Internet Service Provision in Tanzania: An Examination of User Satisfaction, Package Pricing, and Service Challenges

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ABSTRACT

This study examines the dynamics connected to the provision of internet service in Tanzania. Specifically, the study seeks to systematically analyse user perceptions service quality across different ISPs and identify the factors influencing their preferences and choice of ISPs. Two theoretical models, the Service Quality Theory (SERVQUAL) and the Expectancy Disconfirmation Theory (EDT) were applied to guide the study. A qualitative single case study design was used, with more than 800 user-generated comments extracted from a celebrity's Instagram post. Data were analysed using sentiment analysis, qualitative and quantitative techniques. Our results show that while users acknowledge improvements in reliability of network, still inconsistencies remain, particularly in specific zones of Dar es Salaam and rural areas. T-CONNECT is perceived as having the most reliable network compared to other ISPs. Speed consistency remains a critical issue for all ISPs, with T-CONNECT seen as the most stable, whereas SKT-TZ and TZ-NET struggle, especially during peak hours. SKY-TZ, TZ-NET and TZ-LINK face coverage challenges, especially in rural areas due to infrastructure constraints. Moreover, the study highlights a high demand for reliable service, a push for fiber-optic infrastructure, and a cautious but optimistic outlook on 5G. Generally, the findings reveal that customers' perceptions of internet service quality are influenced by network quality, and customer service and technical support. Challenges such as connectivity and network issues, pricing transparency and service plans, and customer support significantly affect user satisfaction and ISPs competitiveness. The contribution of this paper stems from its use of advanced NLP methods to examine user sentiments toward Tanzania's ISPs from Instagram data, to provide insights and comprehensive understanding to industry practitioners and policymakers in promoting a more sustainable future for the industry.

Keywords: User Satisfaction, Network Quality, Internet Service Providers (ISPs), Package Pricing

I. INTRODUCTION

In the present world, internet has immensely transformed society. To this end, internet has changed how we obtain information, communicate, and perform business (Saflor et al., 2024). The world is interconnected through reliable internet access which is vital for active engagement in the information age (Lee, 2023). Acting as facilitators, Internet service providers (ISPs) play an essential function by availing internet services to users and at the same time serving as gatekeepers to the digital domain (Naji et al., 2023). Several studies have stressed the substantial impact ISPs possess on the internet experience standards, influencing user satisfaction and overall quality of service (Bowman, 2023; Mahardhani, 2023; Saflor et al., 2024).

In African setting, where internet network poses considerable constraints, gaining insight on the working and influence of ISPs is of utmost significance (Ayanwale et al., 2023). The internet landscape in Tanzania is faced with unique impediments, with a few numbers of ISPs serving rural population. Nonetheless, new projects for instance Tanzania's engagement with the Seacom bandwidth consortium illustrates efforts to strengthen Internet connectivity and infrastructure (Bowman, 2023; Makini et al., 2020).

Tanzania has undergone a notable expansion in the number of internet users, demonstrating the nation's increasing dependence on digital connectivity for socio-economic growth and development (Bahia et al., 2023). In this regard, extent of internet penetration has expanded from 10.6% in the year 2015 to 48.5% in 2022. Likewise, the use

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of mobile phone has reached 90.1% (Makaro, 2023), calling for the demand for reliable, consistent and adequate internet services to increase. The notable increasing demand underscores the important role played by ISPs in boosting digital accessibility to the masses.

As a result, scholars and academicians, (e.g., Parasuraman et al., 2005; Swallehe, 2021; Lee, 2023), have commenced to take note of the availability of ISP services as well as its impact on user fulfillment. This is particularly taking into account the few choices available to consumers in Tanzania in comparison to citizens in more advanced countries. Understanding the elements that influence user contentment and satisfaction is crucial for ISPs seeking to boost service standards and preserve their customer base.

