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EFFECT OF ONLINE BILLING PROCESS ON REVENUE COLLECTION PERFORMANCE OF COUNTY GOVERNMENT OF KAJIADO

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ABSTRACT

This study examined the effect of online billing process on revenue collection performance in the County Government of Kajiado. Guided by the Optimal Tax Theory, the study employed a descriptive research design to investigate the relationship between the independent variable and revenue collection performance. The study targeted 195 respondents, including Executive Committee Members, Finance Personnel, and Revenue Officers, using stratified sampling to ensure representation. Data was collected through structured questionnaires, validated through pilot testing, and analyzed using both descriptive and inferential statistical methods. The findings revealed that online billing had substantial influence on revenue collection performance in the County Government of Kajiado, demonstrating its importance in ensuring accurate billing and effective taxpayer engagement. Correlation analysis further supported these findings, with strong positive relationships between online billing system and revenue collection performance. The results indicated that improving online billing systems can significantly enhance revenue collection by reducing inefficiencies, increasing transparency, and fostering taxpayer compliance. The study concluded that adopting and optimizing online billing systems is critical for achieving better revenue collection performance in county governments. The study recommended strengthening the online billing through continuous technological upgrades and robust taxpayer engagement mechanisms. Future research could explore the long-term impacts of electronic payment systems, their scalability, and inter-county comparisons to identify best practices. This study provided actionable insights for county governments aiming to improve revenue collection efficiency through digital transformation.

Key Words: *Billing System Integration, Billing Accuracy Rate, Timeliness of Bill Issuance*

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INTRODUCTION

Paying bills and other transactions online, over the phone, or by electronic fund transfer is known as e-payment, and it's a safe, convenient, and secure option. Consumers now have payment options other than cash, checks, and money orders in the form of electronic payment (Mbuthia, 2021). With the advent of the internet and other payment methods, a new trend has emerged: the gradual replacement of paper currency and coins with electronic cash (Nguyen & Gopalaswamy, 2020). In light of the many other payment methods that are widely seen as superior alternatives, Andrieu (2021) concedes that paper currency is rapidly becoming obsolete. As an example, moving away from a cash-based economy has been a big priority for Nigeria.

County governments have come up with a variety of strategies to assist them collect enough money to fulfill the revenue collection obligation. It was documented that counties or former municipal and local authorities could not cover their financial obligations owing to taxpayers not complying to the law and theft, even after devolution. As a result, the counties implemented extensive internal controls and a computerized system for collecting taxes (Mbuthia, 2021). One of the entities that loves and appreciates using technology and internal controls in their administration of revenues is Kirinyaga County, which is the study region (Mutiso & Maguru, 2020).

The vast majority of revenue administrations around the globe, including in Africa, have gone digital. The Kenya Revenue Authority implemented itax and integrated customs management systems as a component of reforms in Kenya. Due to difficulties in identifying and apprehending dishonest or renegade tax collectors, manual procedures of revenue collection were employed (Nyamiaka, 2021). Additionally, manual systems were marked by sluggish customer service and considerable resource and overhead waste (Mutiso & Maguru, 2020). Worldwide, both developed and developing nations have used automated tax collecting systems, with the United States serving as a pioneer (UNCTAD, 2020). Gideon and Alouis (2020) found that automated revenue collection systems might potentially raise revenue collection levels. Revenue administration automation guarantees faster clearance, less tax evasion, and more successful revenue collection, (Haughton & Desmeules, 2020).

Research on self-assessment, electronic tax payment systems, and income production in Nigeria was carried out by Olurankinse and Oladeji (2020). Thirty tax executives from thirty different publicly traded firms in Nigeria's Rivers State served as respondents, and the study's methodology included both regression analysis and Pearson's product moment correlation coefficient statistical tool. The results show that venue creation is positively and significantly correlated with self-assessment and e-taxation payment methods. According to the paper's findings, e-taxation is a system that allows taxpayers to pay their taxes online in accordance with predetermined rules established by law, and the money is then used to evaluate tax returns throughout the economy. The self-assessment tax system is an efficient way to generate money, according to research by Oladutire (2021) on the efficacy or extent of the self-assessment program's implementation in Nigeria. The study used a descriptive methodology and focused on certain corporations and the FIRS in Rivers State.

Collecting tax money is critical for every county government throughout the world since it allows them to buy debt-free assets that they may put toward economic development. Therefore, a country's Service Delivery is supported or made easier via the income that the government collects from its residents (Adhikary, Diatha, Borah & Sharma, 2021). Taxes are not like donations in that they are not paid voluntarily by the taxpayer. Instead, it's a mandatory tax payment (Garner, 2020). According to Maswadeh and Hanandeh (2020), county governments use the funds they receive to invest in social and economic development, grassroots growth, and service delivery. According to Chilambwe and Tembo

(2023), the development, expansion, and improvement of service delivery at the county level are dependent on the County Government collecting sufficient income.

