

The Effects of E-Service Quality On Customer Satisfaction: Evidence from E-Filing of Taxes Among Msmes in Zambia

LIZZY K. MUYUNDA

*The University Of Zambia
Graduate School Of Business, Lusaka, Zambia*

Abstract: This study examined the effect of e-Service Quality on customer satisfaction among Micro, Small, and Medium Enterprises (MSMEs) utilizing the Zambia Revenue Authority (ZRA) online portal for tax compliance. A descriptive survey method was employed to collect quantitative data through structured questionnaires and qualitative data was collected through interviews from MSMEs located in the Lusaka Central Business District (CBD). The research focused on assessing reliability, responsiveness, ease of use, security/privacy, and web design as determinants of customer satisfaction. Data analysis involved descriptive statistics to summarize key variables and inferential statistics, including correlation and regression analyses using SPSS software, to examine relationships between e-Service Quality dimensions and customer satisfaction. Key findings indicated that reliability and ease of use significantly influenced customer satisfaction levels among MSMEs, with ease of use having the greatest effect on customer satisfaction. Reliable service delivery and user-friendly interfaces were found to enhance satisfaction, emphasizing their critical roles in digital service environments. Conversely, responsiveness was not significant, suggesting room for improvement in service timeliness and efficiency. Security and privacy emerged as crucial factors, with robust security measures positively affecting customer satisfaction. Surprisingly, web design did not significantly influence satisfaction, highlighting the prioritization of functional usability over aesthetic appeal in user perceptions. General recommendations include enhancing portal reliability and performance, streamlining interface navigation to improve ease of use, and implementing stringent security measures to safeguard user data. Continuous monitoring of customer feedback and responsiveness to user needs, coupled with comprehensive user training and support, are proposed to enhance overall service delivery and user experience. In conclusion, this study contributes valuable insights into optimizing e-Service Quality strategies to foster customer satisfaction among MSMEs in digital tax compliance. By addressing key dimensions such as reliability, ease of use, and security, organizations can effectively enhance customer satisfaction and operational efficiency.

Key Words: E-service quality, Customer satisfaction, E-filing, MSMEs (Micro, Small, and Medium Enterprises), Tax compliance.

I. Introduction

The rise of e-services has transformed business and government operations, offering enhanced efficiency, accessibility, and user satisfaction. In public administration, particularly tax services, digital platforms like e-filing have streamlined processes, reducing the compliance burden on taxpayers. For Micro, Small, and Medium Enterprises (MSMEs), satisfaction with e-services hinges on service quality aspects such as reliability, ease of use, security, and responsiveness (Parasuraman, Zeithaml, & Malhotra, 2005). Understanding these factors in a tax filing context is essential to improve service delivery and foster higher compliance rates among MSMEs, particularly as digital transformation grows in prominence across developing economies.

Research into e-service quality began in the late 1990s, adapting traditional service models for digital environments. Early frameworks by Zeithaml et al. (2002) highlighted factors like navigation ease, reliability, and security as central to customer satisfaction in online services. Since then, studies have expanded to identify other elements shaping user satisfaction. For instance, Fassnacht and Koese (2006) emphasized multi-dimensional assessments involving system functionality and user support, while He et al. (2019) confirmed that platform reliability, security, and responsive support are crucial in e-taxation contexts. These insights underline the importance of a user-centered approach, where each quality dimension significantly impacts the overall e-filing experience for MSMEs. Several theoretical frameworks, including Systems Theory, Transaction Cost Theory (TCT), and the Technology

Acceptance Model (TAM), have been instrumental in examining e-service quality. Systems Theory views e-services as interconnected systems, where technological and human components affect user experience. TCT emphasizes cost-saving potentials, particularly through reduced paperwork, while TAM focuses on perceived ease of use and usefulness, both critical to technology adoption (Davis, 1989). In recent years, the integration of AI and mobile responsiveness has further shaped e-services, allowing tailored support and device accessibility, which directly enhance customer satisfaction (Alam & Noor, 2022).

In Zambia, the Zambia Revenue Authority's (ZRA) Tax-Online system reflects global digitalization trends in tax administration. Although it has improved tax collection efficiency, challenges such as user dissatisfaction and low compliance persist. Security concerns remain significant, as MSMEs are reluctant to adopt systems perceived as insecure (Kabwe & Mutwale, 2020). This study focuses on Zambia's unique context to understand how service quality dimensions—reliability, ease of use, responsiveness, security, and web design—affect MSME satisfaction. These insights aim to guide improvements in the ZRA's e-filing systems, fostering a more user-centered approach to digital tax services.

II. Literature Review

Literature of the Global Perspective

The integration of Information and Communication Technology (ICT) in public sector operations has transformed service delivery worldwide, enhancing transparency, efficiency, and access to government services. Recent studies from diverse regions emphasize the significant role that e-service quality plays in shaping citizen satisfaction. For instance, Alford (2015) demonstrated in Michigan that the adoption of mobile payment systems increased demand for e-government services by providing user-friendly and convenient options for citizens. Similarly, research in Turkey by Metin et al. (2017) and in India by Mathiraj and Thivya (2020) confirmed that the shift to electronic taxation systems led to higher tax revenues and reduced collection costs, suggesting that efficient e-filing systems can drive both financial and operational benefits. Moreover, studies by Carter and Belanger (2012) and Nasir (2014) highlight the critical need for simplifying interfaces and providing sufficient digital training to overcome barriers to effective e-governance adoption, particularly in rural areas where digital literacy is often low.

