

Assessing the effectiveness of value-added taxation reforms on small and medium enterprises performance in Rwanda: A case study RRA in Nyarugenge District

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ABSTRACT

This research paper describes the potential gains and pitfalls of Value Added Tax (VAT) reforms for Small and Medium Enterprises (SMEs) in Rwanda. Efficiency and productivity: By reducing administrative burdens, VAT reforms can help SMEs focus on their core business activities, which can lead to improved profitability. However, the effectiveness of these reforms is contested, both in terms of their practical application and their different impacts. The study focuses on testing the impact of VAT reforms on SME performance in Rwanda for the following: impact of changes in the VAT rate, VAT registration reforms, and increasing use of a digital VAT system. The theoretical research framework for this study was based on the theory of tax compliance and the technology acceptance model. The current study was conducted by using a descriptive research design. In this study, the target population was 19,733 Small and Medium Enterprises (SMEs) of Nyarugenge District. In fact, the researcher used stratified random sampling to get a sample of 99 SMEs. Primary data is considered to be more reliable and adaptive and is usually acquired through questionnaires and interviews. Descriptive statistics and inferential statistical methods were applied using SPSS for its highly effective analytic capability. Results indicate that VAT rate reforms influence ($M = 3.89$; $SD = 1.198$) the performance of SMEs, VAT registration reforms influence ($M = 3.67$; $SD = 1.287$) the performance of SMEs, and VAT rate reforms influence ($M = 3.87$; $SD = 1.290$) the performance of SMEs. The study concludes that the predictors of SME performance in Rwanda are VAT rate reforms, VAT registration reforms, and VAT digital system reforms. It suggests that tax managers need to provide a support mechanism to SMEs in the transition period after VAT reforms. This includes financial literacy training and support for tax compliance. In addition, they should offer training and guidance to SMEs to help them understand the new VAT rules and regulations. Further, they should offer resources and guidance to help empower the SME businesses to maximise the benefits of the reforms.

Key words: SMEs Performance, VAT Rate Reforms, VAT Registration Reforms, VAT Digital Reform

I. INTRODUCTION

Small and medium-sized enterprises (SMEs) are characterized by many different measures that gauge their operating efficiency, financial status, and competitiveness in the market. Profit, revenue growth, and market share are the major financial indicators, which are measured externally and combined to form an index of the ability of an SME to grow and sustain its operation (Ojo & Shittu, 2023). We find that value-added tax (VAT) reforms have a significant impact on the performance of SMEs, with the potential to change the financial conditions of SMEs. This reflects the fact that the consequences of VAT changes depend critically on the form the reforms take and on the circumstances of individual enterprises. It emphasizes the importance of SMEs understanding these dynamics to successfully adapt to the performance impact of VAT changes (Erick et al., 2024).

In addition, SMEs account for about 90% of worldwide businesses and more than 50% of global employment. The content reflects the pivotal role of SMEs in contributing to economic growth and employment, and stresses the importance of their contribution to innovation and to the vitality of local communities. These formal SMEs have an important role in the country's national income; their systemic contribution can be as high as 40% of a country's gross domestic product (GDP), as reported by Tian et al. (2022). This emphasizes the importance of SMEs not just as an employment generator, but also as a key contributing factor to overall economic growth and stability. The value added tax rate varies significantly from country to country, but is usually somewhere between 10% and 20%.

Indeed, VAT reforms are the most important reforms which any country can undertake to modernise its tax system and make it efficient and fair in terms of revenue mobilisation. During the last decade, most countries have been implementing digitalisation of VAT administration, real-time reporting and enhanced compliance mechanisms. Other major reforms relate to electronic invoicing, changing the threshold and country specific sectoral measures aimed at reducing evasion and broadening the tax base (Balatsky & Ekimova, 2019; Maxim & Zander, 2020; Aneja et al., 2021).

These reforms have introduced simplification of procedures, in particular for small and medium enterprises, and are aimed at improving traceability to close the VAT gap.

According to Amutabi (2023), value-added tax (VAT) reforms are one of the factors that contribute to the improvement of performance of small and medium-sized enterprises (SMEs). The International Monetary Fund (IMF) pointed out this important connection in a report published in 2020. This highlights the paramount importance of SMEs to economic development and the importance of implementing a suitable tax regime conducive to the growth of SMEs. VAT reforms are of relevance, especially if we consider the average VAT rate in Asia, which is 10.9%. This relatively low average is due to the fact that VAT systems have been introduced in the region only recently. Also, the performance of SMEs is contributing to VAT rates, which is a response to the scenario of the Asian countries which have a different economy from the countries in the developed world (Warundu, 2021).

In Africa, which has an average VAT rate of 12.3%. This average accounts for the different approaches toward tax policy that exist across different countries in the region. Moreover, the performance of SMEs is affected by VAT reforms, which are typically rather burdensome for SMEs to adapt to (Sayari et al., 2023). Performances of SMEs in Latin America and the Caribbean are somewhat higher at 15.2%. This index is a measure of the challenges and opportunities in the development of SMEs in the region (Acosta-Ormaechea et al. 2022). According to Niesten et al. (2024), VAT is a key revenue mobilization tool in African economies, and efforts are being made to enhance compliance, administrative efficiency and raise the tax base by reducing exemptions. These include the introduction of electronic filing, the raising of VAT registration thresholds and a concentration on the informal sector. However, it has not been properly implemented due to poor technology infrastructure, administrative problems and non-acceptance by small businesses (Ojo & Shittu, 2023). Another challenge continues to be whether it is possible to reform VAT in a manner that does not burden SMEs, nor disproportionately affect low-income consumers.

