

KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY,

KUMASI

INSTITUTE OF DISTANCE LEARNING

**DIGITALISATION OF LOCAL REVENUE COLLECTION IN GHANA: A
CASE OF BOLGATANGA MUNICIPAL**

BY

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A THESIS SUBMITTED TO THE DEPARTMENT OF ACCOUNTING AND
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DECLARATION

I hereby declare that this submission is my work towards the award of Master of Science in Accounting and Finance and that to the best of my knowledge, it neither contains materials previously published by another person nor materials which has been accepted for the award of any other degree of the university, except where due acknowledgment has been made.

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DEDICATION

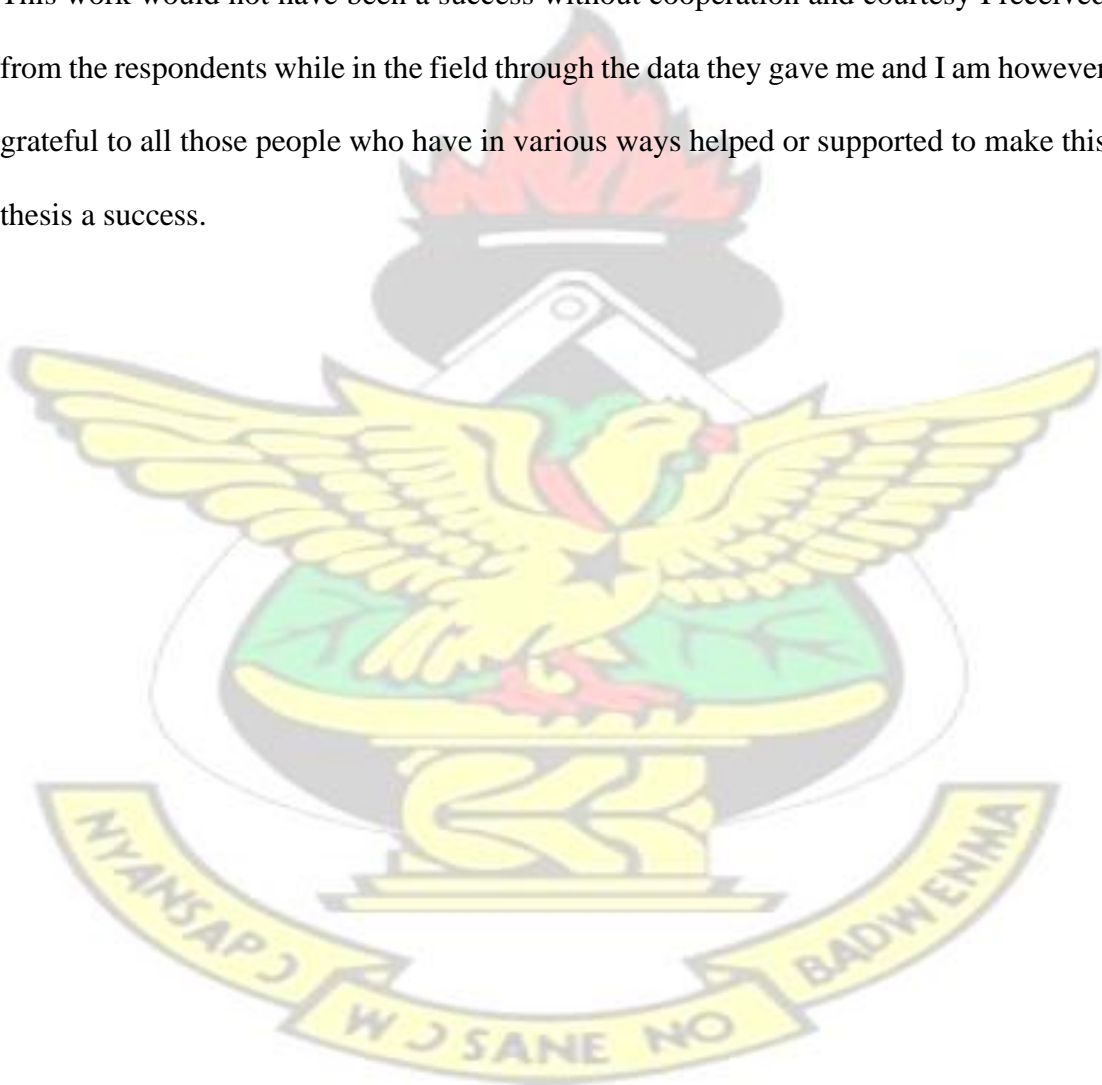
I dedicate this Thesis to my wife, Mrs Latif Zakari for being the pillar and source of encourage to me by her constant support, showing unconditional love, and whose good example have taught me to work hard for things that I aspire to achieve. To my siblings who have been a constant support and source of encouragement during this programme. I am truly thankful for having you in my life. Finally, I dedicate this work to all my family members directly or indirectly for their prayers in completing this piece of work successfully. Thank you!



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This work would not have been a success without cooperation and courtesy I received from the respondents while in the field through the data they gave me and I am however grateful to all those people who have in various ways helped or supported to make this thesis a success.



ABSTRACT

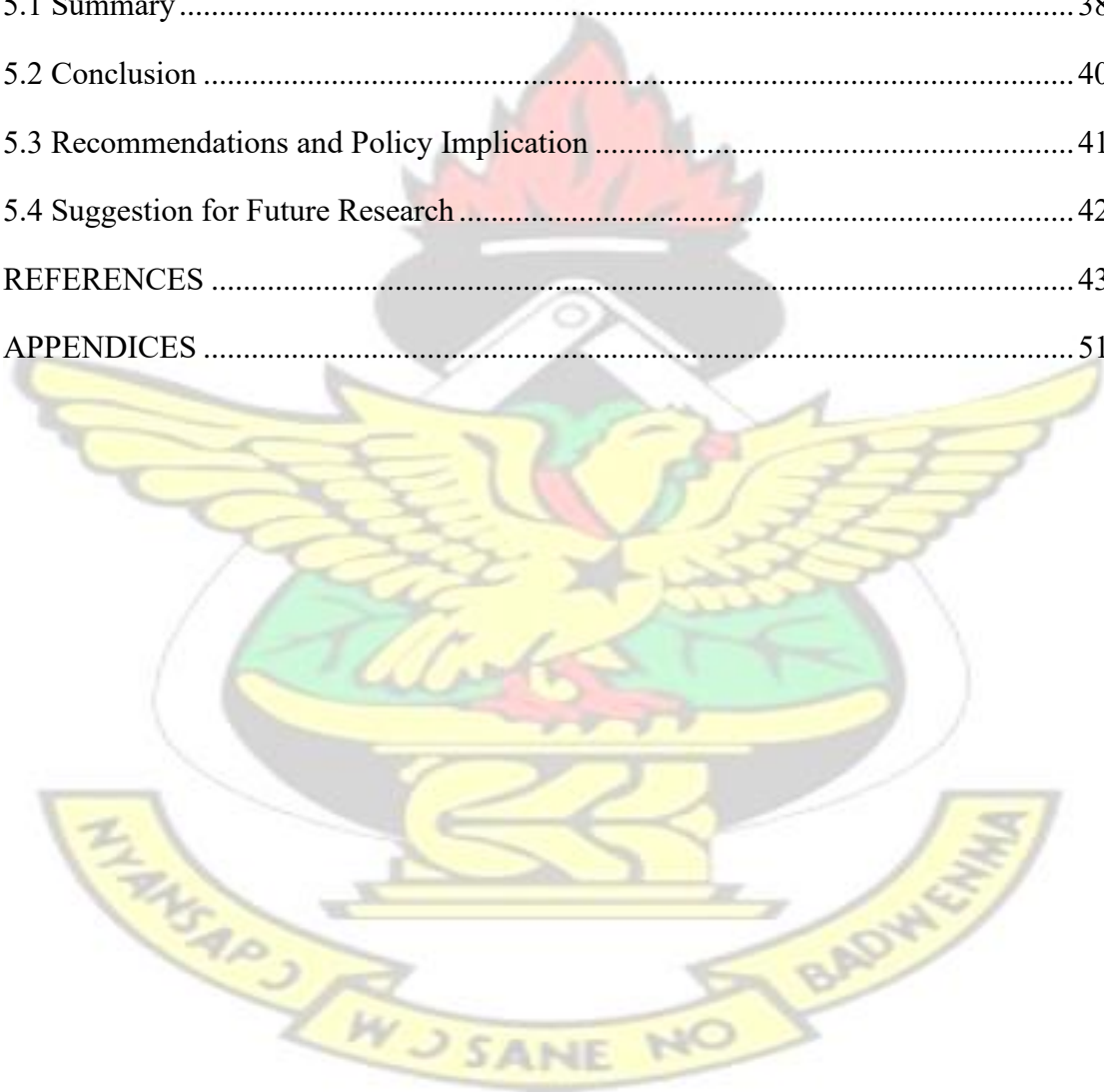
This study sought to get a better understanding of local revenues and what role the use of digital technologies has play in improving local revenue mobilization. The case study approach aided the researcher to present an in-depth analysis of a District Assembly thus, bringing out the digitization of local revenue collection in Ghana in a detailed and precise manner. The study revealed that with the introduction of the District Local Revenue Software, revenue mobilization would be more transparent and effective as compared with the traditional method of mobilizing of revenue. However, it is noteworthy that the introduction of the District Local Revenue, revenue collection has not achieved perfect results at the Bolgatanga Municipal Assembly. Despite of the four-year success (i.e., 2019 to 2022). District Assemblies should improve the perception of tax system through improving tax disputes resolution mechanism and improving transparency. District Assemblies should broaden their tax base through strengthening ratepayer registration, strengthening business intelligence and analysis, strengthening taxation of the informal sector, and strengthening their own source revenue generation capacity.