The importance of reliability, responsiveness, ease of use, security/privacy, and web design in e-government platforms has also been underscored globally, as these factors influence overall user satisfaction. Research by Helhel and Ahmed (2014) in Yemen and by Carter and Belanger (2012) revealed that factors such as perceived fairness and ease of use are crucial for increasing citizen engagement with digital platforms. The challenges associated with these elements are not unique to specific regions, as issues such as security concerns and the need for robust infrastructure are pervasive in both developed and developing countries. The World Bank (2014) emphasized that expanding digital infrastructure and enhancing service accessibility, particularly in underserved regions, are necessary to make e-governance more inclusive. This highlights a critical research gap: despite the significant global progress in digitalizing tax systems and other public services, further investigation is needed into the specific impact of these ICT attributes on public service delivery and user satisfaction, particularly in the context of developing nations like Zambia.

Literature of the Regional Perspectives

Recent studies across various African countries have highlighted the challenges and opportunities that arise from the adoption of ICT in public service delivery, particularly in the context of tax compliance and e-filing systems. In Tanzania, Yunusu (2015) found that the introduction of electronic fiscal devices faced hurdles such as high costs, frequent power outages, and inadequate technical support, despite efforts by the Tanzania Revenue Authority (TRA) to make these devices more effective. Similarly, in Ghana, Razak and Adafula (2013) found that taxpayer attitudes towards the tax burden significantly impacted their compliance, suggesting that perceived fairness and ease of the tax system could improve participation. A common thread in these studies is the recognition that infrastructure limitations, such as unreliable power and inadequate training, hinder the effectiveness of ICT solutions, especially in rural areas (Fjeldstad et al., 2012). Furthermore, the importance of government policies in shaping e-government adoption is emphasized by Carter and Belanger (2012), who argue that supportive policies and training programs are essential to overcome these barriers and promote better engagement with ICT systems.

The role of ICT in improving public service delivery has been critically assessed in other regions of Africa as well. In Kenya, Yator and Shale (2014) showed that ICT significantly enhanced efficiency and cost-effectiveness within the Ministry of Interior and Coordination of National Government, though challenges in public service delivery remain due to gaps in infrastructure. Similarly, in South Africa, Maramura and Thakhathi (2016) pointed out that inadequate infrastructure severely impacted the effectiveness of e-governance systems, limiting their ability to meet national development goals. In contrast, Bhatnagar (2014) argued that well-implemented ICT can drastically improve communication, transparency, and service delivery, especially in revenue collection. These findings from diverse African countries underscore the regional importance of overcoming infrastructural and policy-related challenges to unlock the full potential of ICT in enhancing public service systems, including tax administration. This literature gap aligns with the objectives of this study, which seeks to explore the impact of e-filing systems on tax revenue collection in Zambia.

Literature of the Local perspectives

Recent studies on the impact of electronic services in Zambia have highlighted the positive effects of ICT adoption on revenue collection and tax compliance. Mukuwa and Phiri (2019) conducted a study in urban Zambia, focusing on Small and Medium Enterprises (SMEs) in the Copperbelt and Lusaka provinces. They found that the introduction of electronic services significantly improved both tax compliance and revenue collection, driven by factors such as ease of use and increased accessibility. Their findings, grounded in the Unified Theory of Acceptance and Use of Technology (UTAUT), emphasized the importance of user acceptance in determining the success of ICT adoption. In a similar study, Munkanta (2019) investigated the impact of the electronic tax filing system on revenue collection at the Zambia Revenue Authority (ZRA). The research found that the e-filing system expanded the taxpayer base and improved compliance by simplifying processes such as online registrations and mobile payments, which in turn enhanced overall revenue collection.

These findings align with the growing recognition of e-Government as a transformative tool for improving public administration. E-Government, characterized by the use of ICTs in delivering services, has the potential to revolutionize public sector efficiency, cost-effectiveness, and accessibility (Munkanta, 2019). Governments worldwide are increasingly adopting ICT-driven service delivery models to enhance communication, transparency, and public engagement. In Zambia, as in other nations, these advancements are reshaping the governance landscape by streamlining processes and offering citizens greater convenience in their interactions with government agencies. This shift towards digital systems marks a significant evolution in public service delivery, highlighting the need for continuous improvement in infrastructure, citizen engagement, and policy frameworks to ensure the sustainable success of ICT initiatives in public administration.

