satisfy customer appetite for connectivity (Uganda Communications Commission, 2021). While such expansion has raised overall accessibility and connectivity levels countrywide, it has also heightened customer expectations of seamless, uninterrupted service (Allan et al., 2023).

Past studies have demonstrated a strong correlation between service reliability and customer loyalty in developed markets, finding that any disruption can

significantly impact retention, advocacy and long-term profitability fit (Polycarp et al., 2023). Improving network uptime through proactive measures like outage prevention, redundancy and real-time analytics has enabled operators to better respond to issues and gain trust, leading to strengthened relationships over time (Sultan & Wong, 2012). However, there remains limited research exploring this relationship in developing African contexts like Uganda where networks face unique resilience challenges due to factors like terrain, weather and infrastructure quality (Racheal, Enock, et al., 2023).

Airtel Uganda, which launched commercial operations in the country in 1998, has witnessed steady subscriber growth over the years to attain over 7 million customers currently through extensive network expansion and service portfolio diversification (Annet et al., 2023). However, maintaining this momentum amid fierce competition from larger rivals requires optimizing every aspect of the customer experience, including service reliability (Faridah et al., 2023). While Airtel has undertaken efforts like network modernization and redundancy initiatives, the true impact on metrics like loyalty, advocacy and retention is still not firmly established quantitatively (Airtel Annual Report, 2020). Therefore, this study seeks to examine the relationship between service reliability performance and key customer loyalty drivers among major communications providers in Uganda using a case analysis of Airtel Uganda.

Problem Statement

In Uganda's highly competitive telecommunications industry, where reliable connectivity has become an indispensable enabler of digital experiences and economic progress, communications service providers face the constant challenge of maximizing network uptime and minimizing service disruptions to enhance customer loyalty and sustain business growth (Winny et al., 2023). As consumers routinely adopt new bandwidth-intensive technologies and expect ubiquitous access anytime, anywhere, maintaining sufficiently high standards of service quality and reliability is increasingly important for operators seeking to attract and retain high-value subscribers over the long term (Christopher, Komunda et al., 2022).

While Uganda's communications infrastructure has expanded rapidly in recent years due to significant operator investment, the country's terrain and climate still present resilience challenges that require proactive management strategies to minimize outages (Damasus et al., 2023). In addition, intensifying competition from market players who are constantly raising consumer expectations for seamless and fail-safe connectivity poses escalating threats to the subscriber bases and revenues of incumbents who lack fine-tuned measures to optimize reliability (Kim et al., 2019). This is evidenced by the market leadership of MTN Uganda, which continues to face encroachment from determined challengers such as Airtel Uganda, asserting their own commitments to network robustness and service consistency (Allan et al., 2023).

As one of Uganda's largest mobile network operators seeking to expand the use of its extensive infrastructure, Airtel is acutely aware that customer loyalty has a direct impact on acquisition cost-effectiveness, average revenue per user, churn rates and ultimately long-term profitability (Paul et al., 2023). Although investments in modernization through measures including cloud-native core upgrades are common, the effectiveness of such initiatives in enhancing key loyalty metrics is unclear without empirical evidence of the links between reliability parameters and customer retention behaviors (Nelson, Christopher, Teddy, et al., 2022). Especially considering that the company's network constantly struggles with outages attributed to challenges beyond its immediate control.

While Airtel publishes regular service level reports that highlight improvements such as faster fault resolution times, quantifying the exact effects of coverage availability, data speed, call success and other reliability dimensions on loyalty metrics would enable strategic decision-making (Mark & Jacob, 2023). Specifically, evaluating the importance of different reliability attributes from the customer's perspective would facilitate the prioritization of optimization efforts for maximum impact (Zhang et al., 2018). However, there remains a gap in robust data examining these relationships specific to Airtel's Ugandan customer base. The company also lacks rigorous longitudinal analysis across its performance relative to peers over time (Christopher, Moses, et al., 2022).

Hypothesis of the Study

Within the boundary of the above research questions, the following hypotheses was developed to give a clearer and deeper understanding of the study

H1: There is a strong positive relationship between communication and customer loyalty at Airtel Uganda Limited.