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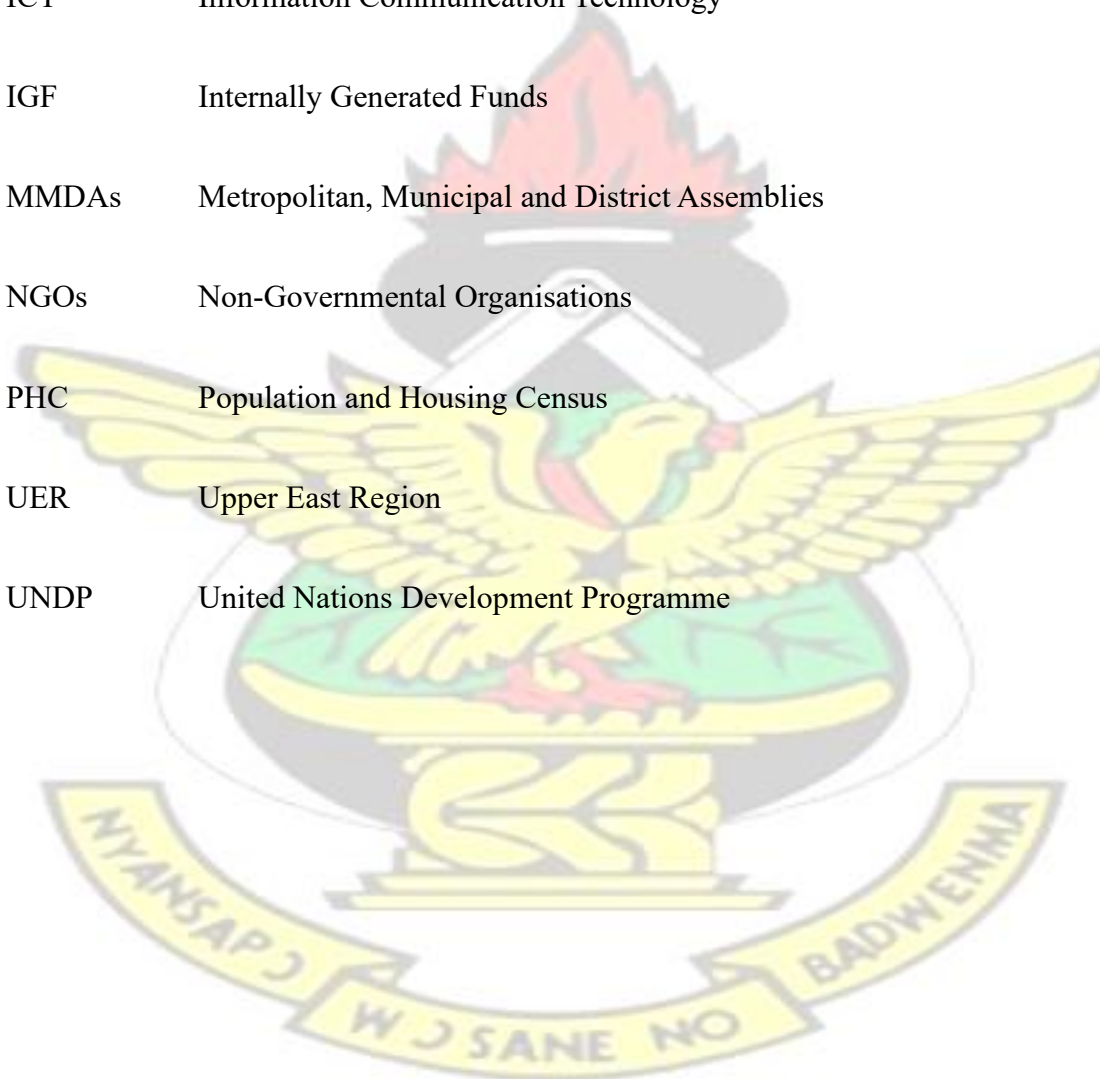
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ABBREVIATIONS/ ACRONYMS

BMA	Bolgatanga Municipal Assembly
FGD	Focused Group Discussions
GSS	Ghana Statistical Service
IbmSPSS	International Business Machines Statistical Package for Social Science
ICT	Information Communication Technology
IGF	Internally Generated Funds
MMDAs	Metropolitan, Municipal and District Assemblies
NGOs	Non-Governmental Organisations
PHC	Population and Housing Census
UER	Upper East Region
UNDP	United Nations Development Programme



CHAPTER ONE

INTRODUCTION

1.1 Background of the study

Globally, many nations particularly African countries face numerous challenges which inhibits their ability to perform their functions as prescribed by law. According to Amagoh (2016), huge wage bills and expenditure inhibits the ability of African governments to perform their functions. The inability of African governments to mobilize adequate revenue compounds their problems. To address this challenge, many governments are resorting to innovative ways of mobilizing revenue (i.e., the use of Information Communication Technology). Technology and its implications are deemed to be more crucial for the efficient and effective application of revenue management by Alrawadieh, Alrawadieh, and Cetin (2020). Kraus et al. (2021) further said that handling the requirements and expectations of the world's expanding population has made digital transformation an absolute necessity.

Information Communication Technology (ICT) has the potential to increase revenues of governments. According to Chanias et al. (2019), the transformative impacts of digital technologies are evident in almost all industries. Heavin and Power (2018) stated that digital transformation solves the challenges concerning efficiency and effectiveness. Mergel & Bretschneider (2013) indicated that ICT enhances government's effectiveness and efficiency. Similarly, Asamoah (2019) indicated that ICT aid nations to achieve their development goals. Also, United Nations (2016) indicated that e-government maintains the efficiency in public institutions. Agyemang (2015) categorically stated that e-government enhances government's efficiency and effectiveness in the provision of public services.

Information Communication Technology enhances citizen participation and decision making in the governance process. To Kumar et al., (2013) indicated that ICT enhanced citizens' participation in governance. Mpinganjira (2013) alluded that e-government improved government delivery of services. Mpinganjira (2013) added that e-government reduced incidents of clerical errors at South African Revenue Services.

In Ghana, ICT has been used to assist Assemblies mobilize adequate revenue to undertake their functions as prescribed by law. One of such District is the Bolgatanga Municipal Assembly, which is the Upper East Regional capital and a good spot for economic activity. The Assembly has so many sources of revenue of which Internally Generated Funds (IGF) is among the major sources of revenue (i.e., collection of rates) (BMA, 2021).

For years now, digitizing revenue collection has been vigorously pursued and promoted as a way of increasing government revenue. Ghana's revenue collection digitization drive seeks to empower District Assemblies to generate enough revenue to meet the priorities of their populace. Whether or not Ghana's revenue collection digitization programme improves revenue collection, transparency and service delivery in practice has often been a topic of debate among researchers and policymakers. After years of digitizing Ghana's revenue collection process, questions about its implementation and effectiveness are increasingly relevant and remain unanswered. This study is a contribution to the efforts to address this question. This study is concerned with Ghana's digitization of local revenue collection, with a focus on the Bolgatanga Municipal. This focus is necessary because the outcomes of the digitization can be different owing to the differences in context, resources, commitments and local leadership. This study also sought to examine Ghana's digitization of local revenue collection with a view to unearthing the constraints that inhibit or hinder its implementation.

1.2 Statement of the Problem

Tax money can be used by local governments to support economic growth and the provision of public services to their residents. According to Aslam et al. (2022), in sub-Saharan Africa (SSA) revenue mobilization has been a longstanding priority in to help finance the region's large development needs. Also, to Gomez-Reynoso and R. Sandoval-Almazan (2013), digitalization has emerged as a great phenomenon which has had a transforming effect on society. Umbach and Tkalec (2022) indicated that governments have developed more sophisticated ways to digitalize their business processes which has improved the efficiency with which services are provided to citizens.

Low-capacity District Assemblies in Ghana, however, struggle to raise the tax funds required to foster economic growth and supply citizens with public goods. Additionally, local governments are unable to generate funds in a productive and efficient manner due to a lack of knowledge on the economic activities of their residents. According to the information that is currently available, several District Assemblies' regular revenue collectors are unable to bring in enough money each month to cover their salaries. According to Ohemeng and Ayee (2016), most district assemblies are cash-strapped. Also, IMF (2018) stated that countries are not able to mobilize enough revenue due to high levels of informality, persistent structural issues, and weak reform efforts. In these situations, it is possible that tax laws would not be applied fairly, tax collection expenses might be high, and people would stop trusting the tax system.

The local property taxation system in Ghana is also beset by a number of problems, including a lack of consistency in the application of tax laws and excessive collection expenses. Anecdotal research suggests that residents are unaware of local tax laws and do not trust local tax officials.

District Assemblies have been obliged to reevaluate their income collecting and management tactics and techniques as a result of the emergence of the new digital reality and platform economy-based business models. This has resulted in the usage technology by some Assemblies in facilitating revenue collection activities. These Assemblies have acquired various forms of hardware and software for facilitating revenue collection. According to the Government of Ghana (2017), the new National Public Sector Reform Strategy seeks to digitalize the activities of Ministries, Departments and Agencies (MDAs) as well as MMDAs in Ghana by 2023.