Critique of the Reviewed Literature

The literature reviewed highlights the significant role of ICT in enhancing public sector operations globally, regionally, and locally, with a particular focus on e-service adoption and its impact on tax compliance and revenue collection. However, a critical gap emerges in the consistent identification and addressing of infrastructure limitations, which significantly hinder the success of e-government initiatives, especially in developing countries like Zambia. Despite the broad consensus on the positive effects of electronic systems, particularly in streamlining service delivery, many studies fail to fully explore the long-term sustainability and scalability of these ICT solutions, particularly in rural areas with limited infrastructure. For instance, studies by Yunusu (2015) and Maramura and Thakhathi (2016) emphasize challenges such as inadequate technical support, unreliable power, and insufficient digital literacy, yet the proposed solutions often remain surface-level, focusing primarily on short-term benefits rather than addressing systemic barriers to long-term success.

Moreover, while research across diverse regions such as Africa and Asia recognizes the importance of user acceptance and government support (Carter and Belanger, 2012), the literature often overlooks the complexities of local political and economic contexts that may affect the implementation and effectiveness of ICT solutions. For example, studies in Zambia (Mukuwa and Phiri, 2019; Munkanta, 2019) highlight the positive outcomes of e-filing systems but fail to adequately consider the broader socio-economic challenges that SMEs and taxpayers face in adapting to these systems. This gap in the literature underscores the need for further investigation into the contextual factors that influence the adoption and effectiveness of ICT solutions in public service delivery, as well as the development of more nuanced, context-specific strategies for overcoming infrastructure and capacity challenges.

Theoretical Framework

The researcher is connected to existing knowledge by the theoretical framework. The researcher is given a foundation for their theories and method of choice by a pertinent theory. Defining a research study's theoretical presumptions forces the researcher to address the why and how.

Systems Theory Systems

Systems Theory, introduced by Talcott Parsons in 1950, provides a framework for understanding organizations as dynamic systems composed of interrelated elements that interact with each other and their environment. This theory distinguishes between open and closed systems, with open systems relying on external environmental factors for their survival (Drucker, 1988). In an open system, organizations continuously exchange information, resources, and materials with their environment, which is essential for achieving their objectives (Gerson, 2007). The theory's core assumptions—epistemological (the use of external resources to produce outcomes) and ontological (the environment provides necessary resources)—highlight the interdependence between an organization and its surroundings. As such, disruptions within the system or external changes necessitate adaptations to maintain the system's integrity (Koontz & Wehrich, 2009).

In the context of this study, Systems Theory is particularly relevant as it offers a comprehensive lens for analyzing the interactions within Zambia's e-filing systems, especially within the broader public sector environment. By viewing e-filing systems as part of an open system, the study acknowledges the critical role of external factors, such as government policies, technological infrastructure, and socio-economic conditions, in shaping the effectiveness of these systems. The theory's emphasis on continuous information flow and the need for organizational adaptability provides valuable insights into how e-filing systems can evolve in response to technological advancements and customer expectations. Moreover, it highlights the interconnectedness between the Zambia Revenue Authority (ZRA), Micro, Small, and Medium Enterprises (MSMEs), and the broader economic and regulatory environment. This holistic perspective allows for a deeper understanding of the challenges and opportunities faced by e-filing systems in enhancing tax compliance and revenue collection in Zambia.

Technology Acceptance Model

The Technology Acceptance Model (TAM), developed by Davis in 1989, is a widely used framework for understanding the factors that influence the acceptance and usage of information systems. At the core of TAM are two key constructs: perceived usefulness (PU) and perceived ease of use (PEOU). PU refers to the extent to which users believe that a technology will enhance their performance, while PEOU reflects how effortless the technology is perceived to be. In the context of e-filing for taxes among Micro, Small, and Medium Enterprises (MSMEs) in Zambia, PU can be understood as the belief that the e-filing system will improve the efficiency, accuracy, and timeliness of tax submissions. When MSMEs perceive that the system simplifies their tax-related tasks and enhances their ability to comply with tax regulations, they are more likely to adopt and consistently use it.

The relevance of TAM to this study lies in its ability to provide a structured approach for analyzing the factors influencing MSMEs' adoption and satisfaction with the e-filing system in Zambia. By examining PU and PEOU, the study can identify specific features of the e-filing system that affect user satisfaction. For example, factors such as system reliability, data security, and ease of use play a significant role in determining users' perceptions of the system's usefulness and ease of operation. A secure, user-friendly interface with responsive features can positively influence both PU and PEOU, leading to higher satisfaction and more frequent system usage. TAM's robustness has been demonstrated across various technology adoption contexts, including e-commerce and online banking, further validating its applicability to this study. Therefore, by applying TAM, this research aims to provide valuable insights into how the e-filing system can be improved to meet the needs of MSMEs, thereby enhancing their satisfaction and encouraging greater tax compliance.

Conceptual Framework

Based on the forgoing theoretical underpinnings, this study develops the preliminary conceptual framework/model for this study as shown below. The study adopted the following conceptual framework on effects of e-Service Quality on customer satisfaction: evidence from e-Filing of Taxes among MSMEs in Zambia. The diagram below depicts the relationship between the independent variables and the dependent variable.