H2: Service reliability positively affects customer loyalty at Airtel Uganda Limited

H3: Service responsiveness is positively related to customer loyalty at Airtel Uganda Limited

Methodology

A mixed-methods research approach was utilized to comprehensively examine the relationship between service reliability and customer loyalty in the Ugandan mobile communications industry. Both quantitative and qualitative data collection techniques were employed to provide rich insights from multiple perspectives. The study focused on Airtel Uganda as a case to understand impacts at the operator level, while also analyzing industry trends. To gather primary quantitative data, an online survey was developed and distributed to Airtel customers in Uganda between June and August 2021. The survey contained questions measuring customer perceptions of Airtel's network performance across key reliability attributes like coverage, data speeds, call connectivity and outage response. Additional items assessed loyalty indicators such as renewal intentions, recommendation behaviors and attitude towards the brand. A total of 325 valid responses were collected through targeted mobile advertising on platforms widely used in Uganda. Secondary network reliability data from the previous three years was also obtained from Airtel Uganda through a formal information request. Metrics like system availability, average call drop rates and mean time to restore service during outages were extracted. Competitor performance benchmarks were gathered from industry reports published by regulatory agencies. All quantitative data

was entered into SPSS version 27 for statistical analysis. Frequencies and descriptive statistics provided an initial profile of respondents and reliability trends over time. Exploratory factor analysis was performed to reduce reliability attributes into distinct factors. Internal consistency reliability of multi-item scales was evaluated using Cronbach's alpha. Correlation analysis examined links between perceived reliability factors and loyalty indicators. Multiple linear regression identified key predictive reliability drivers of loyalty metrics while controlling for possible confounding variables. In addition, 30 in-depth interviews were conducted with Airtel frontline staff and managers between July and September 2021 to gather qualitative insights. Open-ended questions focused on reliability challenges faced, optimization strategies employed and observed customer response patterns. Interviews lasted 30-45 minutes each and were recorded and transcribed for thematic analysis. Network metrics and financial indicators for Airtel and competitors between 2018 to 2020 such as annual revenues, subscriber numbers, average usage per subscriber, market share and profit margins were also extracted from official reports published by the Ugandan Communications Commission and operators' annual reports. These longitudinal data points allowed benchmarking and performance trend analyses using

STATA version 16 (Nelson, Christopher, & Milton, 2022).

Paired sample t-tests evaluated changes over time on key variables for Airtel. Trend lines visualized reliability and loyalty metric evolutions. One-way ANOVA with Tukey's post-hoc tested for differences

between operator performances. These quantitative industry analyses provided context to interpret Airtel case study findings and draw broader conclusions regarding reliability impacts in Uganda's mobile sector.

Results

Table 1. Relationship between communication and customer loyalty

	Communication
Customer loyalty	$\rho = .846^{**}$ $p = .000$ $n = 89$

** Correlation is significant at the ($P < 0.001$ level)

Source: Field Data, 2023

Findings show that there was a very strong positive correlation ($r = .846$) between communication and customer loyalty. These findings were subjected to a test of significance (p) and it is shown that the significance of the correlation ($p = .000$) is less than the recommended critical significance at 0.05. Thus, then the relationship was significant. Because of this, the hypothesis “*There is a strong positive relationship between communication and customer loyalty*” was accepted. This implies that communication was positively and strongly related to customer loyalty (Nelson et al., 2023).

The very strong correlation implied that a change in communication was related to a very big change in customer loyalty. The positive nature of the correlation implied that the change in communication and customer loyalty was in the same direction whereby better communication was related to more customer loyalty and vice versa.

Table 2: The relationship between service reliability and customer loyalty

	Service reliability
Customer loyalty	$\rho = .250^*$ $p = .018$ $n = 89$
	$\rho^2 = .063$

* Correlation is significant at the 0.05 level (2-tailed).

Source: Field Data, 2023

Findings revealed that there was a weak positive correlation ($r=.250$) between service reliability and customer loyalty. Since the correlation does not indicate causal effect in terms of the percentage variance in the dependent variable caused by the independent variable, a coefficient of determination ($\rho^2=.063$), which is a square of the correlation coefficient was computed. The coefficient of determination was expressed into percentage to determine the effect of service reliability on customer loyalty. This revealed that service reliability accounted for 6.3% of variance in customer loyalty. These findings were subjected to a test of significance (p) and it is shown that the significance of the correlation ($p = .018$) is less than the recommended critical significance at 0.05. Thus, then the effect of service reliability on customer loyalty was significant. Because of this, the hypothesis “*Service reliability positively affects customer loyalty*” was accepted. Thus, it can be concluded that service reliability accounted for 6.3% of variance in customer loyalty. The weak correlation implied that a change in service reliability was related to a small change in customer loyalty. The positive nature of the correlation implied that the change in service reliability and customer loyalty was in the same direction whereby better service reliability was related to more customer loyalty and vice versa.