1.1 Statement of the Problem

Advances in technology and the digital transformation have made internet connectivity an essential utility not only for economic development but also for social interaction and access to information. Businesses and individuals in Tanzania are increasingly demanding high-quality internet services. This demand is driven by several factors, including the growth of digital platforms such as for M-PESA electronic payments, Coursera and Udemy for online learning and education, and WhatsApp and Instagram for social media. ISPs in Tanzania have played a critical role in facilitating connectivity; however, little is known about users' satisfaction, the challenges they face, and the determinants of their choice of ISPs.

Recently, a prominent celebrity and business owner in Dar es Salaam posted on Instagram in Kiswahili, *"Msaada nataka kuweka WIFI kwenye migahawa yetu yote ... naomba mnishauri kampuni gani nzuri na yenye fast WIFI na package nzuri",* which literarily translates to a request asking for advice on the best ISP that offers fast WIFI and a good package. The post caught significant public attention and garnered numerous comments with diverse opinions, and experiences.

This diversity highlights the variability in user experience across different ISPs and raises concerns about the factors shape their perceptions on service quality. The scattered and largely anecdotal feedback from consumers provide comprehensive data for conducting a systematic analysis to understand how ISPs services are perceived by the public, the challenges users face, the improvements needed, and the key factors that influence choice of ISPs. This study seeks to address these gaps.

1.2 Research Objectives

Based on the abovementioned problem, the objectives of this paper are twofold as follows:

i. To systematically analyse user perceptions of the service quality availed by different ISPs.
ii. To identify the relevant factors influencing user satisfaction and choice of ISPs.

II. LITERATURE REVIEW

2.1 Theoretical Review

Pursuant to past investigations in service marketing (Parasuraman et al., 1985; Thaichon et al., 2014), service quality describes perceptions of users and value-judgment regarding how well the delivered service conforms to their expectations. Customer fulfillment or satisfaction, on the contrary, alludes to the general emotions of pleasure or dissatisfaction stemming from comparing the expected performance with pre-service expectations (Parasuraman et al., 1985). There exists an agreement among scholars that satisfaction of users and perceived service standards are separate constructs, and that quality of service is dependent to customer satisfaction (Hur, et al., 2013; Thaichon et al., 2014; Zhao, et al., 2021). In the same vein, this research was anchored on the Service Quality (SERVQUAL) theory alongside the Expectancy Disconfirmation (ED) theory to analyse user perceptions of service quality and point out key elements affecting their satisfaction.

In 1985, Parasuraman et al., advanced the SERVQUAL theory to aid businesses calculate and oversee their service quality. Ten dimensions were discovered by the authors regarding quality of service: reliability, adaptability, expertise, access, respect, communication, authenticity, security, customer knowledge, and tangibles. All this are considered crucial and relevant by the users (Parasuraman et al., 1985, pp.46–47). At the same time, Parasuraman et al. (2005) established E-S-QUAL which is a model structured to calculate quality of service in the technological advancements setting in the new era of information. Acknowledging the kind of internet services, the E-S-QUAL framework captures privacy concerns, trust and security all which are common when determining service quality of ISPs. This theory is applicable when evaluating user satisfaction with ISPs through measuring the assumed service quality in domains like internet speed, reliability, network coverage, customer service and pricing.

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Thaichon et al. (2014) contend that the services availed by ISPs are different from other services offered by telecommunications companies operating through the internet platforms e.g. mobile services. To this end, they opine that standards of service offered by ISPs cannot be measured adequately by SERVQUAL or E-S-QUAL. Taking note of these debates, this research also applied the ED theory, postulated by Oliver (1977). The theory hints that client fulfillment or discontentment influences their choices to repurchase, complain, and establish future investments (Hossain and Quaddus, 2012). The ED theory is dependent on four domains: expectations, assumed performance, disconfirmation of values, and fulfillment. Pursuant to the ED theory, satisfaction of consumer is dependent on the void between expectations and the real product performance, service or technology. When the ISP fulfills or outperforms the original expectations of a consumer, the disconfirmation is positive, resulting in satisfaction. On the other hand, poor disconfirmation giving rise to dissatisfaction.