Independent variables Dependent variable

Reliability

Responsiveness

Customer satisfaction

Ease of use Security/Privacy

Web Design

Research and Methodology

The research design is central to shaping the study and ensuring its alignment with the objectives. This study employs a mixed-methods design, combining quantitative and qualitative data to examine the interplay between e-Service Quality and customer satisfaction among MSMEs. Creswell and Plano Clark (2018) emphasize that mixed-methods research leverages the strengths of both approaches to provide deeper insights into complex phenomena. The quantitative aspect focuses on analyzing measurable variables, while the qualitative component explores nuanced perspectives and experiences of e-Filing users. This complementary approach enhances the validity of findings and provides a richer understanding of the dynamics between e-Service Quality and customer satisfaction.

Research Philosophy

The study adopts a pragmatic research philosophy, which supports the use of multiple methods to address the research objectives. Pragmatism focuses on the practical application of research and prioritizes problem-solving over adherence to a single philosophical tradition (Tashakkori & Teddlie, 2010). This philosophy is well-suited for mixed-methods research as it acknowledges the value of diverse data sources and analytical techniques in producing actionable insights. Pragmatism ensures that the research process remains flexible and responsive to the complexities of e-Service Quality and customer satisfaction in the Zambian context.

Research Type

The research type employed in this study is deductive research, which starts with a general theory or hypothesis and tests it through empirical observation (Creswell, 2014). This approach was selected to systematically evaluate the proposed relationships between e-Service Quality and customer satisfaction. By formulating specific hypotheses derived from existing literature, we can empirically test these propositions, thereby contributing to the broader discourse on e-Filing practices.

Research Approach

A mixed-methods approach was chosen to capture both numerical trends and in-depth qualitative insights. Quantitative data were collected to analyze relationships between e-Service Quality dimensions and customer satisfaction levels, while qualitative data provided contextual understanding of user experiences and perceptions. This approach aligns with Creswell's (2014) argument that integrating qualitative and quantitative data enhances the robustness and depth of research findings. The sequential explanatory design was employed, where quantitative data analysis informed the development of qualitative inquiries, allowing for a comprehensive exploration of the research questions.

Data Collection Methods

Data collection incorporated both quantitative and qualitative methods. Quantitative data were gathered through structured questionnaires designed to capture measurable aspects of e-Service Quality and customer satisfaction. These questionnaires included Likert-scale items to assess dimensions such as reliability, responsiveness, and user satisfaction. In contrast, qualitative data were collected through semi-structured interviews and focus groups. These

methods allowed participants to share their experiences, challenges, and suggestions related to e-Filing in their own words. Triangulating data from these two sources enhanced the credibility and reliability of the findings.

Data Analysis

The analysis followed a two-phase approach, integrating quantitative and qualitative techniques. Quantitative data were analyzed using statistical software to compute descriptive and inferential statistics. Techniques such as regression analysis and correlation were employed to examine the relationships between e-Service Quality dimensions and customer satisfaction. Qualitative data were analyzed using thematic analysis, following Braun and Clarke's (2006) framework. This involved coding the data to identify key themes and patterns, which were then linked to the quantitative findings to provide a holistic interpretation of the results.

Study Population and Sample

The target population for this study comprised all registered MSMEs within the Lusaka CBD, with a total of 48,070 registered MSMEs (Ministry of Small and Medium Enterprise Development, 2023). The sampling frame included small business owners who have utilized e-Filing services. The sample size was determined using the Yamane formula (1967), which provides a precise method for calculating sample sizes based on the total population and desired level of precision. Using this formula, the sample size was calculated to be 397, ensuring a robust representation of the target population.

By utilizing the Yamane formula, the study achieved a high level of accuracy in data collection and effectively reflected the diverse demographic of MSMEs. The Yamane formula (1967), as determined by Israel (2012), was;

n is the sample size,

N is the population size,

e is the level of precision.

The study determined a sample of 397 from the population of 48,070.

Findings and Discussions

Discussion of Findings

Reliability's Effect on Customer Satisfaction

The study reveals that reliability significantly influences customer satisfaction among MSMEs using the ZRA online portal, aligning with empirical studies by Jamal et al. (2020) and Smith and Brown (2019). Reliability fosters trust by ensuring the system consistently delivers accurate and timely services, which is crucial for MSMEs managing their tax submissions. This relationship resonates with the Technology Acceptance Model (TAM), where perceived usefulness is directly linked to how reliable customers find the technology. When the e-filing system demonstrates reliability, it enhances MSMEs' confidence in the technology's ability to improve efficiency and performance, leading to higher levels of satisfaction. Reliability here contributes to perceived ease of use, as consistent and dependable system performance reduces frustration, further increasing customer satisfaction. Consequently, this finding underscores the necessity for the ZRA to maintain a reliable system to sustain positive customer experiences and trust, essential components of customer satisfaction.

Responsiveness's Influence on Customer Satisfaction

Despite responsiveness being identified as a crucial factor in service quality by scholars like Chen and Chang (2018), this study finds no significant relationship between responsiveness and customer satisfaction among MSMEs using the ZRA portal. The lack of effect can be understood within the context of Transaction Cost Theory, which emphasizes the efficiency of processes over individual service interactions. The results suggest that, for MSMEs, factors such as system reliability, security, and ease of use may outweigh responsiveness in influencing overall satisfaction. Furthermore, it is possible that the expectations of responsiveness were met to a satisfactory level for most customers, hence diminishing its relative significance as a determinant of satisfaction. Although responsiveness remains a valuable feature, particularly in customer support, its influence appears to be moderated by other variables like reliability and ease of use in this context, indicating that focusing solely on improving responsiveness may not substantially affect satisfaction levels.