Situated in the Rift Valley in southern Kenya, Kajiado County encompasses 21,900.9 km2. The county's estimated population in 2012 was 807,069, with a growth rate of 5%, according to the Kenya National Bureau of Statistics (2013), referenced by Njoroge (2022). Pastoralism, farming, trading cattle, tourism, and mining are the primary economic activities of the county. Given the high doctor-to-population ratio, it is clear that the health industry needs to hire additional medical personnel.

Among the many sources of income, the Single Business Permit (SBP) brought in Kshs.189 million, followed by sand fees at Kshs.80.8 million, building plan approval at Kshs.65 million, land rates at Kshs.50.6 million, and plot rent at Kshs.44 million, as reported by Owino (2023). Bus Park fees increased by 571 percent, sheep/goat cess by 237 percent, food and hygiene license by 209 percent, and parking and transit fees by 208 percent, among other streams that saw significant increases compared to the 2019/20 fiscal year.

Digital billboards placed strategically across Kajiado County have been an excellent source of money for the county, and the county has gone to great lengths to automate its revenue collecting process (Omido & Kasibo, 2021). Along with the county's integrated financial information management system (IFMIS), the automated tax systems have been correctly mapped and integrated. Revenue collection, budgeting, and the use of county money to finance the devolved unit's essential tasks are all interdependent on this. Taxes may be more readily sent by small and medium-sized businesses using the county's M-Pesa pay bill number, which is compatible with a variety of mobile banking systems (Nyangito, Momanyi & Omari, 2022).

Kajiado County uses an electronic payment system for things like parking, rent, land charges, and single business permits (Mueke, 2022). All county governments rely heavily on tax revenue since it allows them to build their economies via the purchase of debt-free assets. But county governments' tax collection efforts have fallen short at times (Ngotho & Kerongo, 2022). By offering an alternative to the traditional practice of exchanging cash for county revenue, the e-payment initiative aims to eradicate or greatly diminish corruption (Kinyanjui & Kahonge, 2022).

Statement of the Problem

The majority of the county's operating revenue (OSR) comes from property taxes, which make up more than 25% of the total. Having said that, there is still space for development. There is a great deal of unrealized revenue potential in property taxes, according to reports from the CRA and the Office of the Controller of Budget. Less than 30% of the potential has been collected by counties (Okiro, 2021). More economically diverse counties tend to gather more OSR than less diverse ones. For this reason, growing county economies are crucial (Adenya & Muturi, 2020).

With an annual goal of KES 53.66 billion, county governments earned KES 34.44 billion in FY 2020/2021—64.2% of the objective. The previous record during this time was KES 35.77 billion in FY 2019/2020, hence there was a decline (OCOB, 2021). In addition, the OCOB report notes that counties were aiming for KES 54.9 billion in aggregate annual own source revenue for FY 2019/20, but only managed to collect KES 35.77 billion, or 65.2% of the objective. In comparison to the KES 40.30 billion earned in FY 2018/19 (representing 74.8% of the yearly revenue objective), this represented a decline. Annual own source revenue for counties was intended to be KES 53.86 billion, but only KES 40.30 billion was collected, representing a shortfall of 74.8% of the objective (FY 2018/19).

According to the report from the Office of the Controller of Budget (2020) for the FY 2019/20, The approved budget for FY 2019/2020 for the forty-seven County governments totaled to Kshs. 499.62 billion. Sixty-two per cent (Kshs. 311.63 billion)

represented recurrent expenditure while thirty-eight per cent (Kshs. 187.98) billion represented development budget. The budget was financed using equatable share, grants from national government and development partners, own source revenue and cash balance from the previous FY at Kshs. 316.5 billion, Kshs.22.9 billion, Kshs.39.09 billion, Kshs.54.9 billion and Kshs. 51.23 billion respectively. The report further enumerates that the county governments recorded a Kshs. 4.53 billion decreases in revenue collected in the FY 2019/2020 as compared to FY 2018/2019 representing 9.6 per cent decrease. The FY 2018/2019 generated revenue of Kshs. 40.30 billion 2019/2020 as compared to the FY 2019/2020 whereby a total of Kshs. 35.77 was generated. According to the County Budget and Review Outlook Paper (CBROP) for 2019/20, local revenue collection fell short of the objective by 52 percent, or Ksh 0.61 billion. When contrasted with the actual revenue generated in FY2018/19, this represented a decline of 16.2% in performance.

Ten counties namely; Busia, Murang'a, Garisa, Kajiado, Embu, Kitui, Nairobi City, Nyandarua, and Bungoma collected less than half of their initial targets for revenue in the fiscal year ending in June 2022, while only four counties exceeded their targets (Controller of Budget report, 2022). Low performance of OSR was also a point of complaint for the COB. Due to budget shortages, several planned operations could not be implemented throughout the financial year, as indicated by the underperformance of own source income collection.