However, there is still much to learn about the scope and effects of digital transformation, as well as the advantages and challenges of using high-tech tools. The benefits gained from the digitalization of revenue by District Assemblies and its impact on district development are unknown or poorly understood, placing serious restrictions on the creation and implementation of policies aimed at fostering the sustainable growth of districts. There is no mention of whether the digitization of revenue has improved service delivery, boosted productivity, expanded public engagement, and strengthened accountability. Therefore, this study focused on Bolgatanga Municipality to see whether digitalization has had an influence on tax collection and management in Ghana. This study also shows how a new tax collecting method can help local governments raise more money from property taxes. Therefore, the purpose of this study was to determine what effect digitization has had on revenue administration and collection in the Bolgatanga Municipality of Ghana's Upper East Region. This study also provides an answer to the question of whether or not the method of collecting revenue online has been successful. Therefore, the purpose of this research is to close this gap.

1.3 Research Objective

The main aim of this study research is to get a better understanding of local revenues and what role the use of digital technologies has or can play in improving local revenue mobilization. The specific research objectives were to:

1. Ascertain the extent to which rate collection has been digitized at the Bolgatanga Municipal Assembly.
2. Ascertain whether digitization has improved Internal Generated Funds (IGF) at the Bolgatanga Municipal Assembly.
3. Ascertain whether digitization has improved transparency and accountability in rate collection at the Bolgatanga Municipal Assembly.
4. Ascertain the challenges in digitizing revenue collection at the Bolgatanga Municipal Assembly.

1.4 Research Questions

To assess the digitization of local revenue collection in Bolgatanga Municipal, the following research questions were identified:

1. To what extent has rate collection been digitized at the Bolgatanga Municipal Assembly?
2. To what extent has digitization improved Internal Generated Funds (IGF) at the Bolgatanga Municipal Assembly?
3. To what extent has digitization improved transparency and accountability in rate collection at the Bolgatanga Municipal Assembly?
4. What are the challenges in digitizing revenue collection at the Bolgatanga Municipal Assembly?

1.5 Significance of the Study

For a number of reasons, the study aims to investigate the effects of municipal revenue mobilization's digitization on that process at the Bolgatanga Municipality Assembly. First and foremost, this study sheds light on how well municipal revenue mobilization has been digitalized. The study adds to an expanding field of research that examines the District Assemblies' level of preparedness for the digital transformation, as well as it answers to calls for more research by addressing service innovations in the local governance sector.

Additionally, the research findings will offer recommendations that are grounded in fact and may be implemented to help the government enhance the management and operation of the digitization system in the upcoming years. Specifically, this research will answer the question: what is known about the impact of digitization of local revenue mobilization on District Assemblies revenue mobilization? In addressing this question, the research will focus on outcomes that measure the digitalization process at the District Assembly. It is important to underscore the fact that the empirical assessment of the digitization process is vital for its successful execution.

The purpose of this study is to increase public awareness and comprehension of the effects of local revenue mobilization digitization on District Assemblies revenue mobilization. In this way, facts and evidence serve as tools for increasing public knowledge and advancing the delivery of public services, accountability, and transparency. The results are anticipated to lead to high-quality engagement from all relevant stakeholders and the general public in the decision-making and execution of Ghana's local revenue digitization program.

Finally, this study aims to shed additional insight on the requirement for decision- and policy-makers take local or context-specific circumstances into account when conceiving national interventions, policies, and programs. This is crucial because when a policy intervention is administered equally to people with drastically varied qualities, living situations, and conditions, it fails. Because some people's ability to embrace the program and benefit is hampered by the very nature of their objective conditions, it is crucial to provide a context-specific evaluation. To achieve the desired outcomes for the digitization of municipal revenue mobilization, benchmarking the early warning indicators of governance-related issues and suggesting solutions and methods for resolving implementation hurdles are necessary.

1.6 Scope of the Study/Delimitation

The study is limited to the assessment of the digitization of local revenue collection in Ghana: A Case Study of Bolgatanga Municipal Assembly. The case study approach will aid the researcher to present an in-depth analysis of a District Assembly thus, bringing out the digitization of local revenue collection in Ghana in a detailed and precise manner.

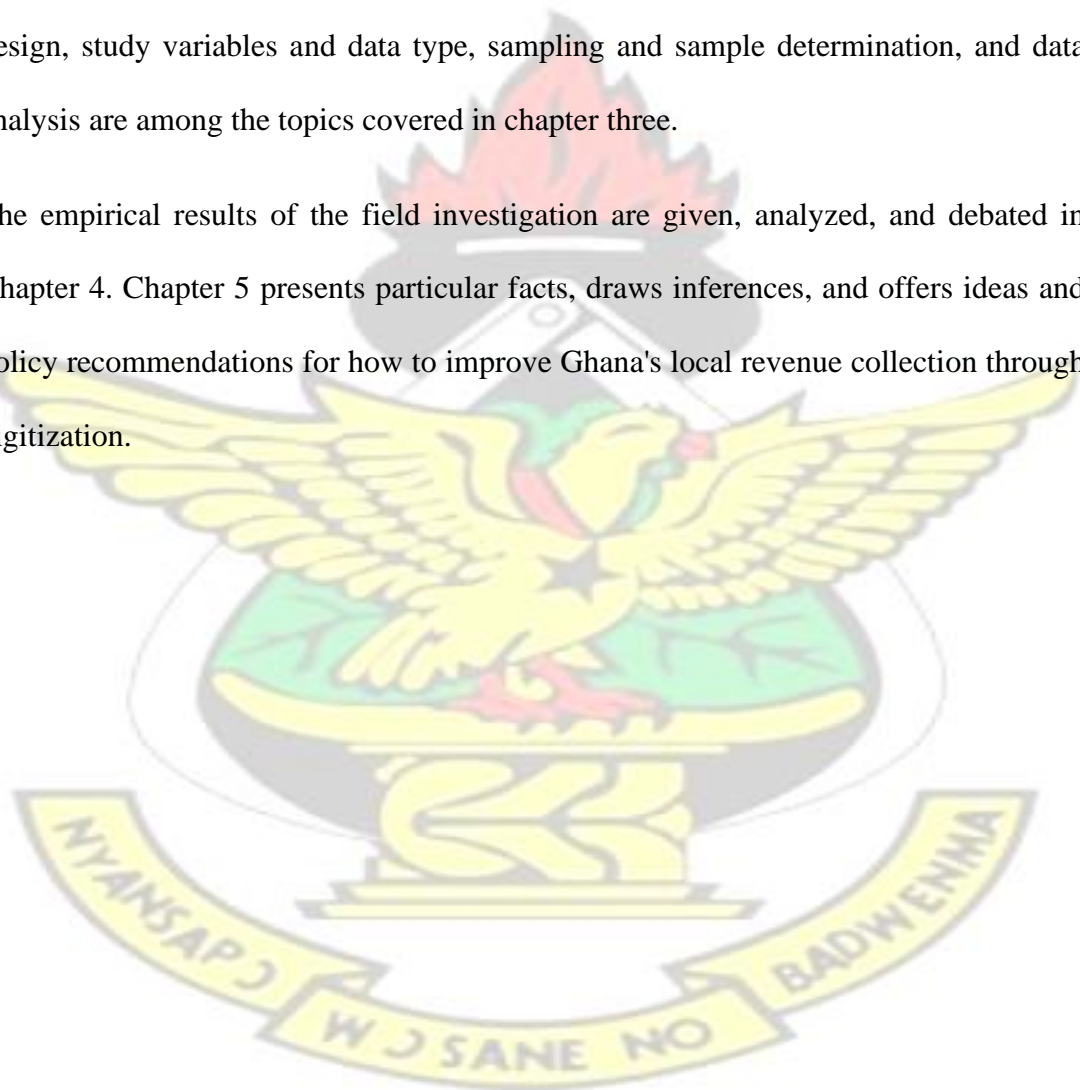
1.7 Limitations of the Study

Every research study has limitations, it is inevitable. For reasons that are best known to them, some respondents won't be eager to answer the questions, to start. Last but not least, a key constraint will be money because the research needed to use money to be able to get the information it needed. This includes travel within the study region, internet access, material printing, and additional expenses not included here. Despite the aforementioned restrictions, the research project will be completed successfully, and there was no reason to question the validity of the research.

1.8 Organization of the Study

Five (5) chapters make up the structure and presentation of this thesis. As mentioned above, chapter one includes an introduction to the research issue, as well as the aims, questions, and reason for the study as well as its scope and limitations. Literature that is pertinent to the study's subject is presented in the second chapter. The approach, which includes the subject of the study and the technique utilized to gather empirical data, is presented in Chapter 3. The main idea, general approach to the study, research design, study variables and data type, sampling and sample determination, and data analysis are among the topics covered in chapter three.

The empirical results of the field investigation are given, analyzed, and debated in Chapter 4. Chapter 5 presents particular facts, draws inferences, and offers ideas and policy recommendations for how to improve Ghana's local revenue collection through digitization.



CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This section reviews relevant literature on the digitalisation of local revenue collection in Ghana: a case of Bolgatanga Municipal. It focuses on Overview of the Conceptual Review; Conceptual Framework, Theoretical Framework, and Empirical Review.

2.1 Conceptual Review

2.1.1 Decentralization

There are numerous definitions of decentralization. Decentralization is a vertical power-sharing political system where competencies and duties are divided across many tiers of government, according to Ekpo (2008), as quoted in Tshombe and Dassah (2017). In a similar vein, decentralization was described by UNDP (2004), as stated in Lyon (2015), as the process of realigning power to enable shared accountability between institutions of government at the national, regional, and local levels.