2.2 Empirical Review

Emerging technological advancements and increased reliance on the internet have reshaped how businesses and individuals used to operate (Chigori et al., 2020; Alarifi and Husain, 2023). ISPs play a vital role in facilitating internet access, which is necessary in performing various activities. However, there remains variability in user experience across different ISPs and raises concerns about the factors that shape users' perceptions of service quality.

Service marketing studies suggests that service quality often reflects customers' propensity and intention to use a product or service. For example, Hur et al. (2013), posits that when the quality of service is higher, customers are more likely to revisit, reuse, or purchase with the firm (see also, Hossain and Quaddus, 2012). Zhao, et al. (2021) reported that service quality was an important precursor to behavioural intentions. Users who are content with an ISP experience have higher tendency to positively recommend the services to others (Hur, et al., 2013; Thaichon et al., 2014).

Numerous studies support the proposition that technological efficiency improves the effectiveness of ISP service delivery and in turn, customer satisfaction. For instance, Chigori et al. (2020) found that the efficiency of banking applications and Unstructured Supplementary Service Data (USSD) services was significantly related to overall service quality and customer loyalty. Likewise, Alarifi and Husain (2023) noted that efficiency in Internet banking is the core determinant of e-customer fulfillment. In the same vein, Mamakou et al. (2024) demonstrated a link between standard of e-service and consumer experience with overall satisfaction. The authors depicted that quality of e-service acts partly as an intervening function between user experience and client satisfaction.

Past studies, has in addition assessed the function of advancements in technology in boosting ISP services (Bowman, 2023; Mahardhani, 2023). Cheruiyot et al. (2023) looked into how fiber-optic networks and deployment of 5G can foster connectivity and curb the digital divide. Outcomes depicted that a strong connection exists between information technology, competition tactics and embracing fiber-optic broadband internet services among law companies in Nairobi city. Research suggest that using new technologies as they come is vital for ISPs to stay in the market and fulfill increasing user demands (Kumar, 2021; Bowman, 2023; Naji et al., 2023).

Within a regulatory scope, extant literature underpins the benefits of establishing an enabling environment for ISP operations. Naji et al. (2023) asserts that regulatory redtape can block the reliable delivery of ISP services and suggest cooperation between ISPs and other stakeholders to boost quality standards. Past research e.g. Mahardhani (2023), encourage policies that facilitate more investment in infrastructure and ascertain equal internet service accessibility.

The impact of socio-economic elements on user contentment and service adoption represents another key domain in the literature (Bahia et al., 2023; Salfor et al., 2024). Parks et al. (2022), for instance, assessed how gaps in socio-economic standards influence technological accessibility. Outcomes revealed that cost factors and poor digital skills are notable impedements to internet adoption. In order to handle these concerns, Parks et al. (2022) posited that mechanisms to foster affordability, boost digital literacy and form strong cybersecurity measures to establish user trust.

In another study, outcomes showed that package price is a core component of customer satisfaction as well as loyalty (Ansah, 2020; Zhao et al., 2021; Salfor et al., 2024). Hur et al. (2013) observed that users assess extensively whether they are getting best value for money when choosing to buy or embrace a service. Naji et al. (2023) asserts that a price model is a critical element that users consider when choosing an ISP. Zhao et al. (2021) further allude that clarity in pricing enables consumers to compare services and opt for more affordable service providers.

Network quality is another stronger predictor of perceived value (Thaichon et al., 2014). The author further asserts that, when evaluating a ISPs service, the primary concerns of customers usually are network strength, reliability and coverage. Naji et al. (2023) reported that network quality had an immediate effect on attitude and loyalty (see also, Parasuraman & Grewal, 2000). They also found that network stability, download and upload speed

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are indicators high network quality and have noticeable influence on customer loyalty. However, they reported that these have an indirect impact on behavioural loyalty.