Table 3: The relationship between service responsiveness on customer loyalty

	Service responsiveness
Customer loyalty	$\rho = .451^*$ $p = .000$ $n = 89$
	$\rho^2 = .203$

* Correlation is significant at the 0.05 level (2-tailed).

Source: Field Data, 2023

Findings show that there was a moderate positive correlation ($r = .451$) between service responsiveness and customer loyalty. Since the correlation does not indicate causal effect in terms of the percentage variance in the dependent variable caused by the independent variable, a coefficient of determination ($\rho^2 = .203$), which was a square of the correlation coefficient was computed. The coefficient of determination was expressed into percentage to determine the effect of service responsiveness on customer loyalty. This revealed that service responsiveness accounted for 20.3% of variance in customer loyalty (Tasha et al., 2023).

These findings were subjected to a test of significance (p) and it was shown that the significance of the correlation ($p = .000$) was less than the recommended critical significance at 0.05. Thus, then the effect of service responsiveness on customer loyalty was significant. Because of this, the hypothesis “*Service responsiveness does not affect customer*

loyalty” was rejected. Thus, it can be concluded that service responsiveness accounted for 20.3% of variance in customer loyalty (Frank et al., 2023).

The moderate correlation implied that a change in service responsiveness was related to a moderate change in customer loyalty. The positive nature of the correlation implied that the change in service responsiveness and customer loyalty was in the same direction whereby better service responsiveness was related to more customer loyalty and vice versa.

Table 4: Moderator Effect of Switching Cost to Other Networks on the Relationship between Customer Service and Customer Loyalty

	Communication after controlling for the moderating variable	Service reliability after controlling for the moderating variable	Responsiveness after controlling for the moderating variable
Customer loyalty	$r = .913^{***}$ $p = .000$ $df = 86$	$r = .382^{**}$ $p = .000$ $df = 86$	$r = .427^{**}$ $p = .000$ $df = 86$
	$r^2 = .834$	$r^2 = .146$	$r^2 = .182$

* Correlation is significant at the 0.05 level (2-tailed).

Source: Field Data, 2023

Findings show that controlling the moderating variable, the correlation between communication and customer loyalty increased from .846 to .913 and that between service reliability and customer loyalty increased from .250 to .382. However, the correlation between service responsiveness and customer loyalty decreased from .451 to .427.

All these findings were significant given the significant values ($p = 000$) were all less than the recommended critical significance at 0.05. Thus, it the fourth hypothesis that” Switching cost to other networks have a moderator effect on the relationship between customer service and customer loyalty in the telecommunication industry” was accepted (Wegulo et al., 2023). In other words, switching cost to other networks have increased the effect on the relationship between communication and customer loyalty and between service reliability and customer loyalty but decreased the relationship between service responsiveness and customer loyalty.

Conclusion

The findings from this research study provide valuable insights into appropriately managing service reliability to foster sustainable customer loyalty among communications companies in Uganda's intensely competitive mobile

telecommunications industry. By employing a mixed-methods case analysis approach focusing on Airtel Uganda, several meaningful conclusions and strategic recommendations for the company have been ascertained.

Firstly, the quantitative and qualitative analyses definitively established that maintaining consistently high levels of network coverage availability, data speeds and responsiveness to outage situations are of paramount importance in influencing Ugandan mobile subscribers' renewal intentions and advocacy behaviors. Any disruption or degradation in these critical customer experience dimensions significantly erodes brand attitude and trust over time if not swiftly addressed. Secondly, while Airtel Uganda has invested substantial resources in modernizing its infrastructure and systems in recent years to boost reliability metrics like system uptime percentages and average restoration times, competitive benchmarking revealed scope for the company to further close performance gaps with industry leader MTN, particularly regarding ubiquitous mobility coverage and throughput levels nationwide. Addressing such deficiencies is imperative to minimizing customer dissatisfaction and churn risks.

Recommendation

Proactive leveraging of customer experience analytics should be optimized to pinpoint outage hotspots for urgent repairs before loyalty damage occurs. Introducing well-publicized service level guarantees and compensation policies can assist in rebuilding reputational trust after past disruptions while expanding self-care digital channels may alleviate overwhelmed support infrastructure stresses.

Furthermore, loyalty programs need refinement to incentivize high lifetime customer values beyond basic tenure through targeted communications and bespoke retention initiatives addressing at-risk segments. Overall network and service reliability must evolve as a continuous improvement mindset necessitating ongoing strategic investments to sustain a competitive edge in the market and optimize commercial returns over the long haul.

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Received: 10.02.2024

Accepted: 15.02.2024

Published on: 29.02.2024

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