2.1.1.1 Type of Decentralization

Decentralization can be divided into fiscal, political, and administrative decentralization, according to Mossberger & Crawford (2013). Transferring financial resources, such as grants and the ability to levy taxes, to local level governments is known as fiscal decentralization. Political decentralisation is the devolvement of powers and responsibilities to local level elected governments. Administrative decentralisation is the transfer of functions to geographically distinct administrative units by central government (Mossberger & Crawford, 2013).

2.1.2 Local Government Financing

The 1992 Ghanaian Constitution provides for the formation of a solid financial base that is sufficient and dependable for the local government in Articles 240 2(c) and 245(b). District Assemblies are able to charge and collect taxes, rates, and duties thanks to legal frameworks. Articles 245 and 252 of the 1992 Constitution as well as Section 34 of the 2016 Local Governance Act make up these legislative provisions (Act 936).

Locally generated revenue and transfers from the federal government make up the two categories of revenue sources for District Assemblies. Crawford (2004) claims that both internal and external funding sources are used to support local administrations in Ghana. Rates, lands, fees, penalties, licenses, and other local tax collections are examples of internal sources. District Assemblies are recognized as the rating authority and are given the authority to raise money in order to fulfill their allocated tasks, as stated in the 1992 constitution. The six main sources are rates, lands, fees, licenses, trading services, and miscellaneous income, which are all described in the Local Governance Act 936 of 2016. These funding sources are used by District Assemblies for regional development.

2.1.3 Revenue Mobilization

Revenue mobilization was defined by Akudugu and Oppong-Peprah (2013) as the ability of public sector entities to raise money from taxes and other sources (such as levies, licensing, royalties, etc.). According to Adejoh and Sule (2013) revenue mobilization encompasses activities such as revenue generation, revenue collection and the allocation of revenue for the government's developmental projects. Encarta Encyclopedia (2004) defined revenue mobilization as the use of resources to access revenues that are required by law to be paid by citizens, corporate institutions, and quasi-governmental organizations on their operations. Revenue mobilization is also

defined as the process of acquiring revenues through investments that bring returns. According to Olowu and Wunsch (2003), a strong revenue structure for local governments is a crucial prerequisite for fiscal decentralization's effectiveness.

Adejoh and Sule (2013) stated that revenue mobilization in most local governments is derived from tax. Alu and Bretschneider (2011) argued that revenue generation is an essential component of fiscal policies formulated to satisfy economic and social needs. According to Malecki and Moriset (2008), effective revenue generation must aim at strategies such as: the introduction of additional sources of revenue; providing incentives for extra efforts of staff involved in revenue generation; efficient and effective collection of existing taxes; taking advantage of business or commercial opportunities in local areas; public enlightenment and campaign that will educate the tax payer on the importance of prompt payment; tapping all available opportunities in the areas and periodic raiding by officers in charge of revenue generation.

2.1.4 Digitization

Digitization, according to Loebbecke and Picot (2015), is the process of converting analog information into a digital format (i.e., zeros and ones) so that computers can store, process, and transfer it. Furthermore, the definition of digitization by Sebastian et al. (2017) was the transition of analog to digital tasks. The definition of digitization by Vendrell-Herrero et al. (2017) was broadened to include the creation of resource configurations that are cost-effective utilizing information technology, as well as the integration of information technology with already-existing jobs.

2.1.5 Challenges in Revenue Mobilization

According to Tobazaa and Bayenteyeche (2020) that poorly motivated staff, limited capacity, political interference, revenue collector's fraudulent practices, inadequate and

inaccurate public address system and house numbers, inadequate databases and logistics, inadequate valuation practices undermined Assemblies ability to raise revenue. Similar to this, Hillary (2018) noted that challenges faced by tax authorities during domestic revenue mobilization included a lack of modern technology, high levels of illiteracy, the burden of taxpayer compliance, a lack of sufficient resources to sustain and facilitate the operation of tax authorities, and the issue of tax evasion and default.

2.1.6 Measures to Improve Revenue Collection/Digitalization of Revenue Collection

According to Tobazaa and Bayenteyeche (2020), mass public education, minimized incidence of revenue leakages, motivated employees, improved preparation and maintenance of complete records, enhanced staff capacity staff, less political interference, and enforcement of law against non-compliance can improve revenue collection. Additionally, Hillary (2018) noted that in order for the government to generate enough income, efforts should be focused on enhancing tax collection, decreasing corruption, enhancing welfare through employment creation, and other initiatives for reducing poverty.

2.7 Theoretical Review

This section highlights some theories that have been postulated by researchers to explain the relationship between digitization of local revenue mobilization and District Assemblies revenue mobilization. While there may be other theories that address this topic, the theory considered most suitable for this research is the Rational Choice theory.

2.7.1 Rational choice theory

Neoclassical economics' rational choice theory was developed (Paternoster et al., 2017). According to the rational choice theory, social behavior is an amalgam of the numerous social actors' individual behaviors (Manzo, 2013). According to this hypothesis, each person has a preference among the options they are given, which affects which options they choose. The rational choice theory is discovered to be quite pertinent to this study, particularly with regard to the staff of Bolgatanga Municipal Assembly's conduct in connection to corruption and its impact on the Assembly's efforts to raise money. This idea will be useful in talks about the connection between the digitization of local revenue mobilization and the revenue mobilization of District Assemblies.

2.8 Empirical Literature

Ng and Wakenshaw (2017) stated that the emergence of digital technologies is projected to have far-reaching effects on business and organizations. According to Mergel & Bretschneider (2013), Information Communication Technology (ICT) enhances government effectiveness and efficiency. Asamoah (2019) stated that ICT aids countries to achieve their development goals. Similarly, United Nations (2016) argued that e-government ensures efficiency in public institutions. Agyemang (2015) categorically stated that e-government enhances governments efficiency and effectiveness in the provision of services. To Carter and Bélanger (2005), digitalization improves the efficiency with which government provide services to its citizens. Also, to Rosario & Chavali (2020), digitalization increases government productivity. Mpinganjira (2013) and Kapoor, et al. (2016) indicated that digitalization enhances services delivery. Also, Mergel & Bretschneider (2013) stated that digitization enhances government's effectiveness and efficiency. Asamoah (2019) stated that

digitization aids countries to achieve their development goals. Isaac and Lilian (2010) suggest there is a positive correlation of automation and the cost of tax administration, automation and effectiveness of revenue collection while automation was negatively and significantly related with tax clearance time. Laifoya (2023) stated that there is a causal relationship between cell phone access, internet access and tax revenues. The results also show that internet access and cell phone access have positive and significant effects on tax revenues, and a 10% increase in internet access increases tax revenues by 1.23%, and a 10% increase in mobile phone access increases tax revenues by 1.11%. Alabi (2022), digitalization has a positive and a statistically significant influence on revenue performance.

Information Communication Technology enhances citizen participation in local level decision making. This view is supported by Verhoef et al. (2017) who categorically stated that digitalization has made consumers become more connected, informed, empowered, and active. Kumar et al., (2013) stated that ICT enhanced citizens' participation in governance. To Belanger & Hiller (2006), digitalization profits both government and the citizens. Ndou (2004) argues that, digitization builds better relationships between government and the citizens. Im et al. (2014) added that, digitalization boost citizen-government interaction. Zhao, Wallis, and Singh (2015) indicated that there is a strong positive reciprocal (two-way) relationship between e-government development and the digital economy. The study also revealed that along with social, economic, political, technological and demographic factors, certain national cultural characteristics have significant effects on the digital economy and e-government development.

Mpinganjira (2013) added that e-government reduced incidents of clerical errors at South African Revenue Services. To UNDP (2003), ICT increases transparency and

accountability of government agencies, reduce service delivery costs and enhances citizens participation. According to Burlacu et al. (2021), digitization improve transparency, accountability, tax collection, and efficiency. Kuldosheva (2021) stated that digitization enhances transparency and increases efficiencies in government processes. Devereux & Vella (2017) stated that digitalization decreases tax evasion thus increases transparency. Nimer et al., (2022) indicated that digitalization reduces opportunities for tax evasion.

Okiro (2015) indicated that digitization creates an enabling environment for administrative accountability. Rahim (2017) stated that digitization enables governments to provide public services to the citizens. Ndunda et al. (2015) states that digitization provides convenient revenue collection. According to Yusuf (2022), digitalization improves government's tax collection and performance. Jingnan et al. (2017) stated that digitalization makes tax collection more efficient.

According to Katz, Koutroumpis and Martin Callorda (2014), significant gaps were highlighted both in terms of digitization uneven development, but also in terms of lags in the areas of infrastructure investment and digital technology usage. The study also revealed that the economic payback to be generated by pro-actively addressing these gaps promises to be significant.

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

The study topic, research techniques, and data collection and analysis procedures are covered in this chapter. It deals with the research context, research design, study population, sample size, sampling procedure, data collection procedures, research instrument used, type and sources of data and methods of data analysis as well as ethical considerations adopted to achieve the objectives of the study.

3.1 Research Design

Kothari (2004) defined a research design as any particular arrangement of circumstances used in data collection and analysis with the aim of fusing the research purpose with the study's relevance. The descriptive research design was used for this investigation. In the example of the District Assemblies in Bolgatanga Municipal, this research design helped to determine how the digitization of local revenue collecting affects revenue mobilization. According to Nyamongo (2016), a descriptive research design offers a subject's portrait through profiling.

The study used a case study methodology. Researchers get the chance to examine a phenomenon in-depth using this method. Case studies, according to Bayazit (2004), are an empirical research technique that are used to examine a current occurrence while concentrating on the dynamics of the case within its actual setting.