Previous studies, such as Saflor et al., 2024, have also shown that when selecting an ISP, users consider responsiveness, meaning how promptly and adequately an ISP addresses customer concerns. In the same vein, Thaichon et al. (2014) posits that ISP customers perceive online help and information support as important. The authors further argue when selecting an ISP, users assess whether they receive high-quality, tailored information that meets their needs, ensuring they do not incur additional costs in seeking and handling information.

III. METHODOLOGY

This part illustrates techniques such as the Instagram-based methodology embraced by Hausmann et al. (2020) with a particular attention to Tanzanian ISP sentiments. The approaches discussed here entail pre-processing, sentiment analysis, segmentation, and qualitative analysis, all of which are performed while observing ethical concerns.

3.1 Research Design

This study utilises a qualitative single case study design, as described by Yin (2003). The focus is to provide a comprehensive analysis of consumer perception of service quality, preferences, and factors that influence choice of ISPs based on the data obtained from a celebrity's Instagram query in Dar es Salaam. Creswell (2007) highlighted that a qualitative technique is more applicable when the researcher aims to gain in-depth and better understanding of issues through detailed analysis.

3.2 Data Collection

Current research embraced a technique similar to that of Hausmann et al. (2020), who employed Instagram as an instrument for gathering data to understand how users perceive South African national parks. The researchers collected reactions and posts from Instagram and used automated natural language processing methodologies to assess the sentiments recorded in these posts.

In this research, a similar methodology was embraced, although it centered on gathering sentiments of consumers on the issue of ISPs in Tanzania. Through assessing Instagram reactions concerning ISPs in Tanzania, data which was user-generated was gathered. This technique availed vital information into how consumers think and experience ISPs in Tanzania, benefitting from real and varying opinions offered by social media platforms e.g. Instagram.

3.3 Data Analysis

Techniques for analyzing data included pre-processing, sentiment analysis, and categorization as well as qualitative analysis. These factors were valuable in obtaining important insights into user sentiments and perceptions of ISPs in Tanzania.

3.3.1 Pre-Processing

At this stage of data pre-processing, Instagram posts and reactions were derived. They were carefully filtered to delete any unwanted noise e.g. lewd comments or spam. The worded data was then edited e.g. by deleting special characters, emojis and URLs. This process focused on protecting consistency and boost the correctness of sentiment analysis.

3.3.2 Sentiment Analysis

This process used complex Natural Language Processing (NLP) methodology. This employed the Bidirectional Encoder Representations from Transformers (BERT) framework. BERT is the most current NLP structure that translates the meaning of words in a sentence by acknowledging the scope of surrounding words (Mutinda et al., 2023). This approach enabled in-depth evaluation of the emotions displayed in user comments regarding Tanzania's ISPs.

3.3.3 Categorization

This method involved segmenting comments based on the specific ISPs cited in the suggestions availed by the Instagram users. Likewise, comments were arranged into different topics e.g. service standards, pricing and costs,

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customer support, and network reliability. This was done to discover the most pressing matters or satisfaction aspect among consumers.

3.3.4 Quantitative Analysis

Quantitative data was analysed by counting the total number of comments connected to each recommended ISP and assessed the frequency of discussions. Similarly, we performed a percentage analysis to assess the proportion of comments linked to each recommended ISP in connection to the total amount of comments gathered.

3.3.5 Qualitative Analysis

In qualitative analysis, the procedure comprised of extensively picking out the content of comments. This was geared to detect recurring themes, patterns, and specific barriers described by users. After analysing similar phrases, keywords, and sentiments described in each segment, valuable data was obtained to gain insight on opinions of clients and experiences with various ISPs.

IV. FINDINGS & DISCUSSION

4.1 User Perceptions of the Quality of Services

The ensuing section presents users' perceptions of the relative performance provided by different ISPs in Tanzania.