According to Habimana (2023), in the EAC member states, the primary objective of VAT reform has been to achieve tax harmonisation and to further integrate the economy. In this regard, member states like Kenya, Rwanda, Uganda Tanzania and Tanzania have over time reformed their VAT laws to move towards a common tax regime on VAT unification, enhancement of access, and harmonization under the EAC VAT Protocol. Rwanda was among the active member states and created a plan for streamlining VAT refunds processes, and improvement in audit. Support was also provided to Kenya and Uganda to access tools for better compliance in VAT, and to revise legislation. However, harmonization in general terms is still hampered by the different VAT rate levels and exemptions and also by the way in which VAT is enforced across the EAC. However, reforms related to taxation will remain important as a means of removing trade barriers, and the regional coordination of tax policies in the EAC area and beyond (OECD, 2022) should also be strengthened.

Kagabo (2021), in the context of Rwanda, the private sector (which is made up of more than 90% SMEs) is considered as the most important sector for economic growth and job creation. The Electronic Billing Machine (EBM) has been introduced by the government as part of the VAT initiative, and it is designed to improve tax collection efficiency and transparency. However, challenges around high compliance costs and limited access to digital solutions still exist and more consideration needs to be given to the effectiveness of reform. In addition, Rwanda has become significantly developed in the past 3 decades. This underlines the importance of the country's ability to raise financial resources, especially through widening the tax base, as vital to economic development and for bettering the lives of the people. This objective is consistent with the objectives defined in the Second National Strategy for Transformation (NST2). Major measures on excise duty, vehicle registration fee, increase in fuel levy, VAT on mobile telephone, VAT on ICT equipment, tax on gambling have been announced as important tax policy measures for fiscal year 2024/2025.

1.1 Statement of the Problem

Business Compliance: VAT reform can help ensure better compliance with tax laws, especially for SMEs, leading to a healthier business environment. The advantages of reforms that simplify the procedures for SMEs, **Decreased Administrative Burden:** Cutting down on administrative burdens through these reforms enables SMEs to focus more on their core business activities, thereby enhancing operational efficiency and effectiveness. However, the efficacy of the reform as a whole still remains contested, thereby raising questions about the implementation and impact of such reforms in the real world (Erick et al., 2024). Further, a range of factors has an adverse impact on SMEs' performance. For example, e-filing and e-payment systems and the effects they have on revenue collection and financial management are covered. It highlights that it has been these developments that have helped to close budget gaps, delivering a positive trend in efficiency. However, the study also identifies critical challenges that get in the way of budget achievement, which must be addressed in order to maximize the benefits of digital financial systems while sustaining sustainable fiscal health. These challenges include network unreliability and lack of sufficient computer skills among users, which are barriers to proper use of the online tax payment system (Kagabo, 2021). According to the Rwanda Revenue Authority report of 2020, there are 3,307 registered SMEs in the district. Out of these, only 1,514 SMEs are involved in online tax payment while 1,793 SMEs are not using online modes for tax payment. This suggests

that the adoption of digital tax payment systems among SMEs in the district is still relatively low, and there are potential areas for improvement in tax compliance and digital engagement.

As per the report published by Honorine (2025), SMEs are paying their VAT in various ways as mentioned below: A total of 1,553 SMEs still use cash payments whereas 441 SMEs choose mobile payment solutions. Other methods of payment include payment orders, which was used by 87 SMEs; cheques, which was used by 240 SMEs; bank transfer, which was used by 2 SMEs; and manual payments, which was used by 2 SMEs. In particular, 892 SMEs have been utilizing e-banking for tax payments. Despite the digital tax reform options available online, the report noted that a large number of SMEs are not using these electronic payment avenues, even though they are registered taxpayers with the RRA. This suggests a possible enhancement in promoting the use of the online tax payment channels among SMEs in Rwanda. It is in this regard that the researcher has carried out this study to assess the effectiveness of the VAT reforms on SMEs in Rwanda.

1.2 Research objectives

- i. To establish influence of VAT rate reforms on SMEs performance in Rwanda.
- ii. To review influence of VAT registration reforms on SMEs performance in Rwanda.
- iii. To investigate influence of VAT digital system reforms on SMEs performance in Rwanda.

1.3 Research Hypotheses

$H0_1$ There is no significant influence of VAT rate reforms on SMEs performance in Rwanda.

H_1 There is a significant influence of VAT rate reforms on SMEs performance in Rwanda.

$H0_2$ There is no significant influence of VAT registration reforms on SMEs performance in Rwanda.

H_2 There is a significant influence of VAT registration reforms on SMEs performance in Rwanda.

II. LITERATURE REVIEW

2.1 Theoretical Review

2.1.1 Theory of Tax Compliance

Interestingly, this contribution represents a fundamental contribution of Allingham and Sandmo's 1972 seminal work on tax compliance research within the framework of economic theory. Their studies were the basis for understanding taxpayer behavior and determinants of compliance, and for creating a framework for understanding taxpayer behavior. As the text points out, there were some very interesting contributions before Allingham and Sandmo, as well. Emphasis is laid on considering the determinants of tax compliance as a prelude to the more in-depth discussion of the AS model and its implications for economic theory. Against this background, the paper describes the development of tax compliance studies and its importance for understanding taxpayer motives and behaviours.

According to Nurwanah et al. (2018), the economic-deterrence model is concerned with rational taxpayer behavior in which the individual compares the benefits of tax evasion with the risks of detection and punishment. In contrast, the behavioral model analyzes the role of psychological and social factors such as individual attitudes, social norms and perceptions of fairness in the tax system. Taken together, these models provide a nuanced understanding of tax compliance that acknowledges both the role of rational decision-making and the importance of psychological factors in influencing taxpayers' behavior. Taing and Chang (2021) found that the key variables with regard to this decision are the extent of penalties, probability of auditing, taxpayer information awareness and tax code complexity, and third-party reporting mechanisms. Empirical research identifies different levels of importance on various deterrents, but there is general agreement that strong enforcement strategies and increased transparency of reporting requirements improve voluntary compliance rates among taxpayers.