A number of studies have examined various revenue collecting systems and the levels of income collected from them. For instance, Adenya and Muturi (2020) examined Kiambu County as a case study to determine what factors impact the effectiveness of revenue collection by Kenyan county administrations. The variables impacting the acceptance of electronic payment by small and medium-sized hotels in Kisii town were investigated by Sokobe (2021). Munyao (2020) looked into how the hotel business in Kenya fared financially after using an electronic payment system. In a study including private institutions in Kenya, Nyamiaka (2021) looked at how online payments affected operational risk management. The impact of the budgetary procedure on the functioning of county governments in Kenya was examined by Mbuthia (2021). The majority of these studies have only examined broad topics and have neglected to examine how electronic payment systems impact the efficiency of revenue collection. To address this knowledge vacuum, this study sought to contribute to the existing body of literature by investigating the effect of electronic payment system on revenue collection performance of county government of Kajiado.

Research Objectives

This study examined the effect of online billing process on revenue collection performance of county government of Kajiado. The study was guided by the following hypothesis;

- **H_{01}:** Online billing process has no significant effect on revenue collection performance of county government of Kajiado.

LITERATURE REVIEW

Theoretical Framework

Optimal Tax Theory

The concept of Optimal Tax Theory was first introduced by economist James Mirrlees in the 1970s, who later won the Nobel Prize in Economics for his contributions to public finance. The theory emerged as an attempt to balance government revenue needs with minimizing distortions in individual and corporate decision-making (Balan et al., 2022). At its core, the theory argues that while taxation is necessary for financing public goods, it should be designed in a way that achieves efficiency, fairness, and compliance without discouraging productive behavior or creating unnecessary economic burdens. This balance makes the theory particularly relevant when evaluating modern revenue collection mechanisms such as

online billing systems (Aliyu, Arasanmi & Ekundayo, 2020).

At its foundation, Optimal Tax Theory emphasizes efficiency in tax collection and fairness in tax distribution. An online billing process aligns with these principles by streamlining how revenue is assessed and collected (Kanini, 2021). Instead of relying on manual systems prone to errors and delays, online platforms allow governments to automate invoicing, track payments in real time, and reduce administrative costs (Chepkoech et al., 2022). In theory, such efficiency reduces compliance costs for taxpayers while improving transparency in county revenue systems. For Kajiado County, the adoption of online billing should ideally create an environment where residents and businesses find it easier to meet their obligations without unnecessary bureaucratic hurdles (Jepkoech, 2021).

Another important element of Optimal Tax Theory is the idea of minimizing distortions while maximizing compliance. Online billing processes contribute to this by lowering opportunities for corruption and leakages, as payments are directly linked to digital records (Sande et al., 2023). By standardizing charges and eliminating subjective discretion by revenue officers, online systems promote horizontal equity where taxpayers in similar circumstances are treated the same. In addition, they support vertical equity by ensuring larger taxpayers are proportionately billed, with fewer chances of manipulation. From this perspective, online billing systems theoretically reinforce the goals of optimal taxation by improving fairness and predictability in the revenue collection framework (Jepkoech, 2021).

However, despite these theoretical advantages, the study on Kajiado County indicates that online billing has had no significant effect on revenue collection performance. This finding suggests that the challenges may lie not in the theoretical model but in the practical implementation. Issues such as inadequate internet penetration, low levels of digital literacy among taxpayers, resistance to change, or system downtime could undermine the potential benefits. It is also possible that taxpayers continue to find ways around the system, or that enforcement remains weak despite technological improvements. This critique underscores that while Optimal Tax Theory provides a sound framework, the actual outcomes depend heavily on contextual realities such as infrastructure, enforcement mechanisms, and user adaptability.

The choice of Optimal Tax Theory is justified because it provides a comprehensive lens through which to evaluate the online billing process in Kajiado County. The theory is not limited to abstract principles but extends to practical policy design by emphasizing efficiency, equity, and compliance. By applying this theory, researchers can better understand whether online billing enhances the fairness of revenue administration, reduces compliance costs, and improves efficiency in line with optimal taxation goals. Even if the current findings show limited impact, Optimal Tax Theory remains a valuable framework to explain why online billing could still be instrumental in shaping effective and equitable revenue systems in the long term.

Empirical Literature Review

Online Billing Process and Revenue Collection Performance

There were a lot of new ideas put up in Kenya in the 1980s that increased tax money for the community. Cairo and Urio (2020) draw attention to the Nyeri and Mavoko examples, which centered around billing and collection reforms. Specifically, they emphasized the use of IFMS to detect tax defaulters and handle bad debts. The authors draw the conclusion that the IMFS had a significant role in increasing these cities' local tax collections by bringing together relevant data and drawing out the necessary steps.

Government agencies are seeing rapid adoption of electronic billing systems, according to Alsarmi and Ahemed (2022). Thirteen percent of city agencies are now sending invoices electronically, and

another fifteen percent are thinking about doing so, according to recent polls. Many county governments have likely noticed an uptick in the number of requests from residents to have their bills sent electronically. Determining electronic billing and matter management systems is a crucial technological choice that county departments can make, with substantial positive and negative implications.

Research by Lyimo and Makilully (2022) found that the Kampala city council has tried many things to increase money from property taxes. A bill distribution push, media campaigns, improved reminders, more payment locations, individual pressure on significant defaulters, prioritizing of bad debts, and the employment of private bailiffs are all components of a program since 1999 that aims to collect payments online. The government has paid off a large amount of tax arrears, which accounts for part of the 60% rise in income in just two years after the program's launch.