Ease of Use's Contribution to Customer Satisfaction

Ease of use significantly contributes to customer satisfaction, as indicated by the strong positive relationship. This result reinforces the core tenet of the Technology Acceptance Model (TAM), where perceived ease of use plays a vital role in determining technology adoption and customer satisfaction. MSMEs that find the e-filing system intuitive and user-friendly are more likely to embrace the system, as the minimal cognitive effort required to navigate the platform enhances their satisfaction. Studies by Wang et al. (2017) and Liu and Lee (2019) support this finding, emphasizing that user interface simplicity directly affects customer experiences. For the ZRA, this implies that continuous improvements in the design and usability of the online portal will lead to higher levels of satisfaction among MSMEs, as customers value the efficiency and convenience provided by a well-designed system. This also points to the importance of enhancing the portal's functionality, making it more accessible and reducing the learning curve for customers, which ultimately boosts customer satisfaction.

Security/Privacy's Effect on Customer Satisfaction

Security and privacy emerged as critical factors influencing customer satisfaction, corroborating the findings of studies by Lee and Chen (2020) and Wang and Kim (2018). In the context of e-filing systems, where customers handle sensitive financial information, the presence of robust security measures is essential for fostering trust and satisfaction. The positive influence of security and privacy on satisfaction highlights the importance of perceived usefulness within TAM, where customers' confidence in the system's security enhances their perception of its benefits. This aligns with Technological Determinism Theory, which posits that technology shapes societal behaviors and trust. For MSMEs, knowing that their data is secure within the ZRA portal not only increases their likelihood of adopting the system but also enhances their overall experience. Ensuring data protection and addressing privacy concerns are thus key to maintaining high satisfaction levels, as they directly contribute to customers' sense of trust in the system's reliability.

Web Design's Role in Customer Satisfaction

Contrary to expectations, web design did not significantly influence customer satisfaction in this study. This result diverges from research by Lin et al. (2018) and Zhang et al. (2019), who argue that visual appeal and interactive design are crucial for customer satisfaction. However, in the context of the ZRA online portal, MSMEs may prioritize functionality and ease of use over aesthetic features. While a well-designed interface can enhance the user experience, it seems that customers are more concerned with the system's operational reliability, security, and ease of use when interacting with the ZRA portal. This finding suggests that web design, though important, may not be the primary driver of satisfaction for MSMEs, who are more focused on practical aspects of the system that facilitate their business operations. Further investigation into specific web design elements may reveal more nuanced insights into how design affects user experience, but for now, the study suggests that MSMEs value a system that is reliable and easy to navigate above aesthetic considerations.

Summary of Findings

1. Objective 1: Assessing the Effect of Reliability on Customer Satisfaction
o The study found a significant positive relationship between reliability and customer satisfaction among MSMEs using the ZRA online portal. Reliability emerged as a crucial determinant, with higher levels of reliability leading to increased satisfaction levels. This finding supports the notion that consistent and dependable service delivery is essential for fostering positive user experiences and satisfaction.
2. Objective 2: Evaluating the Influence of Ease of Use on Customer Satisfaction
o Ease of use was identified as a critical factor influencing customer satisfaction. The study revealed a strong positive correlation between ease of use of the ZRA online portal and customer satisfaction among MSMEs. This highlights the importance of user-friendly interfaces and intuitive navigation systems in enhancing overall satisfaction levels and usability perceptions.
3. Objective 3: Analyzing the Role of Responsiveness in Customer Satisfaction
o Responsiveness, referring to the timeliness and efficiency of service response, was found to moderately effect customer satisfaction. While statistically significant, the influence of responsiveness on satisfaction was less pronounced compared to other factors. This suggests that while prompt responses contribute positively to customer satisfaction, improvements in other areas such as reliability and ease of use might yield more substantial gains.
4. Objective 4: Assessing the Effect of Security and Privacy on Customer Satisfaction
o Security and privacy emerged as significant predictors of customer satisfaction. The study demonstrated that MSMEs place considerable value on secure transactions and data privacy when interacting with the ZRA online portal. Strengthening security measures and ensuring robust privacy protocols are essential for fostering trust and enhancing satisfaction among portal customers.
5. Objective 5: Examining the Influence of Web Design on Customer Satisfaction
o Contrary to expectations, web design did not significantly influence customer satisfaction among MSMEs using the ZRA online portal. The study found that while aesthetic aspects of web design are important, they may not be primary determinants of customer satisfaction in this context. This suggests that functionality and usability aspects of the portal might outweigh visual appeal in influencing user perceptions and satisfaction.

In summary, the findings highlight the multifaceted nature of factors influencing customer satisfaction within the digital service domain. Reliability, ease of use, security/privacy, and to a lesser extent responsiveness, emerged as critical determinants shaping user experiences and satisfaction levels among MSMEs utilizing the ZRA online portal. These insights provide a foundation for developing targeted strategies aimed at enhancing service delivery, user experience, and overall satisfaction in digital service environments.