Buzohera (2025) indicated that behavioral models focus on the fact that taxpayers' compliance behavior is influenced not only by fear of sanction but also by citizens' sense of duty, trust in government, and peer behavior. This is in contrast to conventional deterrence theory, which emphasizes the role of economic incentives in tax behavior and downplays the role of moral emotions and psychological influences. As tax legislation becomes more complex, especially for multinational enterprises, many taxpayers seek the help of professional advisers to show them the way they must go. A combination of these hard sticks, such as audits and fines, and soft sticks, such as taxpayer education and transparency programs, is considered a complementary approach to increase overall compliance.

Theoretical Framework is used as a basis for this study and is the Theory of Tax Compliance, which focuses on SMEs and the impact of Value Added Tax (VAT) reforms on them in Rwanda. This conceptual framework makes it possible to conduct a broad analysis of the effects of tax policies on operations and the compliance behaviour of the SME sector. The study will help evaluate the quality of VAT reforms with regards to its positive contribution to the economic performance of these entities which are very important units in the overall economic development of Rwanda.

By using this theory, the research aims to add insight into the link between tax compliance and the business performance of SMEs in the light of the latest VAT reforms.

2.1.2 Technology Acceptance Model

The Technology Acceptance Model (TAM) is a well-known model for understanding the acceptance and use of technology systems in general, and for making improvements in access to information in particular. TAM is an extension of Ajzen and Fishbein's Theory of Reasoned Action (TRA) that was first introduced by Davis in 1986. The model specifies two major factors that contribute towards technology acceptance: perceived usefulness and perceived ease of use. All these dimensions are of great importance when trying to understand how users will perceive and eventually adopt new technologies (Machdar, 2019). Further, the model reveals two main factors that motivate adoption of information technology systems in general, and online tax filing systems in particular. These factors are important in understanding how individuals use these technologies. Moreover, the model also emphasizes the significance of the individual's attitude towards the use of technology, their behavioral intention to use it, and the actual usage of the technology (Wiprayoga et al., 2023).

Health Technology Assessment (HTA) and Trust in Media: According to Parreira et al. 2018, TAM was designed to forecast user behavior on computer use. It is a sort of encyclopaedic understanding, a balance between the need for theoretical rigor and for general understanding. The material focuses on the points of influence of different factors such as user behaviour, technical aspects and environmental context on the decision to adopt new technologies. Musa et al. (2024) mention that TAM has emerged as an important theory for analyzing user acceptance of technologies, including online tax filing. The model is backed by strong empirical evidence that attests to its usefulness in explaining user acceptance in a variety of technologies, in a variety of user populations, and in a variety of organizational settings.

According to a survey of taxpayer behaviour toward electronic tax filing in Taiwan conducted by Hai et al. (2017), perceived usefulness was the primary reason the taxpayers chose this method. The study also found an interesting difference: perceived ease of use had a different effect on behavior intention when taxpayers either filed tax electronically or manually. In addition, Liesa-Orus et al. (2023) pointed out that the system's perceived usefulness from a user's point of view may influence the users' overall acceptance and willingness to use online tax filing systems. Suggestions for areas of further research, on issues that may affect these perceptions and on implications for enhancing online tax channels, are also discussed. It means that when a tax system is perceived as easy to use, taxpayers find filing to be easier and more precise. Further, it is proposed that the ease of use of a system will result in faster completion of tax filings, and will increase perceived usefulness of the system. This relationship suggests that making it easier to use should significantly increase perceived usefulness and therefore lead to increased user acceptance. TAM is of particular relevance to online tax filing reforms where it is argued that the perceived usefulness of the system is important in changing taxpayer attitudes. Additionally, when taxpayers become aware of the benefits of online tax filing, such as increased efficiency and convenience, they are more likely to develop a positive attitude towards its use, making them more likely to adopt it as a habit (Parreira et al., 2018).

TAM is an important tool for measuring the impact of VAT reforms on the performance of SMEs in Rwanda. This model provides an explanation for why the acceptance and use of technology can have such a profound effect on the effectiveness of VAT reforms. This study will use TAM as a framework to understand the factors which affect SMEs' adoption of VAT-related technologies and to assess the resulting performance effects.

2.2 Empirical Review

Wadesango and Chirebvu (2020) research paper on the link between tax knowledge and tax compliance of SMEs in Zimbabwe. The findings suggest that although SMEs have some basic knowledge about tax, their knowledge is not sufficient. However, this knowledge is not having a significant impact on their noncompliance behavior. The study proposed, instead, that raising tax knowledge in itself would not lead to higher tax compliance for Zimbabwean small and medium scale enterprises (SMEs) without taking into account other issues, such as high tax rates and corruption. On the other hand, the study also indicated the ineffectiveness of the tax awareness strategies that currently exist in Zimbabwe. The results indicate that there is low preference by SMEs for newspapers, the internet, and workshops as sources of tax information. Furthermore, the Zimbabwe Revenue Authority (ZIMRA) has been accused of being more focused as an anti-corruption agency rather than being focused on its main function of revenue collection.

In 2016 a study was conducted by Kanyinga on the impact of tax reforms on Turnover Tax (TU) compliance of small and medium enterprises (SMEs) operating in the Nairobi industrial area. The results showed that Kenya Revenue Authority (KRA) had effectively implemented the use of information technology in its customer operations, thus contributing to high levels of compliance with turnover tax among SMEs. Some of these technological initiatives include the SIMBA System, the Integrated Tax Management System, Income Tax Return, Electronic Funds Transfer, general computerization which are substantial in ensuring compliance towards increasing revenue collection. What the study also found, however, was that the tax rates imposed by KRA were punitive for the compliant taxpayer, and

disincentivised conformity. Thus, we suggest that KRA needs to change its tax policy in a manner that will reduce compliance costs and make the tax regime less complex.