According to research conducted by Chiamaka et al. (2021) in South Africa, revenue collection is being hindered by billing issues, whereas in other African nations, revenue collecting is facing problems due to a lack of technology. Chiamaka went on to say that the two problems are related because most African municipalities still use paper invoices for metered services, and even though electronic billing systems are available in South Africa, there are problems with their implementation when it comes to billing and metering services, which leads to inaccurate bills.

According to Agrawal (2022), a service provider's revenue streams may be quickly improved by enhancing billing and collection strategies. The author contends that monthly volume-based charging is essential for effective water and sanitation service supply. Consumers may thus pay only for the goods and services they really use. The most efficient way to accomplish this is to implement full metering of all consumer connections. Immediate gains in income may be achieved with the use of these principles-based efficient billing and collection operations. Incentives for service providers to efficiently charge and collect payments can be set by this commercial approach. Customers' records, pricing and billing systems, bill distribution, and payment processing infrastructure are other essential parts. Particularly, suppliers must have up-to-date, strong, and digital client databases. Spot billing is one example of how better technology is simplifying the billing operation, which in turn improves collection efficiencies and, ultimately, revenue levels. Keep in mind that whether or not such practices can be sustained over time depends on the institutional frameworks within which service providers function and deliver their services. If there is a lack of capacity in the near future, it could be beneficial to hire private parties with experience in billing and collection to handle tasks.

The FFC (RSA, 2021a) maintained that inadequate billing is an issue for all municipalities, not only smaller or rural ones, and that the City of Johannesburg was no exception when it came to billing issues. Given their lower income bases and dearth of financial means to acquire robust billing systems, one may argue that rural or smaller towns face even more formidable billing issues than metropolises. Having said that, Mazibuko (2022) said that incorrect monthly invoices, which lead customers to be hesitant to pay for services consumed, are one of numerous variables that create problems with municipal billing systems.

The reliability and validity of municipal billing systems, according to SALGA (RSA, 2021c), hinge on the data used to power them. In addition, according to SALGA (RSA, 2021c), erroneous data might jeopardize the overall revenue collection and invoicing setup. So, it's reasonable to assume that local governments might benefit from data management systems if they wanted to have better tools for invoicing and collecting taxes.

A timely delivery of account statements to the appropriate clients depends on online billing systems that accurately display critical information, including billing and customer data (RSA 2022). In

order to be dependable, a municipal billing system needs to be able to do things like generate and show exception reports, accounts that are overdue and disconnection reports (RSA, 2022c). Municipalities can reduce customer non-payments by promptly addressing these exclusions.

The South African local government system might be brought to its knees by erroneous and unfair municipal billing systems, according to Mazibuko (2022). Yet, SALGA discovered in their research (RSA 2022c) that the majority of city billing systems can handle complete revenue management. It was found that in multiple municipalities, the billing systems were not set up to handle fundamental needs like exception reports, which is why SALGA (RSA 2022c) expressed concern about the fact that the efficiency of billing systems relies more on the administrative capacity of municipalities than on their technical infrastructure. Reiterating what Coetzee (2015:13) says, the critical component influencing better municipal income management is the municipality itself taking action to enhance internal capabilities and processes.

Study results from Iravonga, Ngala, Alala, and Maingi (2023) showed that EBMs allow revenue authorities to track official business activities, which might lead to better tax compliance. There has been minimal benefit to tax collection via EBMs as enterprises can opt not to send receipts or issue fraudulent receipts, therefore EBMs do not provide legally objective tax reporting. A large number of government agencies and other groups have already stated their approval. When paying bills, many people choose to use electronic billing because of all the advantages it offers. Two methods exist for electronic billing: biller direct and bank aggregator. Buyers pay the biller directly in biller direct, and the biller then sends the customer their invoices via the chosen website. According to research by Cowell (2020) and Fu et al. (2022), the majority of biller sites rely on electronic billing providers that are experts in the field of payment processing and electronically billing.

A research conducted by Fu, Yuan and Chen (2022) on the topic of electronic billing and revenue collection found several benefits to this method of payment. Payment of bills using electronic means is more cost-effective and less harmful to the environment. Both the sender and the receiver will appreciate the lack of distractions. Better for customers and more efficient than the old-fashioned billing approach. While billing, billers need only worry about efficient bill dispatch, not payment methods. You may access electronic payment at any time for your consumers. Payments made electronically are easier to trace for both consumers and businesses.

An analysis by Chiamaka, Obinna, Friday, and Oraekwuotu (2021) found that Internet Billing offers much more than just a cheaper and more convenient method of sending bill information. Online billing, according to experts, will revolutionize customer service. Customer self-care, automated sales, and one-to-one marketing are just a few of the ancillary services that the Internet Bill will eventually provide as an interactive landing page. With the Internet Bill, businesses and consumers will be able to conduct direct electronic conversations. Based on research by Bharadwaj and Baruah (2021), billing systems make use of databases to store several types of client data, including consumption logs, rate tables, and billing records that are prepared for invoicing. Billing system essentials include usage record creation, event processing, computation of bills, customer service, payment processing, bill rendering, and management reporting. There are a lot of different corporate processes that rely on billing systems for information sharing beyond only the fundamental tasks. These include marketing, sales, customer service, finance, and operations.