3.2 Study Population

A population, according to Adeniran (2019), is a grouping of people or things from whom the sample for statistical estimation is taken. The key district assembly personnel, the Coordinating Director, planning officers, budget officers, financial

officers, revenue collectors, assembly members, opinion leaders, and ratepayers made up the study population.

3.3 Sample Selection

The Bolgatanga Municipality was purposefully sampled to study the digitization of local revenue collection in Ghana. A sample size of Eighty (80) people having voting rights (i.e., above the age of 18 years) will be determined for the study.

The study employed a purposive sampling technique in selecting Assembly Staff, Opinion Leaders and Rate Payers. Purposive sampling will be used to select these respondents (i.e., Assembly Staff, Opinion Leaders and Rate Payers) because they met the researcher’s study objectives. According to Zikmund (2003) as cited in Sarstedt et al., (2018), purposive sampling technique guarantees the selection of a knowledgeable individual based on the researcher judgment about some appropriate characteristics required of the sample.

Table 3. 1: Category of Respondents

Category of Participants	Bolgatanga Municipal Assembly
Assembly Staff	15
Assembly Members	10
Opinion Leaders	5
Rate payers	40
Total	80

In selecting the 10 Assembly Members for the study, various factors were considered including variability of the population, precision level, confidence level, available time and financial resources and the population size. The following procedure was used to select the 10 Assembly Members for the study. The lottery approach (Simple Random Sampling technique) was used to select 10 Assembly Members for the study. A list of

Assembly Members was prepared and each Assembly Member assigned a unique number (01-N). One research assistant was blindfolded to pick a total of ten (10) Assembly Members from a bowl of thoroughly mixed choices to represent Assembly Members in the municipality.

3.4 Source of Data

The study gathered data from primary and secondary sources respectively. Primary data was collected from interviews with the Chief Executive, Coordinating Director, Budget Officers, Finance Officers, Revenue Collectors, Key District Assembly staff, Assembly members, and Rate payers. The questionnaires and interview guides will be structured to collect information on the digitization of local revenue collection in Ghana: A Case Study of Bolgatanga Municipal Assembly. Secondary Data was gathered from government reports, publications, guidelines and laws, Annual Accounts, Composite Budget Performances, Composite Budgets, Annual Progress Reports, etc. Secondary data will improve measurement by expanding the scope and definition of variables and concept. It increased the validity and reliability of primary data gathered from the field.

3.5 Data Collection

A combination of quantitative and qualitative data gathering methods, including key informant interviews, focus groups, and the distribution of questionnaires, were used to gather the data. The research instruments were developed using four steps namely: concept identification; item construction; validity testing and reliability testing.

The researcher and respondents communicated directly using questionnaires (both closed- and open-ended). A questionnaire, according to Babbie and Rubbin (2010), is "a document including questions and various types of items designed to gather information suitable for analysis." Despite this, the surveys were limiting and prevented

respondents from delving further into several subjects. Through interviews, this constraint was overcome.

Several prominent informants were the subject of interviews. This method encouraged more thorough probing and in-depth descriptions of people's attitudes and sentiments in order to further the research by providing more information and inviting their input on the topic under study. According to Silverman (2009), the goal of interviews is to produce data that offers a rich understanding of people's experiences. Before the interviews were conducted, the research methods and objectives were defined, interview guideline developed, and respondents identified and selected. During the interviews, informed consent was obtained from respondents, comfortable environment identified and used for the interview, interview conducted, participant's perspectives respected and responses documented.

Additionally, focus groups were convened to collect data from the research region. This approach gave the researcher the chance to collect data from a specifically chosen group of people as opposed to a statistically representative sample of a larger population. Focus group discussions, according to Tobias et al. (2018), focus group discussions helps a researcher get a thorough understanding of social issues. Focus Group discussions ranging between one- and two-hours duration was held. Guided by a detailed outline, the facilitator initiated, guided, moderated the discussion, prompted, asked for clarifications, and tape recorded the discussions. At the end of each discussion, the tape was played back for the group to hear. Transcription of the data was done at the end of each discussion day following the themes of the discussion.

3.6 Data Analysis and Presentation

In order to identify and correct inaccuracies, the obtained data was evaluated to ensure the accuracy, consistency, and completeness of the responses. A coding handbook was created to make the data entry procedure easier. Editing surveys and entering them into IBM's version 20 of the Statistical Package for Social Science (IbmSPSS) were all part of the data processing process. Editing data entails ensuring that the data on the questions are accurate and consistent with the study's goals. In order to evaluate the digitalization of municipal tax collection in Ghana: A Case Study of Bolgatanga Municipal Assembly, data was analyzed using the IBM SPSS software version 20. Also, Analysis of the qualitative interview data began with a set of transcripts of the interviews conducted. Also, two main approaches to qualitative analysis were used namely inductive and deductive. A common pattern across the data set was found and critical points found in other areas of your research highlighted using inductive analysis. Key themes essential to the research was pointed out using deductive analysis. Qualitative data was conceptualized. To clearly comprehend the influence of local tax collection's digitization on District Assemblies revenue mobilization, data were studied using descriptive and inferential statistics.

3.7 Ethical Considerations

Four major research ethics-related considerations were taken into account when conducting the study. "Whether there was injury to the participant, whether there was a lack of informed permission, whether there was a breach of privacy, and whether there was deception involved." The consent of respondents was obtained by ensuring that participants knew what it meant to participate in the study so they could choose consciously whether or not to do so. Participants were verbally asked to participate in the interview once the study's objective was presented to them. By not stating any

names and obtaining participants' permission before taking photos, privacy and confidentiality were maintained.

3.8 Profile of Bolgatanga Municipal

The establishment of the Bolgatanga Municipality occurred in 2004 through the enactment of Legislative Instrument (LI) 1797 (2004). Situated in the central part of the Upper East part, specifically between latitudes 10°30' and 10°50' North and longitudes 0°30' and 1°00' West, this city also serves as the administrative center of the region. The Bolgatanga Municipality is geographically next to the Bongo District in the north, the Talensi and Nabdam Districts in the south and east respectively, and the Kassena-Nankana Municipality in the west. The land area encompassed by this region measures 729 square kilometers, as reported by the GSS in 2014.

The soil found in the district is predominantly classified as "upland soil," primarily formed by the weathering and decomposition of granite rocks. The soil in question exhibits characteristics of shallowness, low fertility, weakness, low organic matter concentration, and a primarily coarse texture. Erosion is a significant challenge. The soils found in valley locations exhibit a wide range of compositions, spanning from sandy loams to clay soils with high salinity levels. These organisms have elevated inherent fertility rates, yet provide challenges in terms of cultivation due to their increased resistance to tillage and susceptibility to seasonal waterlogging and flooding events. The primary means of drainage in the area is facilitated by the White and Red Volta rivers, as well as the Sissili River and its associated tributaries. These rivers are considered the principal watercourses within the region, as stated in the District Coordinating Unit Report of 2003.

The Municipality is situated in the geological formations of Birimian Tarkwaian and Voltaian rocks in Ghana. Extensive evidence exists indicating the occurrence of minerals, namely gold, in this region. The topography of the area consists of gradual inclines, interspersed with occasional exposed rock formations and elevated regions.

The climate exhibits a distinct rainy season spanning from May/June to September/October. The average yearly precipitation within this time frame ranges from 800 mm to 1,100 mm. The spatial and temporal distribution of rainfall exhibits irregular patterns. The region experiences an extended period of arid weather spanning from November to mid-February, which is distinguished by the presence of chilly, dry, and dusty harmattan winds. The temperatures experienced during this particular time frame exhibit a range of fluctuations, with nocturnal temperatures potentially descending to as low as 14 degrees Celsius, while diurnal temperatures have the potential to exceed 35 degrees Celsius.

The level of humidity, however, is significantly low, resulting in a slightly uncomfortable afternoon high temperature. The geographical area under consideration is situated wholly inside the region commonly referred to as the "Meningitis Belt" of Africa. Furthermore, it is worth noting that this particular region falls within the onchocerciasis zone. However, due to effective disease management measures, significant portions of previously neglected agricultural lands have been deemed suitable for habitation and cultivation (UNDP Ghana, 2010).

The Bolgatanga Municipality encompasses a populace of 131,550 individuals, constituting 12.6 percent of the overall population residing in the Upper East Region, which amounts to 1,046,545 individuals. The Municipality's population is divided between males and females, with the former comprising 47.7 percent (62,783

individuals) and the latter constituting 52 percent (68,767 individuals) of the total population. Despite the rapid urbanization observed in the Bolgatanga Municipality, it is noteworthy that the rural population continues to constitute a significant proportion, specifically 50.2% of the total population. Although the Municipality represents only 12.6 percent of the regional population, it encompasses a significant proportion of urban residents in Upper East, accounting for around 29.8 percent of the total. The number of individuals aged 20 to 49, who are considered to be in the pinnacle of their productive age, is notably higher in urban areas compared to rural areas. Comparable trends are discernible within the male and female as well as urban and rural demographics.

Literacy is commonly defined as the aptitude to comprehend and produce written language in any given linguistic system, including individuals who have reached the age of 11 years or above. The literacy status of the population aged 11 years and older in the Bolgatanga Municipality is depicted in Figure 3.2 and Table 3.9. According to the data presented in Table 3.9, it can be observed that 64.6 percent of individuals aged 11 years and above possess literacy skills, while the remaining 35.4 percent are classified as illiterate.