A study done by Anjulo and Waje (2018) on identification of the factors affecting the performance of Value Added Tax (VAT) revenue collection in Wolaita Zone of Southern Ethiopia. The study finds out some major factors that have a positive influence on VAT revenue such as public awareness, tax technology, VAT evasion, tax audit, enforcement, VAT administration, and politico-legal factors. Likewise, service delivery also has a direct link to VAT revenue collection, but the link is statistically not significant.

Warundu (2021) based his research on the analysis of factors influencing tax compliance of small and medium enterprises (SMEs) in Nairobi County. A total of 398 respondents were analyzed using binary logistic regression model. The results indicate that perceived tax avoidance difficulty has a significant positive effect on tax compliance for SMEs. Moreover, other variables like satisfaction with public goods and services, sufficient tax knowledge, confidence in government officials on tax funds and perception of ease of filing are all positively correlated to higher rates of tax compliance.

Similarly, Mengere (2014) conducted a research on tax education with reference to promotion of PAYE tax compliance among firms audited by KRA in the Central Business District in Nairobi. The findings confirmed that adequate PAYE knowledge is one of the factors that promote voluntary compliance. Tax education improved taxpayers' record-keeping, saving compliance costs (penalties), and improving business reputation. Other identified determinants of compliance behaviour are PAYE rates, perceptions of tax equity and effective administration of government revenues. The paper called for more studies on PAYE tax compliance, particularly in the developing world for which empirical data on this topic is scarce.

III. METHODOLOGY

3.1 Research Design

This covers research design, focusing on how research design is the framework upon which data collection and analysis is built. It is based on an ongoing study using a descriptive research design in order to examine the impact of tax reforms on tax compliance by SMEs in Nyarugenge District. This way the researcher is able to give a fair summary of the respondents' views. The purpose of a descriptive study is to describe the features of a population or a situation so that the researcher can obtain comprehensive information without interfering with the variables. There are surveys that are related to particular populations, and descriptive research design is a method of research that relies on questionnaires and can be used for Likert scale research questions.

3.2 Population

This research focused on the 35,476 taxpayers operating in the Kicukiro district of Rwanda, which were registered with the Rwanda Development Board (RDB) and recognized by the Rwanda Revenue Authority (RRA).

3.3. Sample size and sampling technique

This determining sample size was done through Yamane's formula. This formula can be used to obtain a good estimate of sample size through knowledge of the total population and the desired confidence level. It stresses the importance of this statistical approach for the validity of study results.

Where

n = adjusted sample size,

N = size of population

e = Margin of error, $e = 0.1$ depending on the research condition.

$n = 19733 / (1 + 19733 (0.1 * 0.1)) = 99.49$

$n = 99$ respondents

In fact, the method used to obtain a sample of the 99 SMEs was based on stratified random sampling. The stratified sampling technique was used to account for the heterogeneity in the population and each sub-population (stratum) is proportionately represented (stratum one: Agriculture 20; stratum two: Commerce 40; stratum three: services 11; stratum four: Consultancy 6; stratum five: Education 8; stratum six: Technology 9; stratum seven: Other 5).

3.3 Research Instruments

The study used questionnaire and interview guides as the data collection tools to collect the primary data efficiently and cost-effectively. Self-administered questionnaire was used, which is reported to be efficient and cost-effective. The questionnaire is divided into two parts: the first part provides background information to the respondents and the second part assesses the impact of VAT reforms on the performance of SMEs in Rwanda. In order to allow

quantitative analysis, a Likert scale, from 1 to 5, was used, which allows a structured evaluation of the respondents' perception of the effectiveness of VAT reforms.

In addition, an interview guide was used to gather qualitative data from staff working at the Rwanda Revenue Authority (RRA) to assess the impact of Value Added Tax (VAT) reforms on the performance of SMEs in Rwanda. With this method it is possible to explore in detail the effects of VAT reforms on SME activity and efficiency. The results from these interviews are expected to contribute usefully to the literature on the performance of VAT reforms and overall implications for the growth and sustainability of SMEs in the Rwandan economy.

3.4 Data Analysis Methods

Data analysis was done in two parts: Descriptive statistics: summary and description of basic characteristics of the data using mean, standard deviation, frequencies and percentages. Frequency tables were used to demonstrate the response rate and distribution of responses across the different categories of each of the variables. Inferential statistical methods were also employed in testing relationships between the variable pairs: Model summary, ANOVA, correlation analysis, regression coefficients, all using SPSS as it's one of the most powerful analytic software. The second multiple regression model is used to investigate the impact of VAT reforms on SME performance. Performance of SMEs = $V_0 + V_1$ VAT rates reforms + V_2 VAT registration reforms + V_3 VAT digital system reforms + error term.

3.5 Ethical Considerations

The main techniques used were drop and pick and mail questionnaires, which were used in view of the short management cycles of the respondents from the SMEs. To ensure ethical dilemmas were being addressed and to ensure respondents were protected to maximise response rates, key aspects of research ethics such as confidentiality and anonymity were covered. Prior to data collection, participants were informed about purpose and importance of the research. Also, they were told they would not be identified and their answers would be confidential, and they consented. In other words, if the respondents had a misunderstanding of a specific question, then the research assistants were able to explain the matter, thereby motivating the respondents to voluntarily and sufficiently participate in the research.

IV. FINDINGS & DISCUSSION

4.1 Findings

This section focuses on the presentation, analysis and interpretation of findings related to the effectiveness of VAT reforms on the performance of SMEs in Rwanda. The findings were based on establishing the influence of VAT rate reforms on Small and Medium Enterprises performance in Rwanda, reviewing the influence of VAT registration reforms on Small and Medium Enterprises performance in Rwanda and investigating the influence of VAT digital system reforms on Small and Medium Enterprises performance in Rwanda.