Conceptual Framework

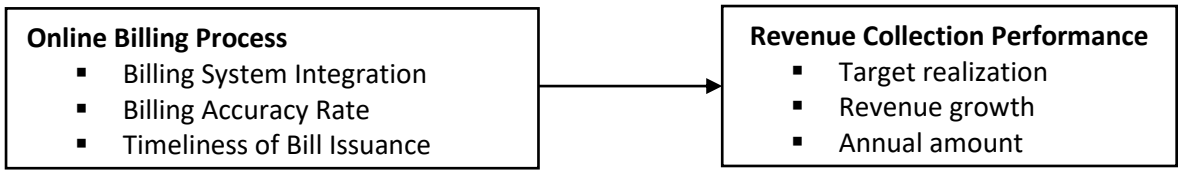

Figure 1: Conceptual Framework

Online Billing Process

Electronic billing has been around for a while, says Achieng et al. (2022). Even while most people still get paper invoices sent to them by the normal Postal Service, an increasing number of people are opting to pay their bills online over the Internet. Presentment of bills electronically is a novel idea in the field of electronic billing. Electronic bill presentment allows billers to upload customer statements online so that customers may examine them and pay online (Musiega et al., 2023).

Many public sector organizations, especially cities, rely heavily on billing operations to generate money. For instance, billing is the lifeblood of public service delivery since it generates revenue and serves as the primary information hub for service recipients (Mbevi, 2022; Kagabo, 2021). Improved revenue collection has resulted from a combination of streamlined billing procedures and enhanced collection mechanisms in several nations (Mei, 2020).

According to Mallick (2021), invoicing serves as the primary means of generating revenue and gathering information about customers in regard to service delivery. Therefore, billing is essential to a municipality's success. Regular and accurate billing of consumers is essential when a large portion of a municipality's revenue is derived from the provision of services. The likelihood of receiving payment increases when invoices accurately represent the services provided and their amount (Lyimo & Makilully, 2022).

Periodic billers, such as telephone companies, electricity companies, etc., are finding a new sort of service area with the ever-expanding Internet: bill presentation and payment. Customers (payers) get individualized assistance through an online bill presentation and payment system, which turns billing centres into revenue centers (Kanini, 2021). Online bill payment and presentation systems allow for more direct, tailored contact between billers and payers, as well as the creation of new revenue streams through cross-selling ads. Significant savings compared to traditional paper billing methods (Ouyang et al., 2023).

Revenue Collection Performance

The performance of revenue collection is measured by the difference between the target revenue and the actual revenue collected. The effectiveness of county service delivery and economic growth depend on high tax collection performance (Maswadeh & Hanandeh, 2020). Cairo and Urio (2020) state that in order to attain compliance and correct revenue information, it is necessary to collect income. The collection of all owed revenues at the specified times indicates a high level of revenue compliance. In order to improve service delivery and economic growth, it is necessary to increase the degree of tax compliance (Olatunji, 2021).

Gummesson (2022) argues that there are perks to collecting overdue taxes, such as making public services more efficient and, ultimately, achieving better results in revenue collection. The success of revenue collection will be evaluated by comparing actual revenue collected with the projected budget. Revenue collection compliance levels were the primary determinant of revenue collection, as stated by Ngotho and Kerongo (2020).

The ability of county governments to collect taxes has a negative impact on citizen empowerment, socioeconomic growth, and the sustainability of services provided (Ziria, 2022). County governments' ability to collect taxes, provide services, and foster economic growth are all negatively impacted by falling tax revenues (Lyimo & Makilully, 2022).

METHODOLOGY

This study employed a descriptive research design. The utilization of a descriptive research approach was deemed suitable for this study, as it aimed to examine the effect of electronic payment systems on revenue collection performance of counties in Kenya, specifically in the case of the county government of Kajiado. The target population for this study consisted of 195 respondents comprising of Executive Committee Members, Finance, Head of Departments, Finance and Accounts Officers and Revenue Collection Officers. The reality that revenue collecting affects and cuts across several county agencies motivated this strategy. The selected responses provided crucial information, especially regarding revenue collection guidelines, compared to staff in general. The choice of Kajiado County presented a particularly relevant case for studying the effect of electronic payment systems due to its unique blend of urban and rural populations, which allowed for a comparative analysis of system adoption in different socio-economic settings. The county government of Kajiado's adoption of the electronic payment system aligned with Kenya's broader push for digital governance under devolution, making it an exemplary model for other counties looking to modernize their revenue collection processes and improve financial management. The sampling frame that was utilized in this study was obtained from the Human Resource Department Kajiado County Government (2023). The study used Yamane formula (1967) to get a sample size of 131 respondents.