Among the whole population possessing literacy skills, a significant majority of three-quarters (76.7%) are exclusively literate in the English language. Additionally, 21.0 percent of the literate population has proficiency in both English and a Ghanaian language, whilst a mere 1.5 percent are alone literate in a Ghanaian language. The fact that Ouagadougou serves as the regional capital and its proximity to Burkina Faso does not exert any influence on the French literacy rates among the people.

The Bolgatanga Municipality is geographically partitioned into three distinct administrative zones, namely Bolgatanga, Zuarungu, and Sumbungu-Sherigu Zonal

Councils. These zones collectively have a total of 37 unit committees. The Bolgatanga Municipality consists of a single parliamentary seat including a total of 37 voting areas. The Assembly's overall membership comprises 55 individuals, consisting of 37 members who have been elected, 16 members who have been appointed, one Member of Parliament, and the Municipal Chief Executive. There exists a total of three female assembly members, with two of them being elected and one appointed by the government.

The primary economic activity within the Municipality encompass agriculture, hunting, and forestry. Approximately 80% of the economically active population is involved in agricultural activities. The primary agricultural commodities cultivated in the region include millet, guinea-corn, maize, peanuts, beans, sorghum, as well as dried-season tomatoes and onions. The significance of livestock and poultry production should not be overlooked. Water-retaining structures, such as dams and dugouts, serve the dual goal of supplying water for both home and agricultural applications.

The analysis of the economic activity status of individuals aged 15 years and above indicates that the percentage of individuals engaged in economic activities is significantly higher (74.0%) compared to those who are not economically active (26.0%), with the former being three times greater than the latter. According to available data, the employment rate for individuals aged 15 years and over stands at 72.2 percent, while the unemployment rate is reported to be 2.4 percent.

The primary industries in the Municipality consist of agricultural activities, which encompass forestry and fishing operations, accounting for 37.7% of the workforce. The category of craft and allied trades accounts for 22.7 percent, whilst services and sales workers account for 18.5 percent. According to available data, the proportion of

professionals within the employed population stands at 6.9 percent. The Municipality has three primary industrial sectors: agricultural, which encompasses forestry and fishing and accounts for 37.8% of the overall industrial activity; manufacturing, which constitutes 18.3% of the industrial activity; and wholesale and retail, including the repair of motor vehicles and motorcycles, which contributes 15.0% to the industrial sector. The private informal sector employs a significant proportion of the working population. Approximately one-sixth of the workforce is employed by the combined public and private formal sectors.



CHAPTER FOUR

RESULTS AND DISCUSSION

4.0 Introduction

This chapter presents the analyses and discussion of the data gathered from the field. Frequencies, tables and percentages have been used to present the results according to the thematic areas of the research objectives. The analyses focused on Digitalization of Local Revenue Collection in Ghana: A Case of Bolgatanga Municipal, which have been grouped under various headings, namely: Socio-demographic characteristics; Revenue Mobilization; Challenges in Digitizing Revenue Mobilization; Challenges in Revenue Mobilization; and Improving Revenue Collection.

4.1 Response Rate

The study sought to gather information from 80 respondents on Digitalization of Local Revenue Collection in Ghana: A Case of Bolgatanga Municipal. Out of the 80 questionnaires, 80 was retrieved representing 100%. The research response rate was 100% and was found to be adequate to facilitate data analysis and generation of conclusions. This position is supported by Mugenda & Mugenda (2003) as cited in Adeniran (2019), assertion that a response rate of 60% is appropriate for data analysis and reporting.

4.2 Socio-Demographic Characteristics

Table 4. 1: Socio-Demographic Characteristics

Category		Frequency	Percentage (%)
Gender	Male	44	55%
	Female	36	45%
	Total	80	100
Age	18-30 years	1	1
	31-40 years	12	15
	41-50 years	29	36
	51-60 years	31	39

Category		Frequency	Percentage (%)
	>60 years	7	9
	Total	80	100
Educational Level	No Education	8	10
	Primary Education	12	15
	Secondary Education	40	50
	Tertiary Education	20	25
	Total	80	100
Occupation	Government workers	30	39
	Artisan	6	6
	Trader	40	50
	Farmer	4	5
	Total	80	100

Source: Field Survey (June, 2023)

▪ Gender of Respondents

The study sought to determine the gender of the respondents. Of the 80 respondents interviewed, 55% of the respondents were males and 45% were females. The study revealed that 55% were males. This implies that both males and females have a key role to play as far as revenue mobilization and utilization by the Assembly is concerned.

▪ Age of Respondents

The study sought to determine the age of the respondents. Of the 80 respondents interviewed, 39% were aged 51-60 years, 36% were aged 41-50 years, and 15% were aged 31-40 years.

The study revealed that majority of the respondents (91%) were in their active years (18-60 years), which means high productivity all other things being equal. The distribution of respondents by age is important for identifying the age distribution of the sample and also the category of the principal age group among the respondents consulted for data collection. This is in line with the Great Soviet Encyclopedia's (1970–1979) claim that the percentage of the population that is economically active

depends on both the proportion of people who are of working age in the population as a whole and the level of employment they have.

- **Educational Level of Respondents**

Out of the 80 respondents interviewed, 50% had secondary education while 25% had tertiary education. The results thus show that in general majority of the respondents sampled (90%) had some form of education.

- **Occupation of Respondents**

Findings from the study showed that, 50% of the respondents were traders while 30% of the respondents were government workers. The study revealed that 50% of the respondents were traders.

4.3 Extent of Digitization of Revenue Collection at Bolgatanga Municipal Assembly

The first objective sought to ascertain the extent to which rate collection has been digitized at the Bolgatanga Municipal Assembly. To ascertain the extent of digitization of revenue collection at Bolgatanga Municipal Assembly, a likert scale of 1-5 was used (i.e., where 1 - Very Low Extent, 2 - Low Extent, 3 - Moderate Extent, 4 - Large Extent, and 5 - Very Large Extent).

The research findings reveal that to a large extent (Mean= 4.2125), revenue collection at Bolgatanga Municipal have been digitalized.

Table 4. 2: Extent of Digitization of Revenue Collection

Variable	Frequency	Mean	Std. Deviation
Extent of Digitization of Revenue Collection at Bolgatanga Municipal Assembly	80	4.2125	.79067

Source: Field Survey (August, 2023)

Findings of the study reveal that: Bolgatanga Municipal Assembly uses the District Local Revenue (dLRev) software in revenue mobilization. A district's local plan in the form of a digital address map is produced via the web-based program known as the dLRev. The program is used to handle data, billing, and collection for the local plan, which has a spatial database and an associated fiscal cadastre of revenue items. The Assembly runs a year-round process of revenue collecting that is: establishing goals that guide the bills that ratepayers will pay during the fiscal year; Entry of ratepayers' bills into the dLRev which marks the commencement of the dLRev enabled rate-collection period; Printing of bills using the dLRev and distribution of bills by Revenue Collectors. The dLRev is employed in printing of ratepayers' bills. Revenue collectors distribute the bills to the ratepayers. Ratepayers are given a period to settle their bills; dLRev is used to record cash payments made to revenue collectors and to print receipts accordingly; dLRev is employed to check the account of ratepayers to identify defaulters. The Assembly pursues defaulters; Identification and registration of new business. Within the year, the Assembly scans for new business and registers them. The dLRev is employed here to give identification numbers to new ratepayers identified through the search.

The study revealed that revenue collection at Bolgatanga Municipal have been digitalized. This corroborates with the position of Umbach and Tkalec (2022) that governments have developed more sophisticated ways to digitalize their business

processes which has improved the efficiency with which services are provided to citizens.

4.4 Effect of Digitization on Internally Generated Funds Collection

The second objective sought to ascertain whether digitization has improved Internal Generated Funds (IGF) at the Bolgatanga Municipal Assembly. To ascertain the effect of Digitization on Internally Generated Funds Collection, a likert scale of 1-5 was used (i.e., where 1 - Very Low Extent, 2 - Low Extent, 3 - Moderate Extent, 4 - Large Extent, and 5 - Very Large Extent). The research findings reveal that to a very low extent (Mean=1.3875), digitalization of revenue has improved revenue collection at Bolgatanga Municipal Assembly.

Table 4. 3: Effect of Digitization on Internally Generated Funds Collection

Variable	Frequency	Mean	Std. Deviation
Effect of Digitization on Internally Generated Funds Collection	80	1.3875	.78746

Source: Field Survey (August, 2023)

Responses from the field revealed that the dlRev was introduced in 2019 by GIZ. With the introduction of the dlRev, it was assumed that revenue mobilization would be more transparent and effective as compared with the traditional mobilization of revenue. However, it is noteworthy that the introduction of the dlRev, revenue collection has not achieved perfect results at the Bolgatanga Municipal Assembly. Despite of the four-year success (i.e., 2019 to 2022), data analyzed in Table 1 demonstrates that the highest year-on-year revenue mobilized for the ten-year period was achieved in 2017. This figure has been unmatched since the introduction of dlRev in 2019. Also, findings from Table 1 reveals that there was a decline in revenue from 2019 to 2020 and an increase from 2020 to 2022.

Table 4. 4: Trend in IGF growth from 2013-2022

Year	Total IGF
2013	107,039.50
2014	178,129.44
2015	58,986.00
2016	255,697.75
2017	1,248,743.85
2018	923,860.75
2019	975,460.59
2020	928,143.34
2021	1,078,607.75
2022	1,151,076.10

Source: Field Survey (August, 2023)

The study revealed that digitalization of revenue collection has not achieved perfect results at the Bolgatanga Municipal Assembly. This disagrees with the position of Umbach and Tkalec (2022) that governments have developed more sophisticated ways to digitalize their business processes which has improved the efficiency with which services are provided to citizens. Additionally, this disagrees with the position of Mergel & Bretschneider (2013) that Information Communication Technology is a potent tool for injecting some effectiveness and efficiency into government business.