Table 1

Questionnaire and Response Rate

Response Rate	Frequency	Percent
Returned and complete	94	95.0
Returned and incomplete	3	3.0
Unreturned	2	2.0
Total	99	100.0

The response rate for the questionnaire was notably high, with 94 out of 99 distributed questionnaires completed and returned, resulting in a response rate of 95.0%. This indicates a strong engagement from the respondents. The researcher played a crucial role in facilitating this success by highlighting the importance of the study, which likely motivated participants to respond. Furthermore, the researcher provided clear instructions to assist respondents who faced challenges, ensuring they could complete the questionnaire accurately. This combination of effective communication and support contributed to the high response rate observed in the study.

Table 2

Gender of Respondents

Gender	Frequency	Percent
Male	48	51.1
Female	46	48.9
Total	94	100.0

The findings presented in Table 2 indicate that out of a total of 94 respondents, 48.9% are female and 51.1% are male, revealing a slight male majority in the study. This gender distribution is significant as it highlights the importance of gender diversity among participants. Understanding the gender dynamics is crucial for analyzing how different genders perceive and engage with VAT reforms in small and medium-sized enterprises (SMEs).

Table 3*Age group of Respondents*

Age Group	Frequency	Percent
Between 18-30 years	12	12.8
Between 31-40 years	29	30.9
Between 41-50 years	31	33.0
Between 51-60 years	12	12.8
61 years and above	10	10.6
Total	94	100.0

The findings presented in Table 3 highlight the age distribution of the 94 respondents involved in the study. The largest age group, comprising 33.0% of respondents, falls within the 41-50 years range. In addition, this is followed by 30.9% of respondents aged 31-40 years, and 12.8% each from the 18-30 years and 51-60 years categories. The smallest group, representing 10.6% of respondents, consists of individuals aged 61 years and above. The study underscores the importance of age as a significant factor that influences individuals' preferences, knowledge, and behaviors.

Table 4*Educational Level of Respondents*

Education Level	Frequency	Percent
Primary	9	9.6
Secondary	50	53.2
Bachelor	32	34.0
Master	3	3.2
Total	94	100.0

The education level distribution among the 94 study participants indicates that a significant majority, 53.2%, have completed secondary school. In addition, 34.0% of respondents hold a bachelor's degree, while 9.6% have only attained a primary school education. A smaller segment, comprising 3.2%, has achieved a master's degree. This distribution highlights that the predominant educational background is at the secondary school level, suggesting a potential area for further educational development and outreach. Furthermore, this educational context may have implications for the implementation of VAT reforms in SMEs.

Table 5*Business Experience of Respondents*

Business Experience	Frequency	Percent
Below 2 years	44	46.8
Between 3-5	15	16.0
Between 6-10	23	24.5
11 years and above	12	12.8
Total	94	100.0

The findings from Table 5 reveal the distribution of business experience among 94 respondents. A significant portion, 46.8%, has less than 2 years of experience, indicating that the majority of the group is relatively new to the field. Additionally, 16.0% of respondents have between 3 to 5 years of experience, while 24.5% possess 6 to 10 years of professional background. Finally, 12.8% of the respondents have 11 years or more of experience. This distribution highlights a diverse range of experience levels within the team, suggesting a potential for a well-balanced dynamic. The presence of both junior and experienced traders allows for the effective utilization of VAT reforms and their respective strengths, fostering an environment conducive to learning and collaboration.

Table 6*The Influence of VAT Rate Reforms on Small and Medium Enterprises Performance in Rwanda*

Statement	Mean	Std. Dev.
VAT rate reforms are a critical aspect of taxation systems in SMEs designed to generate revenue for government	3.86	1.215
VAT rate reforms are applied at each stage of the production and distribution process of SMEs, with the final consumer	3.86	1.241
VAT rate reforms may have zero rates in SMEs for specific items to encourage consumption or support certain sectors	3.80	1.122
VAT rate reforms allow SMEs with higher disposable incomes contribute more to the tax revenue	3.96	1.217
Overall	3.89	1.198

Table 6 presents descriptive results of the effect of VAT rate reforms on the performance of SMEs in Rwanda. From the results it can be seen that most of the respondents showed a high level of agreement in the need for VAT rate reforms in SMEs taxation systems with a mean score of 3.86. The score reflects a broad-based agreement on the importance of these reforms for improving the generation of government revenues. However, the analysis showed one standard deviation of 1.215, which means there is a lot of variability in the responses. This implies that, even if there is a common opinion that VAT reforms are necessary, there is no consensus among participants as to how to implement them and their effect.

Similarly, the high agreement mean score of 3.86 was obtained for the respondents' agreement with the statement indicating that VAT rate changes are implemented at each stage of the production and distribution process of SMEs, including for the final consumer. This average score shows a good positive correlation. Standard deviation of 1.241 reflects a heterogeneous pattern of response. On the question of whether VAT rate reforms can be used to have zero rates for SMEs for certain items to promote consumption or to bail out certain sectors, the high mean score of 3.80 indicates strong positive agreement, but the high standard deviation of 1.091 indicates heterogeneity in responses. Moreover, the high average score of 3.96 for the statement: VAT rate reforms enable high disposable income SMEs to pay a greater share of VAT revenue, suggests that participants had a high level of positive agreement. The standard deviation is 1.217, which suggests some level of heterogeneity, meaning there is a wider range of responses.

Overall, a high mean of 3.89 for the combined statements points to overall strong positive perception that there is influence of VAT rate reforms on the performance of SMEs, with a standard deviation of 1.198 suggesting some heterogeneity in opinions among the respondents. On other hand, the participant was asked to give the opinions about how VAT rate reforms influence Small and Medium Enterprises performance in Rwanda. The participants stated that:

“VAT rate reforms lead to lower operational costs for SMEs, enabling them to enhance their competitiveness in the market. Conversely, an increase in VAT rates could impose additional some enterprise to raise prices. Furthermore, higher VAT rates may complicate for SMEs, diverting resources away from core business activities and stifling growth”.