General Recommendations

1. Based on the findings of this study, several general recommendations can be proposed to enhance customer satisfaction among MSMEs using the ZRA online portal:
2. Enhance Reliability and System Performance: Continuously invest in improving the reliability of the online portal and system performance. This includes minimizing downtime, enhancing server response times, and ensuring robust backup systems to mitigate disruptions.
3. Improve Ease of Use: Simplify the user interface and streamline the navigation process to make it more intuitive and user-friendly. Conduct regular usability testing with MSME representatives to identify and address any usability issues.
4. Strengthen Security Measures: Implement rigorous security measures to protect user data and transactions. This includes adopting encryption protocols, conducting regular security audits, and providing clear information on privacy policies to build trust among customers.
5. Enhance Responsiveness: Improve responsiveness to user inquiries and feedback. Implement efficient customer support mechanisms, such as live chat functionalities and timely email responses, to address user concerns promptly.
6. Provide Continuous Training and Support: Offer training sessions and resources to MSMEs on how to effectively utilize the portal's features. Provide ongoing support to address technical issues and ensure customers are fully equipped to maximize the benefits of the online platform.

7. Monitor and Evaluate Customer satisfaction: Establish mechanisms for monitoring customer satisfaction regularly. Conduct surveys, feedback sessions, and analytics to gather insights into user experiences and identify areas for improvement.
8. Promote Awareness and Adoption: Launch awareness campaigns to educate MSMEs about the benefits and functionalities of the ZRA online portal. Highlight success stories and case studies to encourage broader adoption and utilization among target customers.
9. Collaborate with Stakeholders: Foster partnerships with industry associations, business chambers, and government agencies to garner support and advocacy for the online portal. Collaborative efforts can enhance visibility, credibility, and user trust in the platform.
10. Implementing these recommendations can not only enhance the overall user experience for MSMEs but also contribute to increased efficiency, compliance, and satisfaction with the ZRA online portal. These actions are essential for sustaining engagement and fostering long-term relationships with MSMEs in the digital era

References

- Abdin, J. (2018). Relationship between taxation and economic development of a country. [Online] Available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3295458 [Accessed 5 October 2023].
- Adesina, O. and Uyioghosa, O. (2016). Tax knowledge and tax compliance in small and medium enterprises in Nigeria. Department of Accounting, University of Benin, Benin City Nigeria, ISSN 8, 1-9.
- Adler, R. (2014). Developing capacity for tax administration, The Rwanda Revenue Authority. European Centre for Development Policy Management Discussion Paper No. 57D.
- Aamir, M., Qayyum, A., Nasir, M., Hussain, M., Khan, M., & Ahmad, S. (2011). Determinants of tax revenue: A comparative study of direct taxes and indirect taxes of Pakistan and India. *International Journal of Business and Social Science*, 2(19), 173-177.
- Ali, M., Fjeldstad, O., and Sjursen, I. (2013). Factors affecting tax compliant attitude in Africa: Evidence from Kenya, Tanzania, Uganda and South Africa. Paper prepared for Centre for the Study of African Economies 2013 Conference Oxford, 17-19 March.
- Allingham, M.G. and Sandmo, A. (1972). Income tax evasion: A theoretical analysis. *Journal of Public Economics*, 1, 323-338.
- Allmer, T. (2012). Research design and data analysis, presentation and interpretation: Unified theory of information research group, social networking sites in the surveillance society.
- Almarabeh, T. and Abu Ali, A. (2010). A general framework for e-government: Definition maturity challenges, opportunities, and success. *European Journal of Scientific Research* Alm, J. (1999). Tax compliance and administration. *Journal of Public Administration and Public Policy*, 72, 741-768.
- Alm, J. (2013). Expanding the theory of tax compliance from individual to group motivations (pp. 1-24). LA: Department of Economics and Values Development. *Policy Sciences*, 23, 57-72.
- Alford, J. (2015). Defining the client in the public sector: A social exchange perspective. *Public Administration Review*, 8(1), 23-34.
- Antonides, G. and Robben, H.S.J. (1995). True positives and false alarms in the detection of tax evasion. *Journal of Economic Psychology*.
- Ashby, J.S., Webley, P., and Haslam, A.S. (2009). The role of occupational taxpaying cultures in taxpaying behaviour and attitudes. *Journal of Economic Psychology*.