The collection of primary research data was conducted through the utilization of a standardized questionnaire. The survey instrument consisted of closed-ended questions and a tailored five-point Likert scale. This methodology employed to gather data on the variables of investigation from the managerial participants. Participants were requested to express their level of agreement for each item using a five-point scale, where 1 represents strong disagreement, 2 represents disagreement, 3 represents neutrality, 4 represents agreement, and 5 represents strong agreement.

The questionnaire was partitioned into two distinct sections. Part I consisted of inquiries regarding the information of the company or respondents, whilst Part II had questions pertaining to both the dependent and independent variables. The questions were designed in a manner that effectively addresses all the goals outlined in the research.

Secondary data for assessing the impact of electronic payment systems on revenue collection in Kajiado County was collected from various reliable sources, including government reports, academic studies, and financial databases. Key sources included reports and publications from the County Government of Kajiado, which provided detailed information on revenue collection performance before and after the implementation of electronic payment systems. These reports were expected to include annual budgets, financial statements, and performance audits. Data was also gathered from national agencies like the Kenya National Bureau of Statistics (KNBS) and the National Treasury, which provided county-specific economic and financial data. Furthermore, secondary data was obtained from research studies published in academic journals, which analyzed revenue collection trends and the use of technology in governance. The secondary data gathered was utilized for the purpose of cross validating the information obtained from the original data.

The research collected quantitative data by means of a questionnaire, while the study mostly relied on primary sources of information. Use of descriptive statistics like standard deviation and mean and

inferential statistics like Pearson correlation and regression analysis were part of the quantitative data analysis. The study utilized SPSS version 28 for analysis. For easier comparison and conclusion drawing, the findings were presented in tabular format. Using Pearson correlation analysis, the researcher looked at how the independent variables relate to the dependent one. Using multiple regression analysis with a significance level of .05., the researcher established the combined link between the factors and the dependent variable. The following model was used to achieve this goal;

$\mathbf{Y=B_0+\beta_1X_1+\varepsilon}$

Y – Revenue Collection Performance **(**outcome as a result of changes in any or all the variables, X_1 to X_4

'$\mathbf{B_0}$ – is a constant, the results when all variables X_1 to X_4 are zero.

X_1 – Online Billing Process

ε – error term

RESULTS AND DISCUSSIONS

Response Rate

Out of the 131 questionnaires distributed, 121 were completed and returned, resulting in a response rate of 92.4%. As highlighted by Stinchcombe (2020), a response rate of 60% is considered favorable, 70% or higher is highly commendable, and 50% is deemed satisfactory. Therefore, the 92.4% response rate achieved in this study is exceptional and aligns with expectations. This high level of participation reflects a strong interest in the study, with most respondents finding the survey experience engaging and worthwhile.

Descriptive Results

The descriptive findings were presented in this section. The study's analysis made use of standard deviations, means, frequencies and percentages. The results showed how respondents felt about various claims made in the polls. The descriptive results for the dependent variable were summarized in this section.

The "minimum" and "maximum" values represent the range of responses on a Likert scale, with 2.00 indicating a lower level of agreement and 5.00 indicating the highest level of agreement. These values show the variability in perceptions among respondents. The "mean" is the average level of agreement, providing a central tendency for each statement, while the standard deviation indicates the degree of variation or consistency in the responses. A lower standard deviation suggests greater consensus among respondents, whereas a higher value indicates more diverse opinions.

Online Billing Process

The findings presented in Table 1 provide insights into the effectiveness of the online billing process in influencing revenue collection performance in Kajiado County. The statement with the highest mean score, 4.2810, indicates strong agreement that the system provides adequate support for forecasting and planning timely bill issuance, with a low standard deviation of 0.68585. This reflects a broad consensus that the system effectively aids in improving revenue planning and timely billing, which are critical for optimizing revenue collection. This functionality is pivotal for enabling the county government to anticipate revenue flows and address potential delays proactively.

The second-highest mean, 4.1074, pertains to the resolution of billing errors. This finding underscores the system's reliability in addressing inaccuracies swiftly, a critical factor for building trust among stakeholders and ensuring accurate revenue reporting. The low standard deviation of 0.69284 further indicates consistent perceptions among respondents on this issue, suggesting widespread satisfaction with this aspect of the system.

Conversely, the lowest mean score, 3.7438, relates to the provision of detailed and accurate breakdowns of charges. While still moderately high, this score and its higher standard deviation of 0.95332 suggest room for improvement in how the system communicates billing details. Enhanced clarity in billing could further strengthen transparency and stakeholder trust in the system.

The integration of the online billing system with other county payment systems received relatively high mean scores of 4.0248 and 4.0661, reflecting overall satisfaction with system interoperability. However, the slightly higher standard deviations (0.73556 and 0.90125, respectively) suggest some variability in respondents' experiences. Efforts to streamline system integration could ensure a more uniform user experience and further enhance operational efficiency.

Lastly, the system's provision of real-time notifications for delayed bills received a mean score of 3.8430 and a standard deviation of 0.89450. While this indicates moderate satisfaction, it highlights a potential area for improvement. Enhancing the notification system could improve responsiveness and reduce delays, thereby supporting timely revenue collection.