Table 7*The Effect of VAT Registration Reforms on Small and Medium Enterprises Performance in Rwanda*

Statement	Mean	Std. Dev.
VAT registration reforms allow SMEs taxpayer to have VAT registration certificate within a timeliness set	3.78	1.337
VAT registration reforms help SMEs taxpayer to have electronic invoicing systems to his customers every time they buy goods or services	3.64	1.252
VAT registration reforms aid SMEs taxpayer to have file a monthly or quarterly VAT return on the appropriate form	3.68	1.313
VAT registration reforms allow SMEs taxpayer to use easily an EBM in issuing invoice	3.59	1.248
Overall	3.67	1.287

Table 7 presents the descriptive statistics on the influence of VAT registration reforms on performance of SMEs in Rwanda. The participants said that VAT registration reforms allow SMEs taxpayer to have VAT registration certificate within a timeliness set, as evidenced by high mean of 3.78 (SD=1.337). The high mean designates a strong positive agreement among the participants. The response of standard deviation indicates a significant degree of heterogeneity in opinions among respondents. Similarly, the study highlights that VAT registration reforms significantly benefit SMEs by facilitating the implementation of e-invoicing system for transaction involving goods and services. The participant expressed a strong positive agreement regarding this benefit, as indicated by a high mean of 3.64. this score reflects a favorable perception among the respondents towards the effectiveness of these reforms. However, the standard deviation of 1.252 suggests a notable diversity in opinions heterogeneity).

Moreover, a significant number of respondents stated that VAT registration reforms aid SMEs taxpayer to have file a monthly or quarterly VAT return on the appropriate form, as evidenced by high mean of 3.68 (SD=1.313). The analysis reveals a strong positive consensus among respondents, a indicated by high mean score. Further, the standard deviation highlights a level of heterogeneity in opinions. This combination of a strong mean and a high standard deviation note that while there is general agreement, there are also varying perspectives. Furthermore, the findings indicate that VAT registration reforms allow SMEs taxpayer to use easily an EBM in issuing invoice. This is supported by a high mean score of 3.59, suggesting a positive perception. However, the standard deviation of 1.298 points shows a heterogeneity in responses.

The overall high mean score of 3.67 (SD=1.287) for combine statements, indicate that there is the influence of VAT registration reforms on performance of SMEs in Rwanda. Further, this combination of a strong mean and a high standard deviation note that while there is general agreement, there are also varying perspectives. Moore (2023) posited that VAT registration reforms are crucial for enhancing tax compliance and improving revenue collection. These reforms streamline the registration process, making it more accessible for businesses, particularly small and medium-sized enterprises. By simplifying procedures, VAT registration reforms can reduce administrative burdens and encourage more businesses to formalize their operations, thereby expanding the tax base. Regarding to interview, the participants said that:

“The VAT registration reforms aim to simplify the registration process, making it more accessible for SMEs to comply with tax regulations. By reducing bureaucratic hurdles, the reforms encourage more SMEs business to register for VAT, which can enhance their credibility and visibility in the market. Additionally, VAT registration allows SMEs to reclaim input tax, thereby improving their cash flow and enabling them to reinvest in their operations”

Table 8

The Influence of VAT Digital System Reforms on Small and Medium Enterprises Performance in Rwanda

Statement	Mean	Std. Dev.
VAT system setting menu is typically used to view and manage configuration values related to SMEs	3.87	1.238
VAT digital system reforms allow to generate item code by clicking a button after all mandatory fields are filled	3.86	1.325
VAT digital system reforms allow to register new SME or corporate customer	3.84	1.298
VAT digital system reform allow SMEs to manage customer information	3.91	1.301
Overall	3.87	1.290

Table 8 presents the results on the impact of VAT digital reforms on the performance of SMEs in Rwanda. Regarding the statement, VAT system setting menu is normally utilized to view and manage SMEs configuration values, the respondents mentioned this statement with high mean score (M = 3.87) which indicates a high degree of positive agreement among the respondents. In addition, the standard deviation 1.238, indicative of heterogeneity of agreement among patterns.

In addition, the results show that VAT digital system reforms allow generating item codes by pressing a simple button after completing all required: This is confirmed by a high average score of 3.86, meaning that the impression is a positive one. However, there is heterogeneity in responses as shown by a standard deviation of 1.325 points.

On the statement that the VAT digital system changes are useful for new SME or corporate customers to register themselves, the high mean score of 3.84 (SD=1.298) indicates high positive agreement, and the SD indicates that there were differences in the responses. In addition, the high mean scores of 3.91 for the statement that VAT digital system reform facilitate SMEs to administrate customer information, shows high positive consent among participants. The standard deviation of 1.301 reflects some degree of heterogeneity, that is, a wider range of responses.

The high mean score of 3.87 (SD=1.290) for combined statements shows a strong overall agreement that there is effect of VAT digital system reforms on performance of SMEs while the standard deviation suggests slight heterogeneity in opinions among respondents. The results are supported by Roger (2021) who states that the importance of the VAT digital system reform is that it can help to increase efficiency, transparency and compliance in the tax administration. By digitizing VAT processes, governments can reduce administrative burdens, improve compliance and oversight, and streamline operations. Moving to the interview, the participants noted that:

“The VAT digital system reforms aim o streamline tax process, enhance compliance, and improve overall efficiency in ta administration. By digitizing VAT processes, SMEs benefit from reduced administrative burdens, allowing them to focus more on core business activities rather than navigating complex tax regulations. Moreover, the digital system facilitates better access to real-time data and analytics, enabling SMEs to make informed financial decisions. This increased transparency not only foster trust between businesses and tax authorities but also encourages timely tax payments”.