4.1.1 Network Reliability

Reliability of SKY-TZ: Network was a main issue among users, as depicted by 45% of the 250 comments analysed handling this concern. For example, one user stated that while SKY-TZ's network has been boosted in urban locations, there are still issues in rural settings. TZ-LINK: Debate revolving reliability of network was evident in 120 comments, representing nearly 20% of the total comments analysed. Despite improvements being observed, there are perennial outages in specific areas that remain a concern. A user reacted on the recent TZ-LINK's network stability in addition to highlighting the occasional outages in particular zones. TZ-NET: Almost 23% of the entire comments analysed, adding up to 140 comments, indicated that network reliability as an important topic. In spite of the growth attained by TZ-NET, intermittent connectivity issues during peak times continue to be experienced. One user observed the improvements in reliability by TZ-NET but stated the persistence of occasional connectivity challenges during peak hours.

T-CONNECT: In comments nearing 160, T-CONNECT's network reliability was debated in depth, accounting for almost 27% of the overall analysed comments. T-CONNECT's network is mainly indicated as reliable, more so in urban areas, with reduced reported downtime. A user observed that T-CONNECT network is largely reliable. This is particularly in urban areas, with occassional periods of downtime. The analysis hinted that there remains areas for improvement in the dependability of networks offered by SKY-TZ, TZ-LINK, TZ-NET, and T-CONNECT. Nonetheless, issues still exist in some areas regarding irregular service disruptions and connectivity problems. Outcomes concur with those depicted by Thaichon et al. (2014), who noted that reliability and trusted availability are vital requirements for internet service. Likewise, the researchers debate that clients prefer network strength and stability when assessing an ISP's service.

4.1.2 Network Consistency

SKY-TZ: 40 percent of the entire 160 comments debated about speed consistency. This demonstrates that this is a considerable issue among users. To illustrate this, one user noted that despite the fact that SKY-TZ's internet speed is notably consistent, it can decrease during peak time. TZ-LINK: Nearly 100 comments focused on speed consistency which made up for approximately 17% of the entire comments analysed. Despite advantages being acknowledged, there are still irregular speed fluctuations that continue to be a concern. One user pointed that although TZ-LINK's internet speed has stabilized, there are still instances of periodical fluctuations. TZ-NET: After analysing 120 comments, nearly 30% of them stressed on speed consistency, hinting that this is a valuable aspect for TZ-NET users. Notwithstanding the gains made by TZ-NET, concerns during peak time continue to be noted. A user reacted that although TZ-NET has made positive improvements regarding its internet speed, there are still concerns observed during peak hours. T-CONNECT: Speed consistency presented a dominant aspect argued in 140 comments. This represented almost 23% of the overall comments analysed. This hints that T-CONNECT is viewed as providing stable and regular internet speeds. One user alluded that T-CONNECT's internet speed is reliably fast, even during peak hours. To summarize, the issue of preserving a consistent and regular speed continues to be a matter of concern for

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users of SKY-TZ, TZ-LINK, TZ-NET, and T-CONNECT. However, there is a notable difference regarding how users perceive degrees of improvement and the unresolved issues. The findings echo previous research (e.g., Thaichon et al., 2014; and Mamakou et al., 2024) emphasizing the importance of speed consistency in establishing user fulfilment and their overall ISPs experience. For instance, Thaichon et al. (2014) insists that network quality is one the strong points of differentiation for ISPs.

4.1.3 Network Coverage

SKY-TZ has encountered hindrances in its coverage context in comparison to other telecommunications providers. Out of the analysed comments, 80 of them, constituting nearly 20% of the total, noted about concerns regarding SKY-TZ's coverage. Nonetheless, there have been notable improvements in particular aspects, despite a number of users still experiencing weak signal reception in specific zones.

Regarding TZ-LINK, coverage issue was debated in 100 comments, which accounted for almost 17% of the analysed comments. Various users posited that TZ-LINK provides extensive services in urban localities although they indicated concerns regarding stagnated expansion in rural areas. Specifically, one user alluded that while coverage in urban areas is commendable and fulfilling, there exists room for improvement in far-flung areas.