In summary, the findings demonstrate that the online billing process positively contributes to revenue collection performance, particularly through its forecasting capabilities and error resolution mechanisms. However, addressing areas such as detailed charge breakdowns and real-time notifications could further optimize the system's effectiveness and bolster overall satisfaction.

A recent study titled "On-spot Billing System, Cost of Water, Revenue Collection Mechanism & Revenue Collection Performance of Public Utility Entities" by Atukunda and Nuwagaba (2023) investigates the role of on-spot billing systems in improving revenue collection performance. This study highlights that such systems significantly contribute to revenue collection efficiency, aligning closely with the findings from Kajiado County. The research demonstrates that on-spot billing enhances accuracy and facilitates timely revenue collection by addressing common issues such as delayed payments and meter reading inaccuracies. Similar to Kajiado's online billing system, the on-spot system in this study provided functionalities that supported revenue planning and error resolution. Additionally, it emphasized the need for improvements in customer engagement and communication of billing details to strengthen transparency and trust. These insights echo the identified gaps in Kajiado's system, such as detailed charge breakdowns and real-time notifications. By focusing on customer-centric enhancements, both studies underline the importance of stakeholder satisfaction in optimizing revenue collection systems.

Table 1: Descriptive Statistics for Online Billing Process

Statements	N	Min	Max	Mean	Std. Dev
The online billing system integrates smoothly with other county payment systems	121	2.00	5.00	4.0248	.73556
The online billing system integrates smoothly with other county payment systems.	121	2.00	5.00	4.0661	.90125
Errors in billing are quickly resolved by the system.	121	3.00	5.00	4.1074	.69284
The online billing system provides detailed and accurate breakdowns of charges	121	2.00	5.00	3.7438	.95332
The system provides adequate support for forecasting and planning timely bill issuance for future revenue collection.	121	2.00	5.00	4.2810	.68585
The system provides real-time notifications to officials when bills are delayed	121	2.00	5.00	3.8430	.89450
Valid N (listwise)	121				

Revenue Collection Performance

The findings in Table 2 provide insights into the impact of digitization and online platforms on the revenue collection performance of the County Government of Kajiado. The highest-rated statement, with a mean score of 4.1983 and a standard deviation of 0.79183, pertains to the increase in the collection of license fees. This indicates that the county's digitized systems have streamlined the licensing process, improving

compliance among businesses and reducing leakages in revenue collection.

The E-Licensing platform and its role in improving communication between county officers and the business community also received a high mean score of 4.0992, with a standard deviation of 0.88887. This finding highlights the platform's effectiveness in fostering transparency and collaboration, which likely enhances trust and encourages timely payment of fees. Similarly, the use of digital payment systems for end-to-end online services was rated positively, with a mean score of 4.0992 and a standard deviation of 0.67583. Respondents recognize the convenience and efficiency these systems bring to revenue collection, reducing delays and ensuring accurate recording of transactions.

Revenue collected from entertainment taxes scored a mean of 3.9091 and a standard deviation of 0.80623, reflecting moderate agreement that digital systems have positively impacted this revenue source. While the results are promising, the variability suggests some inconsistency in the system's reach or effectiveness in this area.

The collection of revenue from bus parks, markets, and town parking through a digitized system scored a mean of 3.8347 and a standard deviation of 0.88832. This indicates that digitization has improved efficiency in capturing these revenues, although challenges such as adoption or technical barriers may persist. Lastly, the increase in the collection of property taxes received a mean score of 3.7438 and a standard deviation of 0.93567. While the results are encouraging, they suggest room for improvement in leveraging digital systems to enhance property tax collection further.

In conclusion, the findings reveal that digitized systems and online platforms have significantly improved revenue collection performance in Kajiado County. Key areas of success include license fees, E-Licensing, and end-to-end online payment systems. However, there is potential to optimize performance in sectors such as property taxes, entertainment taxes, and market-related revenues to maximize the benefits of digitization.

A study titled "Influence of Feedback Mechanism on Trainee Academic Performance in National Examinations in TVET Institutions in Western Kenya" by Wabwile et al. (2024) investigates how structured feedback mechanisms influence performance in public institutions. While focusing on academic settings, this study underscores the significance of systematic feedback in improving outcomes, a principle directly applicable to revenue collection in public sectors. The research highlights that clear, continuous feedback systems and robust management techniques enhance transparency, trust, and performance. Similarly, Kajiado County's findings demonstrate how digital platforms like E-Licensing (mean score: 4.0992) and structured payment systems improve transparency and compliance, contributing to increased license fee collections (mean score: 4.1983). Both studies emphasize the role of well-integrated systems in reducing inefficiencies, promoting accountability, and achieving institutional goals.