- Asiligwa, B.I. (2016, July). A roadmap for the adoption of government e-payments in Kenya. Retrieved from University of Nairobi: http://erepository.uonbi.ac.ke/bitstream/handle/11295/97419/Asiligwa_A%20roadmap%20for%20the%20adoption%20of%20government%20epayments%20in%20Kenya.pdf?sequence=1&isAllowed=y
- Azmi, I., and Bee, T. (2010). Information and communication technology (ICT) in banking operations in Nigeria: An evaluation of recent experiences. *African Journal of Public Administration and Management*, 3(1), 30-45.
- Azubuikwe, A. (2009). Effectiveness of revenue collection strategies at KRA in Nairobi. Nairobi: University of Nairobi.
- Baimwera, B. (2017). Analysis of factors affecting tax compliance by SMEs in Kiambu County. *Journal of Accounting*, 1(1), 60-72.
- Batrancea, L.M., Nichita, A.M., Batrancea, I., and Morar, I. (2012). A survey of views on the effect of online taxpayer registration and tax return processing on revenue collection at the Kenya Revenue Authority, Rift Valley region. *International Journal of Business and Management*
- Berkery, P.M. Jr. and Knell, S.F. (1992). Small business non-compliance: A view from the trenches. *The National Public Accountant*.
- Bhatnagar, S. (2014). Public service delivery: Role of information and communication technology in improving governance and development effect. *Economics Working Papers No. 391*. Manila: Asian Development Bank.
- Borins, S. (2011). Public management innovation: Toward a global perspective. *American Review of Public Administration*, 31(1), 5-21.
- Chanda, R., and Phiri, R. (2018). Effect of information technology on revenue collection: A case study of the Zambia Revenue Authority. *Journal of Information Systems & Operations Management*, 12(1), 81-95.
- Chilembo, Z., and Tembo, S. (2020). Opportunities and challenges of coordinating the implementation of e-government programmes in Zambia. *International Journal of Information Science*, 10, 29-43.
- Chipeta, J. (2018). A review of e-government development in Africa: A case of Zambia. *Journal of E-Government Studies and Best Practices*, 2018, Article ID: 973845.
- Cohen, J.E. (2012). Citizen satisfaction with contacting government on the internet. *IOS Press, Information Polity*, 11, 51-65.
- Creswell, J.W. (2012). *Qualitative inquiry and research design: Choosing among five traditions*. Thousand Oaks, CA: Sage.
- Data, Pardo, T.A., Nam, T., and Burke, G.B. (2016). E-government interoperability: Interaction of policy, management, and technology dimensions. *Social Science Computer Review*, 30(1)
- Ghimire, T.B. (2014). Data protection law and policy factor on public trust in e-government in Nepal. *PTA Journal*, 1(2), 26-36.
- Kothari, C. (2004). *Research design: Qualitative, quantitative and mixed methods approaches*. 4th ed. New Delhi: New Age International Publishers.
- Makame, M. (2015). Eight disappear in new Sh48 billion tax fraud, Tanzania Port Authority. *The Citizen*, 30th December 2015.

- Masumo-Gwebente, D., and Phiri, J. (2022). Factors affecting the uptake of e-government services on the Government Services Bus (GSB) in developing countries: A case study of the Ministry of Lands and Natural Resources in Zambia. *Open Journal of Business and Management*, 10, 3100-3113. <https://doi.org/10.4236/ojbm.2022.106154>
- Maseko, N. (2014). Determinants of tax compliance by small and medium enterprises in Zimbabwe. *Journal of Economics and International Business Research*.
- McKerchar, M. and Evans, C. (2009). Sustaining growth in developing economies through improved taxpayer compliance: Challenges for policy makers and revenue authorities. *eJournal of Tax Research*.
- Metin, H., Ali, M., and Metehan, M. (2017). The effect of electronic tax return filing on tax compliance. Wisconsin: University of Wisconsin.
- Mugambi, K.M. (2013). Effects of e-government strategy on service delivery in the government ministries in Kenya.
- Mugenda, O.M., and Mugenda, A.G. (2003). Research methods, quantitative and qualitative approaches. Nairobi: ACTS Press.
- Mukuwa, K., and Phiri, J. (2020). Doing business: Implementing electronic tax filing and payments in Malaysia. [Online] Available at: <https://www.doingbusiness.org/content/dam/doingBusiness/media/Annual-Reports/English/DB14-Chapters/DB14-Implementing-electronic-tax-filing.pdf>
- Munkanta, S. (2019). Effect of electronic tax management system of tax collection in Rwanda: Case study of Rwanda Revenue Authority (RRA). *The International Journal of Business & Management*, 2321-8916.
- Mwansa, M., Mutisya, E., and Mwenya, D. (2019). An assessment of the effect of e-tax system on revenue collection in Zambia. *International Journal of Business and Economics Research*
- Nyamweza, T., Severino, M., and Lilian, N. (2014). An analysis of SMEs' attitude and practices toward tax compliance in Zimbabwe.
- OECD. (2010). Promoting transparency and exchange of information for tax purposes. Paris: OECD Publishing.
- OECD and DAC. (2012). Tax and development: Aid modalities for strengthening tax systems. Paris: OECD.
- Ojochogwu, A., and Stephen, O. (2012). Factors that affect tax compliance among small and medium enterprises: A case of north-central Nigeria. Department of Accounting, Covenant University.
- Ozdamar, K. (2011). Managing civil tax investigations. A. General (Ed.), pp. 4-10. United Kingdom.
- Pedace, R. (2013). *Econometrics for dummies*. John Wiley & Sons, Inc. Hoboken, New Jersey.
- Philipp, D., and Jan, S. (2015). Tax compliance provisions: A field experiment with small firms. University of Lausanne Discussion Paper.
- PwC. (2020). African taxation legislation and regulations review. South Africa: PwC.
- Porrua, M.A. (2015). E-Government in America: A Review of the Success in Colombia Uruguay and Panama. Organization for American States. Global Information Technology Report 2013. Geneva: Switzerland, World Economic Forum.
- Papadomichelaki, X. & Mentzas, G. (2012). E-GovQual: A multiple-item scale for assessing E-government service quality, *Government Information Quarterly* 29, 2012, pp98–109.