On TZ-NET, issues to do with coverage were stated in 60 comments which comprised about 10% of the total comments analysed. One user discovered that the coverage of TZ-NET is limited in rural regions, which is a demerit for potential clients. On the contrary, T-CONNECT was praised for its extensive and wide coverage in the comments analysed. Out of the 160 comments, nearly 27% commended T-CONNECT's for its encouraging coverage. One user even appraised T-CONNECT for its stable and dedicated service, observing that they offered coverage even in remote and marginalized areas.

In summary, response from users underscores that there are different degrees of satisfaction/contentment and concerns concerning network coverage among users of SKY-TZ, TZ-LINK, TZ-NET, and T-CONNECT. SKY-TZ and TZ-LINK continue to encounter constraints, more so in rural locations. Nonetheless, improvements in some regions have been observed. TZ-NET, on the contrary, is blocked by limitations in increasing coverage because of infrastructure impediments in accessing remote and marginalized areas. In contrast, T-CONNECT is widely praised by users for its widespread coverage, particularly in rural and marginalized areas. These findings confirm the assertions of Thaichon et al. (2014) that network quality is one of the most key determinants of customers' perception of service quality and value. It is evident from these findings that ISPs need to invest strategically to address coverage disparities and meet diverse connectivity needs of their customers (e.g., promoting agricultural transformation for improving rural incomes, Kitole et al., 2024).

4.2 Factors Influencing User Satisfaction and Choice of ISPs

This section presents users' perceptions of what contributes to their satisfaction with service of providers and how they choose ISPs.

4.2.1 Preferred Providers

Nearly 30% of user comments indicated favourable response for T-CONNECT's reliability. Users commended T-CONNECT for its stable speeds and reliability, with one user positing, "I prefer T-CONNECT as my choice ISP because their service is certainly reliable plus their internet speeds are super-fast" (User 1, comment from Instagram). Almost 25% of the comments noted the demand for fiber-optic facilities. Users acknowledged fiber-optic internet as the future, with ISPs e.g. TZ-NET and T-CONNECT being in the forefront in investing in this domain. One user hinted, "Fiber-optic internet is the future, and ISPs for instance TZ-NET and T-CONNECT are paving the way with their resources and investments" (User 2, comment from Instagram). The theme on 5G deployment got less reaction, with a partly 10% of the comments considering it. Although users appreciated 5G as an exciting innovation, they observed its constrained current availability, with one user positing, "While 5G is a bubbling innovation, it lacks widespread presence. Notwithstanding, I am looking forward to its expansion in the future" (User 3, comment from Instagram).

These outcomes align with past research on ISP preferences and technological patterns. The strong and favourable preference for stable ISPs e.g. T-CONNECT underpins the value of network dependability in forming satisfaction and loyalty of users (Thaichon et al., 2014; Ansah, 2020; Ting et al., 2020; Alarifi and Husain, 2023; Mamakou et al., 2024). In the same vein, the demand for fiber-optic basic facilities concurs with scholarly debates on the benefits of fiber-optic networks in fulfilling ever expanding demand for high-speed internet and boosting digital innovation (Lindsey & Martin, 2021; Gitonga et al., 2022). In addition, the little interest in deployment of 5G reveals literature that stress the initial phase of 5G implementation and the demand for extra infrastructure advancement (Ai et

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al., 2020; Barmpounakis et al., 2020). At the end, user sentiments are in agreement with existing body of knowledge, stressing the value of network reliability, fiber-optic infrastructure demand, and the shifting effect of 5G deployment on the Tanzanian ISP sector.