4.5 Effect of Digitization on Transparency and Accountability in Revenue Collection

The third objective sought to ascertain whether digitization has improved transparency and accountability in rate collection at the Bolgatanga Municipal Assembly.

To ascertain whether digitization has improved transparency and accountability in rate collection at the Bolgatanga Municipal Assembly, a likert scale of 1-5 was used (i.e., where 1 - Very Low Extent, 2 - Low Extent, 3 - Moderate Extent, 4 - Large Extent, and 5 - Very Large Extent). The research findings reveal that: To a large extent (Mean=4.2875), digitalization of revenue has enhanced tighter financial controls at

Bolgatanga Municipal Assembly; To a large extent (Mean=4.1500), Bolgatanga Municipal Assembly base its decision making on records produced by the digitalization process; To a large extent (Mean=4.1500), with the digitalization of revenue complaints of rate payers has declined; To a large extent (Mean=3.7500), digitalization of revenue has improved the integrity of management of Bolgatanga Municipal Assembly; To a large extent (Mean=3.7250), digitalization of revenue has minimized or reduced the avenues of bribery, corruption and misappropriation at Bolgatanga Municipal Assembly; To a large extent (Mean=3.7250), digitalization of revenue has improved the quality of services offered by the Bolgatanga Municipal Assembly; To a large extent (Mean=3.6875), Bolgatanga Municipal Assembly staff are committed to the digitalization of revenue collection; To a very low extent (Mean=1.3875), digitalization of revenue has improved revenue collection at Bolgatanga Municipal Assembly.



Table 4. 5: Effect of digitization on transparency and accountability in rate collection at the Bolgatanga Municipal Assembly

Variable	Frequency	Mean	Std. Deviation
Digitalization of revenue has enhanced tighter financial controls at Bolgatanga Municipal Assembly	80	4.2875	.99612
Digitalization of revenue has improved the integrity of management of Bolgatanga Municipal Assembly	80	3.7500	1.03728
Digitalization of revenue has minimized or reduced the avenues of bribery, corruption and misappropriation at Bolgatanga Municipal Assembly.	80	3.7250	.96751
Digitalization of revenue has improved the quality of services offered by the Bolgatanga Municipal Assembly	80	3.7250	1.03085
Digitalization of revenue has improved revenue collection at Bolgatanga Municipal Assembly	80	1.3875	.78746
Bolgatanga Municipal Assembly staff are committed to the digitalization of revenue collection	80	3.6875	.92221
With the digitalization of revenue complaints of rate payers has declined.	80	4.1500	.92913
Bolgatanga Municipal Assembly base its decision making on records produced by the digitalization process	80	4.1500	.92913

Source: Field Survey (August, 2023)

The study revealed that to a large extent (Mean= 4.003125), digitalization of revenue enhanced tighter financial controls, service delivery, improved the integrity of the Assembly, minimized avenues of bribery, corruption and misappropriation, reduced rate payers' complaints and informed decision making at Bolgatanga Municipal Assembly. In a key informant interview with a 50-year-old male respondent, he stated that *“digitalization of revenue has reduced embezzlement and minimized avenues of bribery and corruption”*.

Also, in a key informant interview with a 45-year-old female respondent, she stated that *“digitalization of revenue has tightened financial controls, and enhanced service delivery”*. Excerpts from Focus group discussions convey that *“digitalization of revenue minimized avenues of bribery and corruption, tightened financial controls, and enhanced service delivery at the Bolgatanga Municipal Assembly”*. This implies that digitization has improved transparency and accountability in rate collection at the Bolgatanga Municipal Assembly. This confirms the position by Yusuf (2022) that digitalization improves government's tax collection and performance. Additionally, Rosario and Chavali (2020), digitalization increases government productivity. Mpinganjira (2013) and Kapoor, et al. (2016) indicated that digitalization enhances services delivery. Also, Jingnan et al. (2017) stated that digitalization makes tax collection more efficient. Finally, Burlacu et al. (2021) categorically stated that digitization improve transparency, accountability, tax collection, and efficiency.

4.6 Challenges in Digitizing Revenue Mobilization

The fourth objective sought to ascertain the challenges in digitizing revenue collection at the Bolgatanga Municipal Assembly. From the study, the challenges were: Unavailability of infrastructure; Technological issues; Increased cost and financial constraints; High levels of illiteracy; Knowledge of digitalization/required skills for

digitalization; Professional values and norms; Adoption intention and acceptance of new processes; Demographic and individual characteristics.

In a key informant interview with a 50-year-old male respondent, he stated that *“inadequate infrastructure and low capacities of some revenue staff affects digitilisation of revenue collection”*. Also, in a key informant interview with a 45-year-old female respondent, she stated that *“issues with technology and high illiteracy affects digitilisation of revenue collection”*. Excerpts from Focus group discussions convey that *“technological issues, inadequate infrastructure, knowledge/capacity gaps, financial constraints and high illiteracy rate”* as challenges in digitizing revenue collection at the Bolgatanga Municipal Assembly. This supports the contention made by Zhao, Wallis, and Singh (2016) that obstacles to the implementation and use of digitalized systems include firm and industry structures, cultural beliefs and practices, acceptance of new processes, knowledge of digitalization, necessary skills for digitalization, and demographic and individual characteristics. This supports the assertion made by Ansong and Boateng (2019) that infrastructural shortages and technical problems made it difficult to successfully employ digitalized services.

4.7 Challenges in Revenue Mobilization

The study sought to ascertain the challenges hindering revenue collection at the Bolgatanga Municipal Assembly. From the study, the challenges were: Unwillingness of rate payers to pay rates/ ratepayer compliance burden; No/lack of enforcement; Inadequate resources to sustain and facilitate the operation of the Assembly; No accountability for revenue collected; Small nature of some businesses in the municipality; Inability of some businesses to pay the right amount.

In a key informant interview with a 50-year-old male respondent, he stated that *“perceived corruption and mismanagement of revenue collected affects revenue collection”*. Also, in a key informant interview with a 45-year-old female respondent, she stated that *“the small businesses are many in the municipality and some cannot pay the right rates”*. Excerpts from Focus group discussions convey that *“political interference, large informal sector; inefficient and effective use of public resources; and perceived corruption”* as challenges hindering revenue collection at the Bolgatanga Municipal Assembly. This implies that ratepayer compliance burden, no of enforcement of laws, inadequate resources to sustain and facilitate the operation of the Assembly and no accountability for revenue collected hindered revenue collection by Assemblies. This confirms the position of Tobazaa and Bayenteyeah (2020) that poorly motivated staff, limited capacity, political interference, revenue collector’s fraudulent practices, inadequate and inaccurate public address system and house numbers, inadequate databases and logistics, inadequate valuation practices undermined Assemblies ability to raise revenue. This supports Hillary's (2018) assertion that challenges faced by tax authorities during domestic revenue mobilization included a lack of modern technology, high levels of illiteracy, the burden of taxpayer compliance, a lack of adequate resources to sustain and facilitate the operation of tax authorities, and the issue of tax evasion and default.

5.8 Measures to Improve Revenue Collection/Digitalization of Revenue Collection

The study sought to determine what can be done to improve revenue collection/digitalization of revenue collection. After the analysis of data, the key findings were: Investing in capacities, skills and management systems needed to establish a productive rate payment system; Adequate provision of resources needed for better ratepayers’ services; Enforcing and improving tax compliance; Strictly

enforcing the code of conduct of revenue collectors; Regular public education on tax payment.

In a key informant interview with a 50-year-old male respondent, he stated that *“Assembly should ensure that revenue collectors distribute bills on time and ensure that ratepayers settle their bills. Assembly should educate the populace on the importance of paying rates on time”*. Also, in a key informant interview with a 45-year-old female respondent, she stated that *“Assembly should develop and implement ratepayer education strategy, improve ratepayers’ outreach and education, and organize targeted tax campaigns”*. Also, in a key informant interview with a 42-year-old male respondent, he stated that *“Assembly should introduce an award system for compliant ratepayers and conduct regular audits”*. Excerpts from Focus group discussions convey that *“political interference, large informal sector; inefficient and effective use of public resources; and perceived corruption”* as challenges hindering revenue collection at the Bolgatanga Municipal Assembly. This implies that building staff capacities and professionalism, provision of adequate resources and enforcing and improving rate payment compliance can improve revenue collection/digitalization of revenue collection. This corroborates the position of Tobazaa and Bayenteyeah (2020) that mass public education, minimized incidence of revenue leakages, motivated employees, improved preparation and maintenance of complete records, enhanced staff capacity staff, less political interference, and enforcement of law against non-compliance can improve revenue collection. This supports Hillary's (2018) argument that, in order for the government to generate enough income, efforts should be focused on enhancing tax collection, eliminating corruption, boosting welfare through the creation of jobs, and implementing other initiatives for eradicating poverty.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This chapter summarizes the key findings of the study in relation to digitalisation of Local Revenue Collection in Ghana: A Case of Bolgatanga Municipal. A conclusion is drawn on the study's key findings. The chapter ends with recommendations on improving digitalisation of local revenue collection in the municipality and Ghana at large.