Table 9*The performance of Small and Medium Enterprises in Rwanda*

Statement	Mean	Std. Dev.
VAT reforms allow to reduce compliance cost for SMEs	3.89	1.205
VAT reforms aids SMEs to increase revenue generation for government	3.86	1.206
VAT reforms allow SMEs to reduce opportunities for tax evasion	3.69	1.270
VAT reforms helps SMEs to pay taxes within timeliness set	3.87	1.202
Overall	3.82	1.220

Table 9 shows the descriptive statistics on performance of SME in Rwanda. VAT reforms were considered by a number of respondents as a way of reducing the cost of complying, as reflected by a high mean of 3.89 (SD=1.205). The high mean indicates a high positive agreement between the respondents. The response of standard deviation shows large heterogeneity of opinions among respondents. In addition, the research article states that VAT reforms helps SMEs to improve revenue collection for the government. In this aspect, the participant showed a very positive consensus, as can be observed in the high mean value of 3.86 which shows a positive view of the respondents with regard to the effectiveness of these reforms. However, a sizable heterogeneity of opinions is indicated by a standard deviation of 1.206.

Furthermore, a high proportion of respondents (mean=3.69; SD=1.270) report that they are able to diminish opportunities for tax evasion as a result of VAT reforms in their own SMEs. The result has a high average score, which indicates a high positive commonality of the respondents. Further, the standard deviation points out a general level of difference of opinion. On the statement that VAT reforms assist SMEs to pay tax within the stipulated time frame, the mean value of 3.87 (SD=1.202) represents strong positive agreement and the standard deviation indicates heterogeneity in responses. This is a high level of positive agreement between participants. The standard deviation shows a certain amount of heterogeneity in answers.

Thus, the relatively high mean score of 3.82 (SD=1.220) for the combined statements indicate that VAT digital system reforms have influenced SMEs' performance in Rwanda. Further, this combination of a high mean and high standard deviation note that, while there is general agreement, there are also different viewpoints. Keza (2022), further argued that VAT reforms are needed in improving the performance of micro and small enterprises (MSEs). One of the largest benefits is the cost reduction of compliance for small to medium-sized companies (SMEs), which will help to reduce financial burdens and improve operations. Concerning to the interview, the interviewee noted that:

“VAT reforms allows the SMEs to allocate more resources towards growth and innovation rather than tax-related processes. It allows also the financial relief to foster expansion and job creation. However, challenges remain for SMEs that may struggle with the initial costs of compliance and understanding the new regulations”.

Table 10*Model Summary*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.911 ^a	.830	.824	.43865

a. Predictors: (Constant), VAT digital system reforms, VAT registration reforms, VAT rate reforms

Table 10 shows the Model Summary for the regression analysis. The R Value of 0.911 implies a strong positive correlation between the predictors (VAT rate reforms, VAT registration reforms and VAT digital system reforms) and the dependent variable (Performance of SMEs). The R Square value of 0.830 designates that approximately 83.0% of the variability in the performance of SMEs can be explained by the independent variables in the model. The findings are supported by Niesten et al. (2024) VAT is a crucial revenue mobilization tool in African economies, with reforms aimed at compliance, administrative efficiency, and minimizing exemptions. Key initiatives include electronic filing systems, increased VAT registration thresholds, and focusing on the informal sector. Furthermore, Amutabi (2023) noted that Value-added tax (VAT) reforms are critical for improving the performance of small and medium-sized enterprises (SMEs). These reforms play a significant role in modernizing tax collection systems. This highlights the essential contribution of SMEs to economic development and the necessity for effective tax policies to foster their growth.

Table 11*ANOVA*

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	84.356	3	28.118	146.134	.000 ^b
	Residual	17.318	91	.190		
	Total	101.674	94			

a. Dependent Variable: Performance of SMEs

b. Predictors: (Constant), VAT digital system reforms, VAT registration reforms, VAT rate reforms

Table 11 reveals the results of Analysis of Variance (ANOVA). The table implies a significant F-Statistic of 146.134 ($p=0.000$). The F-Statistic evaluates the overall significance of the regression model, testing whether is a significant difference between the model with predictors (VAT rate reforms, VAT registration reforms and VAT digital system reforms) and the dependent variable (Performance of SMEs).

In this case, the p-value of 0.000 correlated with the F-Statistic designates that the predictors (VAT rate reforms, VAT registration reforms and VAT digital system reforms) jointly have a significant effect on explaining the variance in the dependent variable (Performance of SMEs). The findings are aligned with Amutabi (2023) noted that Value-added tax (VAT) reforms are critical for improving the performance of small and medium-sized enterprises (SMEs), as emphasized by the International Monetary Fund (IMF) in 2020. These reforms play a significant role in modernizing tax collection systems. This highlights the essential contribution of SMEs to economic development and the necessity for effective tax policies to foster their growth.

Further, the performance of small and medium-sized enterprises (SMEs) is notably affected by value-added tax (VAT) reforms, which can reshape their financial environment. The outcomes largely depend on the specific nature of the reforms and the unique context of the businesses involved. Understanding these dynamics is crucial for SMEs to navigate the performance presented by VAT changes effectively (Erick et al., 2024). Additionally, VAT reforms are the most significant reforms that any country can undergo to modernize its tax system and improve it towards efficiency and fairness in revenue mobilization (Balatsky & Ekimova, 2019; Maxim & Zander, 2020; Aneja et al., 2021).

Table 12*Coefficients*

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.120	.190		.631	.529
	VAT rate reforms	.490	.091	.462	5.384	.000
	VAT registration reforms	.196	.078	.212	2.512	.014
	VAT digital system reforms	.266	.095	.290	2.800	.006

a. Dependent Variable: Performance of SMEs

The model adopted as follows: Performance of SMEs = $\beta_0 + \beta_1$ VAT rates reforms + β_2 VAT registration reforms + β_3 VAT digital system reforms + error term. Table 12 reveals the regression coefficients for the regression model predicting performance of SMEs like VAT rate reforms, VAT registration reforms and VAT digital system reforms. The constant term has an unstandardized coefficient (B) of 0.120 with a standard error of 0.190.