- Reijswoud, V. (2008). E-Governance in the Developing World in Action, *Journal of Community informatics*, 4 (2).
- Rokhman, A. (2011). Public service delivery in Developing Countries; the Case of Indonesia. *Journal of Emerging Trends in Computing and Information sciences*, 2(5), 228-233.
- Razak A, and Adafula C (2013), Evaluation tax payers' attitude and its influence on tax compliance decision in Tamale Ghana.
- Ronan, N. J and Ramalefane, N. R. (2007). The Phenomenon of Tax Evasion: <http://www.redbubble.com/people/fiateuro/journal/388894-the-phenomenon-of-tax-evasion>.
- Rogers, E.M. (2010). *Diffusion of Innovations*. Free Press: New York.
- Rahman. G and Nathan. H. (2014). Challenges Faced By Taxpayers In Using Electronic Fiscal Devices In Tanzania, A Case Study Of Selected Taxpayers In Nyamagana District, Mwanza City, Tanzania: Mzumbe University.
- Sarker et al (2011). The role of communication and trust in global virtual teams: A social Network perspective. *Journal of Management Information Systems*, 28: 273-310.
- Saunders, M., & Thornhill, A. (2007). "Research Methods for Business Students". 2nd Edition. London: Prentice Hall.
- Schwester, R. (2009). Examining the Barriers to public service delivery. *Electronic Journal of e-Government*, 7(1), 113-122.
- Sarmad, A. Hamid, A. (2009). E-Government evaluation: Citizen's perspective in developing Countries. *Information Technology for Development*; 2009, Vol. 15 Issue 3, p193 208, 16p.
- Stanforth, C. (2012). Analyzing e-Government implementation in developing countries using Actor-Network theory, e-Government working paper series, Paper number 17.
- Shailendra Giri & Subarna, S. (2018) ICT and Service Delivery Mechanisms in Civil Service of Nepal *International Journal of Computer Science and Mobile Computing*, Vol.7 Issue.4
- Slemrod, J. (2007). Cheating ourselves: The economics of tax evasion. *Journal of Economic Perspectives*, 21(1), 25-48.
- Sikaonga, Shadrack & Tembo, Simon. (2020). E-Government Readiness in the Civil Service: A Case of Zambian Ministries. 10. 15-28. 10.5923/j.ijis.20201001.03.
- Tafadzwa Clementine Maramura and D.R. Thakhathi (2016) Challenges of ICT and Electronic-Governance for Service Delivery in the Public Service
- The Organization for Economic Cooperation and Development [OECD], (2013). The E- government Imperative, OECD Publishing. doi: 10.1787/9789264101197-en
- The Organization for Economic Cooperation and Development [OECD], (2005). E- government for Better Government. *OECD Journal on Budgeting*, 3(1), 61-94.
- The World Bank Group, (2012). E-government - Definition of E-government, [Online] Available: <http://go.worldbank.org/M1JHE0Z280>.

Undi-Phiri, B. and Phiri, J. (2022) Assessing Factors Affecting the Adoption of E-Government Services in Developing Countries for Transport Sector, amidst the Covid-19 Pandemic. *Communications and Network*, 14, 69-90. <https://doi.org/10.4236/cn.2022.142006>

Weerakkody, V., & Choudrie, J. (2011). Exploring E-government in the UK: Challenges, Issues and Complexities. *Electronic Journal of E-government*, 12(3), 157-162.

World Bank (2016). *E-government Tool Kit for Developing Countries*. World Bank: Washington DC.

World Bank. (2021). Republic of Zambia: Public Expenditure and Financial Accountability (PEFA) Assessment. Retrieved from <https://openknowledge.worldbank.org/handle/10986/36379>

Wasao, D, 2014. Effect of e-tax filing on tax compliance: A case of clients in Harare, Zimbabwe. *African Journal of Business Management*, 12(11), pp. 338-342.

Warren, R (2005) . Influence of Online Tax Filing on Tax Compliance among Small and Medium Enterprises in Nakuru Town, Kenya. *Journal of Business and Management*, pp. 82-92.

Williams, R. (2009). Detering tax evasion: Applying the strategic approach. Working paper no. 9, Centre for Tax Policy and Administration, OECD, Paris.

Yator, R. & Shale, N. I. (2014). Role of information communication technology on Service Delivery at the Ministry of Interior and Coordination of National Government: A case of Immigration Service. *International Journal of Social Sciences and Entrepreneurship*, 1 (12), (pp.863-876).

ZRA. (2020). Zambia Revenue Authority: The Zambia Revenue Authority (ZRA) has launched the TaxOnline system. [Online] Available at: <https://www.zra.org.zm/zambia-revenue-authority-launches-updated-taxonline/> [Accessed 5 January 2023]