Table 2: Descriptive Statistics for Revenue Collection Performance

Statements	N	Min	Max	Mean	Std. Dev
Revenue from bus parks, markets and town parking are received and recorded using a digitized system	121	2.00	5.00	3.8347	.88832
The E-Licensing platform has improved communication between the county officers and the business community	121	2.00	5.00	4.0992	.88887
Digital payment has enhanced revenue collection through the end-to-end online service	121	3.00	5.00	4.0992	.67583
Increase in collection of property taxes	121	2.00	5.00	3.7438	.93567
Increase in the collection of license fees	121	2.00	5.00	4.1983	.79183
Increase in the collection of entertainment taxes	121	2.00	5.00	3.9091	.80623
Valid N (listwise)	121				

Correlation Analysis

The correlation analysis presented in Table 3 provides an in-depth understanding of the relationships among the variables under study, specifically the effect of online billing on the revenue collection performance (RCP) of the County Government of Kajiado. Pearson correlation coefficients were used to measure the strength and direction of these relationships, with significance tested at the 0.01 level.

The Online Billing Process (OBP) demonstrates the strongest correlation with Revenue Collection Performance (RCP), with a Pearson correlation coefficient of 0.827. This highly significant result ($p<0.01$) indicates that improvements in the online billing process, such as smoother integration, accurate breakdowns, and real-time notifications, strongly enhance revenue collection efficiency. It suggests that billing serves as a foundation for revenue management by ensuring accurate invoicing and timely payments.

Table 3: Correlation Analysis

		OBP	RCP
OBP	Pearson Correlation	1	.827**
	Sig. (2-tailed)		.000
	N	121	121
RCP	Pearson Correlation	.827**	1
	Sig. (2-tailed)	.000	
	N	121	121

Key: OBP-Online Billing Process: RCP-Revenue Collection Performance.

Regression Coefficients

The regression analysis presented in Table 4 provides valuable insights into how online billing process influences revenue collection performance in the County Government of Kajiado. The unstandardized coefficients show the expected change in revenue collection performance for every one-unit increase in each predictor, while the standardized coefficients (Beta) allow for comparison of the relative strength of the variables.

Online billing process emerged as the strongest predictor with B = 0.497 and Beta = 0.490 ($p < 0.001$), confirming that accurate and timely billing substantially improves compliance and revenue outcomes.

These results provide the basis for hypothesis testing (H_{01}). The null hypothesis H_{01}, which stated that online billing process has no significant effect, is rejected, as billing shows both statistical significance and the largest effect size.

Table 4: Multiple Regression (Coefficients)

		Unstandardized Coefficients		Standardized Coefficients		
Model		**B**	**Std. Error**	**Beta**	**t**	**Sig.**
1	(Constant)	1.103	.201		5.473	.000
	Online Billing Process	.497	.050	.490	10.039	.000

a. Dependent Variable: Revenue Collection Performance

$Y=\beta_0+\beta_1 X_1+ \epsilon$

$Y=1.103+0.497X_1+\epsilon$

Where:

Y = Revenue Collection Performance (Dependent Variable)

β_0 = Intercept

X_1 = Online Billing Process

ϵ = Error term

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CONCLUSIONS AND RECOMMENDATIONS

The online billing process exhibited a strong positive correlation with revenue collection performance ($r=0.826$, $p<0.05$), indicating that improvements in the billing process are strongly associated with enhanced performance. Regression analysis revealed that the online billing process had a significant unstandardized coefficient ($B=0.497$), showing that a one-unit increase in billing efficiency results in a 0.497-unit improvement in revenue collection performance. This highlights the importance of an accurate and timely billing system in ensuring compliance, reducing errors, and promoting transparency. The findings suggest that a robust online billing process is foundational for achieving optimal revenue collection outcomes.

The study concluded that the online billing process is instrumental in enhancing the revenue collection performance of the County Government of Kajiado. An efficient online billing system ensures that taxpayers receive accurate and timely bills, which is crucial for fostering trust and encouraging prompt payments. By automating the billing process, the county reduces errors and delays associated with manual billing methods. This not only improves transparency but also streamlines operations, making it easier for taxpayers to understand their obligations. The adoption of online billing aligns with global best practices and demonstrates the county's commitment to leveraging technology for improved financial management.

The study recommended that to improve the effectiveness of the online billing system in enhancing revenue collection performance, the study recommended to enhance the Online Billing Process. Since online billing process had a significant effect on revenue collection performance of county government of Kajiado. It was recommended that county management should prioritize the accuracy, timeliness, and transparency of the online billing process. Regular audits and updates to the billing system should be conducted to minimize errors and ensure clarity in tax obligations. Integration with predictive analytics tools can help forecast billing needs, enabling the system to adapt to evolving taxpayer demands.

The County Government of Kajiado and policymakers at the national level should consider standardization of Electronic Payment Systems. Develop policies that mandate the standardization of electronic payment systems across all counties to ensure consistency, interoperability, and efficiency. Such standards should include minimum security requirements, performance benchmarks, and integration protocols.

Areas for Further Research

Future research could expand on this study by conducting comparative analyses across multiple counties to evaluate the implementation and effectiveness of electronic payment systems in varying contexts. Such studies would offer insights into regional differences in adoption rates, technological infrastructure, and socio-economic factors that influence the success of these systems. By examining counties with diverse characteristics, researchers could identify best practices, challenges, and strategies for optimizing electronic payment systems to enhance revenue collection performance. These findings would provide a broader understanding of how electronic payment systems function under different conditions and offer valuable lessons for scalability and sustainability.

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