Moving to the predictor, all imply statistically significant correlation with performance of SMEs. Specifically, for every-unit increase in the VAT rate reforms, there is a 0.490 unit increase in the performance of SMEs. However, there is no significant influence ($p=0.000$) of VAT rate reforms on performance of SMEs.

In addition, for every-unit increase in the VAT registration reforms, there is a 0.196 unit increase in the performance of SMEs. However, there is no significant influence ($p=0.014$) of VAT registration reforms on performance of SMEs.

Lastly, for every-unit increase in the VAT digital system reforms, there is a 0.266 unit increase in the performance of SMEs. However, there is no significant influence ($p=0.006$) of VAT digital system reforms on performance of SMEs.

Table 13*Summary of Hypotheses Results*

Hypotheses	Results	Interpretation
H ₀₁ There are no significant influence of VAT rate reforms on Small and Medium Enterprises performance in Rwanda;	(p=0.000<0.05)	this hypothesis is rejected
H ₀₂ There are no significant influence VAT registration reforms on Small and Medium Enterprises performance in Rwanda.	(p=0.014<0.05)	this hypothesis is rejected
H ₀₃ There are no significant influence VAT digital system reforms on Small and Medium Enterprises performance in Rwanda	(p=0.006<0.05)	this hypothesis is rejected

Table 13 deals with hypotheses results. The null hypothesis that H₀₁ There is no significant influence of VAT rate reforms on Small and Medium Enterprises performance in Rwanda; this hypothesis is rejected as the findings show a p=0.000, which is less than 0.05.

The hypothesis that H₀₂ There are no significant influence VAT registration reforms on Small and Medium Enterprises performance in Rwanda, this hypothesis is rejected as the result shows a p=0.014, which is less than 0.05.

Lastly, the hypothesis that H₀₃ There are no significant influence VAT digital system reforms on Small and Medium Enterprises performance in Rwanda, this hypothesis is rejected as the finding indicates a p=0.006, which is less than 0.05.

V. CONCLUSION & RECOMMENDATIONS

5.1 Conclusion

This study assesses the effectiveness of VAT reforms on Small and Medium Enterprises performance (SMEs) in Rwanda. The objectives include evaluating the VAT rate reforms, VAT registration reforms and VAT digital system reforms on Small and Medium Enterprises performance in Rwanda. The respondents strongly agreed the effect of VAT rate reforms on Small and Medium Enterprises performance in Rwanda. They emphasize the VAT rate reforms are a critical aspect of taxation systems in SMEs designed to generate revenue for government, VAT rate reforms are applied at each stage of the production and distribution process of SMEs, with the final consumer, VAT rate reforms may have zero rates in SMEs for specific items to encourage consumption or support certain sectors and VAT rate reforms allow SMEs with higher disposable incomes contribute more to the tax revenue lead to Small and Medium Enterprises performance in Rwanda. Therefore, the study concludes that there is significant effect of VAT rate reforms on Small and Medium Enterprises performance in Rwanda.

Similarly, the participants strongly agreed that VAT registration reforms contribute to Small and Medium Enterprises performance in Rwanda. They accentuate the VAT registration reforms allow SMEs taxpayer to have VAT registration certificate within a timeliness set, VAT registration reforms help SMEs taxpayer to have electronic invoicing systems to his customers every time they buy goods or services, VAT registration reforms aid SMEs taxpayer to have file a monthly or quarterly VAT return on the appropriate form, and VAT registration reforms allow SMEs taxpayer to use easily an EBM in issuing invoice lead to Small and Medium Enterprises performance in Rwanda. In this wise, this study concludes that there is significant effect of VAT registration reforms on Small and Medium Enterprises performance in Rwanda.

Lastly, the respondents strongly agreed that VAT digital system reforms assist the Small and Medium Enterprises performance in Rwanda. They underscore the VAT system setting menu is typically used to view and manage configuration values related to SMEs, VAT digital system reforms allow to generate item code by clicking a button after all mandatory fields are filled, VAT digital system reforms allow to register new SME or corporate customer, and VAT digital system reform allow SMEs to manage customer information lead to Small and Medium Enterprises performance in Rwanda. In this regard, the study concludes that there is significant effect of VAT digital system reforms on Small and Medium Enterprises performance in Rwanda.

5.2 Recommendations

This study assesses the effectiveness of VAT reforms on Small and Medium Enterprises performance (SMEs) in Rwanda. The objectives include evaluating the VAT rate reforms, VAT registration reforms and VAT digital system reforms on Small and Medium Enterprises performance in Rwanda.

The respondents strongly agreed the effect of VAT rate reforms on Small and Medium Enterprises performance in Rwanda. Further, the study concludes that there is significant effect of VAT rate reforms on Small and Medium Enterprises performance in Rwanda. However, the study recommends that the tax managers should provide a support mechanism for SMEs during the transition period following VAT reforms. This includes training programs to enhance financial literacy and tax compliance.

In addition, the participants strongly agreed that VAT registration reforms contribute to Small and Medium Enterprises performance in Rwanda. Further, this study concludes that there is significant effect of VAT registration reforms on Small and Medium Enterprises performance in Rwanda. However, the study recommends that tax managers should provide training and support to SMEs to navigate the new VAT regulations effectively.

Moreover, the respondents strongly agreed that VAT digital system reforms assist the Small and Medium Enterprises performance in Rwanda. Additionally, the study concludes that there is significant effect of VAT digital system reforms on Small and Medium Enterprises performance in Rwanda. However, the study recommends that tax managers should provide resources and guidance to empower the SMEs businesses to fully benefit from the reforms.

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