4.2.2 Main Technological Issues Facing Clients

Outcomes of study depict the major barriers that ISPs in Tanzania confront, in addition to the core aspects that demand attention to boost satisfaction of users and competitiveness. Users stated their issues regarding issues to do with connectivity, reduced speeds and downtime. All these were illustrated in almost 45% of the total comments analysed, constituting nearly 270 comments. Research outcomes are in agreement with past studies that stress the negative effect of unreliable and unstable networks on experience of users. These underscores the immediate need for ISPs to avail more resources in strong basic facilities and proactive network management. Research also showed that issues revolving pricing transparency and service plans were evident, with nearly 20% of the total comments, amounting to 120 comments. This deduces the value of elaborate communication from ISPs to handle frustrations of users and preserve encouraging experiences. Lack of clear pricing models and provision of services could result to dissatisfaction of clients and eventual loss of consumers, detrimental to ISPs' competitiveness.

One more pertinent matter discussed by nearly 35% of the comments analysed, amounting to 210 comments, was lack of customer support and service resolution. Effective and fulfilling customer service plays an essential function in promoting long-term customer connections and contentment, stressing the need for ISPs to start with improvements in this aspect. Outcomes of this study concur with prior research in the telecommunications sector and client contentment. This underpins the benefits of undertaking technical infrastructure issues, strengthening transparency in communication and boosting mechanisms for client support. Several studies (Pasape, 2022; Marwa, 2023) have similarly emphasized these aspects. By handling these hindrances and fulfilling users' expectations, ISPs can improve satisfaction of clients, establish loyalty, and bolster their competitiveness in the telecommunications sector.

4.2.3 Technological Advancements and Innovations

Evaluation of comments reflects a substantial pattern towards more investment in fiber-optic infrastructure. This gained attention in 30% of the comments analysed. As such, users articulated optimism affecting this investment, expecting faster and more authentic internet services. This agreed with previous research that underline the vital function of fiber-optic networks in fulfilling the increasing demand for high-speed internet and promoting digital innovation (Lindsey and Martin, 2021; Gitonga et al., 2022). The excitement of users regarding these enterprises replicates outcomes that propose fiber-optic infrastructure leads to better performance of internet and client contentment (Ai et al., 2020). Conversely, enforcing 5G technology, indicated by 15% of the comments, accepted relatively less attention in relation to fiber-optic networks expansion and enhancement in network reliability.

Although users embraced 5G as a telecommunications progression, they relayed caution concerning its present phase of development. This conforms to extant literature that illustrates the initial cycle of 5G deployment and urges for additional refinement and development of its basic facilities (Ai et al., 2020; Barmpounakis et al., 2020; Kumar, 2021). The curiosity of users manifests scholarly debates that recognize the happening 5G technology evolution. This is alongside the expectation surrounding its succeeding programs and impacts. To conclude, outcomes of the comment analysis endorse existing literature (e.g., Bowman, 2023; Mahardhani, 2023; Cheruiyot et al., 2023), stressing the benefits of availing resources in fiber-optic infrastructure to boost internet services and address demands of users. Even though 5G technology reveals promise for the future, its present phase of development calls for conservative optimism and extra exploration of its possible merits and challenges.

4.2.4 Issues Related to Price of Packages

This study reveals that pricing transparency and service plans plays a crucial role in determining users' preferences and their choice of ISPs. During the evaluation it became evident that price related comments dominated user discussions. About 15 -20% of the total comments which were analysed mentioned specific ISPs prices, with many comments also comparing different ISPs. For example, SKY-TZ's monthly prices range from TZS 70,000 to TZS 200,000. TZ-LINK offers a lowest charge of TZS 55,000 per month for 20Mbps, and a highest of TZS 200,000 for 100Mbps. Charges for TZ-NET and T-CONNECT also fall within this range.

In addition to cost of internet packages, some users mentioned pricing flexibility as an important factor in their decision-making. By flexibility they refer to the ability to switch between packages based on their budget. As one SKY-TZ user wrote, "*kwa mfano mimi nimejiunga na cha 110,000 naweza kurudi cha 70,000*" (meaning, "*I am subscribed to the TZS 110,000 plan but I can switch to the TZS 70,000 package*").

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Moreover, the analysed content indicated that users the availability of unlimited bundles influences their decision-making. SKY-TZ, TZ-LINK, and T-CONNET offers unlimited data packages at different price points as mentioned earlier. Customer comments demonstrated also the importance of affordability. For example, TZ-NET and TZ-LINK were mentioned to offer affordable internet services, while others like T-CONNECT whose unlimited package is priced at TZS 120,000 per month, users highlighted as offering good value for money (as one user commented, "*T-CONNECT wana ile device unanunua 600000 alafu unapata unlimited Wifi 120000 per month great speed too*", which means, "*T-CONNECT offers packages priced at TZS 120,000 per month for unlimited internet, …")*.

These findings align well past marketing studies (e.g., Ansah, 2020; Zhao et al., 2021; Salfor et al., 2024) which suggest that customers consider price or value when deciding to benefit from the ownership or use of a good or service. Zhao et al. (2021) found that users often feel satisfied when the value of the service they purchase corresponds with cost they pay. Likewise, Hur et al. (2012) asserts that price is the primary driver of customer satisfaction and loyalty, since customers carefully evaluate whether the product or service offers the best value for they spend.

V. CONCLUSIONS & RECOMMENDATIONS

5.1 Conclusions

To conclude, this article offers an in-depth assessment of the internet service provision setting in Tanzania. This study specifically focused on the function of ISPs in forming satisfaction of users. Research adopted a mix of literature analysis, comparative studies, and user sentiment analysis on Instagram. A number of key outcomes have emerged concerning constraints in the sector, trends and patterns, and progress. Study outcomes highlight the critical value of network reliability, consistent and stable speed, and extensive coverage in fulfilling expectations of users and boosting satisfaction.

In addition, new technological trends e.g. fiber-optic infrastructure and deployment of 5G present exciting options for promoting internet connectivity as well as bridging the digital disparity in Tanzania. Promoting competition together with fostering client support systems are important for ascertaining reliable ISP services. By enforcing the suggested strategies and appreciating advances in technology, ISPs can navigate really well Tanzania's shifting internet terrain, boost quality service as well as contribute to socioeconomic growth of the nation. Collaborative and joint efforts with policymakers, stakeholders, and ISPs are necessary for handling the complex and intricate hindrances and opportunities across the sector.

5.2 Recommendations

This study analysed how ISPs services are perceived by the public, the key factors that influence choice of ISPs and the challenges users face. Based on the findings, this research recommends the following:

One of the most important areas that all ISPs need to focus on is on investment in technologies (e.g., load balance, and bandwidth management) that will enhance network reliability and consistency. Our analysis has highlighted ongoing concerns on frequent outages especially during peak hours and variations in internet speed. These adversely affect users' expectations and overall satisfaction. These problems are more pronounced in rural areas.

This study recommends that all ISPs strategically invest in expanding network coverage to rural areas. Internet services are no longer a luxury but are essential utilities necessary for enhancing economic growth and human development of any country. The Government of Tanzania has set ambitious targets to increase rural connectivity to 50% by 2025 and ultimately to a minimum of 75% by 2033. Achieving this expansion in rural connectivity requires collective efforts from all major stakeholders. To support this initiative and consistent with the National ICT Policy (NICTP) of 2003, and its 2016 revision, ISPs should continue collaborating with the government to improve connectivity and increase accessibility to services in marginalized areas (Naji et al., 2023). A similar initiative was launched in 2016, where mobile network operators launched an infrastructure sharing initiative to expand rural coverage.

ISPs should invest in robust customer service platforms to enhance customer support and service transparency. This is one of the prominent concerns that users raised, according to our analysis. Additionally, users seem to be not clear about pricing structures and the terms of services. ISPs should communicate with clarity pricing models and service plans to curb frustration of clients and guarantee positive experiences.

To enhance the use of ICT by the entire Tanzanian population, the government constructed a national fibre optic cable network, named the National ICT Broadband Backbone (NICTBB). It is hereby recommended that ISPs

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should prioritize investment in fiber-optic infrastructure to address the demand for higher internet speeds and reliability.

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