5.1 Summary

This study's major goal is to evaluate how Bolgatanga Municipal's local tax collection has gone digital. The case study method was used in this investigation. Using a simple random sampling strategy, choose responders by drawing lots. Additionally, Assembly Staff, Opinion Leaders, and Rate Payers were chosen using purposive sampling. These respondents (i.e., Assembly Staff, Opinion Leaders, and Rate Payers) were chosen based on purposeful sampling in order to be used for focus groups or key informant interviews. The study used primary sources to get its data. A qualitative data gathering methods, including the distribution of questionnaires, interviews, and focus group discussions, were used to gather the data. Data was displayed using various tabulations, including percentages, graphs, and charts. The study's primary conclusions were based on the objectives that were specified, and they are listed below.

The first objective sought to ascertain the extent to which rate collection has been digitized at the Bolgatanga Municipal Assembly. After the analysis of data, the key finding was: To a very large extent (Mean= 4.2125), Bolgatanga Municipal Assembly revenue collection has been digitized. The second objective sought to ascertain whether digitization has improved Internal Generated Funds (IGF) at the Bolgatanga Municipal

Assembly. After the analysis of data, the key finding: To a very low extent (Mean=1.3875), digitization of revenue collection has not achieved perfect results at the Bolgatanga Municipal Assembly. The third objective sought to ascertain whether digitization has improved transparency and accountability in rate collection at the Bolgatanga Municipal Assembly. The study revealed that: To a large extent (Mean=4.2875), digitalization of revenue has enhanced tighter financial controls at Bolgatanga Municipal Assembly; To a large extent (Mean=4.1500), Bolgatanga Municipal Assembly base its decision making on records produced by the digitalization process; To a large extent (Mean=4.1500), with the digitalization of revenue complaints of rate payers has declined; To a large extent (Mean=3.7500), digitalization of revenue has improved the integrity of management of Bolgatanga Municipal Assembly; To a large extent (Mean=3.7250), digitalization of revenue has minimized or reduced the avenues of bribery, corruption and misappropriation at Bolgatanga Municipal Assembly; To a large extent (Mean=3.7250), digitalization of revenue has improved the quality of services offered by the Bolgatanga Municipal Assembly; To a large extent (Mean=3.6875), Bolgatanga Municipal Assembly staff are committed to the digitalization of revenue collection.

The fourth objective sought to ascertain the challenges in digitizing revenue collection at the Bolgatanga Municipal Assembly. After the analysis of data, the key finding was: Unavailability of infrastructure, technological issues, increased cost and financial constraints, high levels of illiteracy, knowledge of digitalization/ required skills for digitalization, professional values and norms, adoption intention and acceptance of new processes and demographic and individual characteristics hinders the digitalisation of revenue mobilization.

The study also sought to ascertain the challenges hindering revenue collection at the Bolgatanga Municipal Assembly. After the analysis of data, the key finding was; Unwillingness of rate payers to pay rates/ ratepayer compliance burden, no/lack of enforcement, inadequate resources to sustain and facilitate the operation of the Assembly, no accountability for revenue collected, small nature of some businesses in the municipality, and Inability of some businesses to pay the right amount hinders revenue collection at the Bolgatanga Municipal Assembly.

The study sought to determine what can be done to improve revenue collection/digitalization of revenue collection. After the analysis of data, the key finding was: Investing in capacities, skills and management systems needed to establish a productive rate payment system, adequate provision of resources needed for better ratepayers' services, enforcing and improving tax compliance, developing staff skills and professionalism, strictly enforcing the code of conduct of revenue collectors, and regular public education on tax payment are measures that can improve revenue collection/digitalization of revenue collection.

5.2 Conclusion

The study sought to get a better understanding of local revenues and what role the use of digital technologies has or can play in improving local revenue mobilization. The study employed the descriptive research design and the case study methodology. Purposive sampling was used to select the study area and eighty (80) respondents for the study. Data was analyzed using the IBM SPSS software version 20 and presented using descriptive and inferential statistics.

The first objective sought to ascertain the extent to which rate collection has been digitized at the Bolgatanga Municipal Assembly. The study concludes that Bolgatanga Municipal Assembly revenue collection has been digitized.

Regarding the second research objective which sought to ascertain whether digitization has improved Internal Generated Funds (IGF) at the Bolgatanga Municipal Assembly. The study concludes that digitization of revenue collection has not achieved perfect results at the Bolgatanga Municipal Assembly. Staff actions and inactions may be the ultimate forerunner in the mobilization of revenue because the usage of technology in the mobilization of revenue failed to improve Bolgatanga Municipal Assembly's revenue figures.

The third research objective sought to ascertain whether digitization has improved transparency and accountability in rate collection at the Bolgatanga Municipal Assembly. The study concludes that digitalization of revenue has enhanced tighter financial controls, service delivery, improved the integrity of the Assembly, minimized avenues of bribery, corruption and misappropriation, reduced rate payers' complaints and informed decision making at Bolgatanga Municipal Assembly.

Finally, the fourth research objective sought to examine the challenges in digitizing revenue collection. The study concludes that the unavailability of infrastructure, technological issues, increased cost and financial constraints, high levels of illiteracy, knowledge of digitalization/required skills for digitalization, professional values and norms, adoption intention and acceptance of new processes and demographic and individual characteristics hinders the digitalisation of revenue mobilization.

5.3 Recommendations and Policy Implication

Based on the research findings, the following recommendations are:

District Assemblies should strengthen institutional capacity through developing staff skills and professionalism, improving staff conduct, and developing analytical skills, micro-simulation capacity, and other tools for revenue analysis.

District Assemblies should strengthen tax compliance through building tax compliance culture, strengthening revenue enforcement, improving ratepayer services and experience, and strengthening audit capacity.

District Assemblies should improve the perception of tax system through improving tax disputes resolution mechanism and improving transparency.

District Assemblies should broaden their tax base through strengthening ratepayer registration, strengthening business intelligence and analysis, strengthening taxation of the informal sector, and strengthening their own source revenue generation capacity.

5.4 Suggestion for Future Research

The study focused on digitalization of local revenue collection in Ghana: a case of Bolgatanga Municipal. It is suggested that future research look at the use of digitalization in revenue mobilization taking into consideration the institutional environment affecting the use of these systems in revenue mobilization.

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APPENDICES

APPENDICES KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY (KNUST) INSTITUTE OF DISTANCE LEARNING (IDL)

APPENDIX 1 QUESTIONNAIRES

Topic: Digitalization of Local Revenue Collection in Ghana: A Case of Bolgatanga Municipal

The purpose of this study is solely for academic purposes and respondents are assured of confidentiality of information provided. The questionnaire is divided into A, B C, and D. The questions could be answered by ticking [√] against your response or filling the space provided with your opinion where appropriate. Thank you.

SECTION A: RESPONDENT'S PROFILE

1. Gender of respondent

[] Male

[] Female

2. Age of respondent

[] 18-30 years

[] 31-40 years

[] 41-50 years

[] 51-60 years

[] > 60 years

3. What is your highest educational level?

[] No education

[] Secondary

[] Primary/JSS

Tertiary

4. Occupation of respondent:

Farmer

Artisan

Trader/Business woman

Government Worker

Others, specify _____

SECTION B: REVENUE COLLECTION

5. Digitalization of revenue has enhanced tighter financial controls at Bolgatanga
Municipal Assembly

Very low extent

Low extent

Moderate extent

Large extent

Very large extent

6. Digitalization of revenue has improved the integrity of management of Bolgatanga
Municipal Assembly

Very low extent

Low extent

Moderate extent

Large extent

Very large extent

7. Digitalization of revenue has improved the quality of services offered by the
Bolgatanga Municipal Assembly

Very low extent 1

Low extent 2

Moderate extent 3

Large extent 4

Very large extent 5

8. Digitalization of revenue has minimized or reduced the avenues of bribery, corruption and misappropriation at Bolgatanga Municipal Assembly

Very low extent

Low extent

Moderate extent

Large extent

Very large extent

9. Digitalization of revenue has improved revenue collection at Bolgatanga Municipal Assembly

Very low extent

Low extent

Moderate extent

Large extent

Very large extent

10. Bolgatanga Municipal Assembly staff are committed to the digitalization of revenue collection

Very low extent

Low extent

Moderate extent

Large extent

Very large extent

11. Bolgatanga Municipal Assembly base its decision making on records produced by the digitalization process

Very low extent

Low extent

Moderate extent

Large extent

Very large extent

12. With the digitalization of revenue complaints of rate payers has declined

Very low extent

Low extent

Moderate extent

Large extent

Very large extent

SECTION C: CHALLENGES IN REVENUE MOBILIZATION

13. What challenges are encountered in revenue collection by the Bolgatanga Municipal Assembly?

14. What are the challenges in digitizing revenue collection at the Bolgatanga Municipal Assembly?

SECTION D: IMPROVING REVENUE COLLECTION

15. What can be done to improve the digitalization of revenue collection at the Bolgatanga Municipal Assembly.

16. What can be done to improve revenue collection by the Bolgatanga Municipal Assembly?



APPENDIX 2 INTERVIEW GUIDE

Topic: Digitalization of Local Revenue Collection in Ghana: A Case of Bolgatanga Municipal

The purpose of this study is solely for academic purposes and respondents are assured of confidentiality of information provided. Thank you.

1. How many revenues sources does your Assembly have? _____

2. Kindly list these revenue sources.

3. List four main sources of revenue to your Assembly.

4. List the rates collected by the Assembly.

5. Provide information on the rates collected by the Assembly

Rate	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022

KNUST

6. How are these rates collected by the Assembly?

7. When did the Bolgatanga Municipal Assembly digitize its revenue collection?

8. What was involved in the digitizing process?

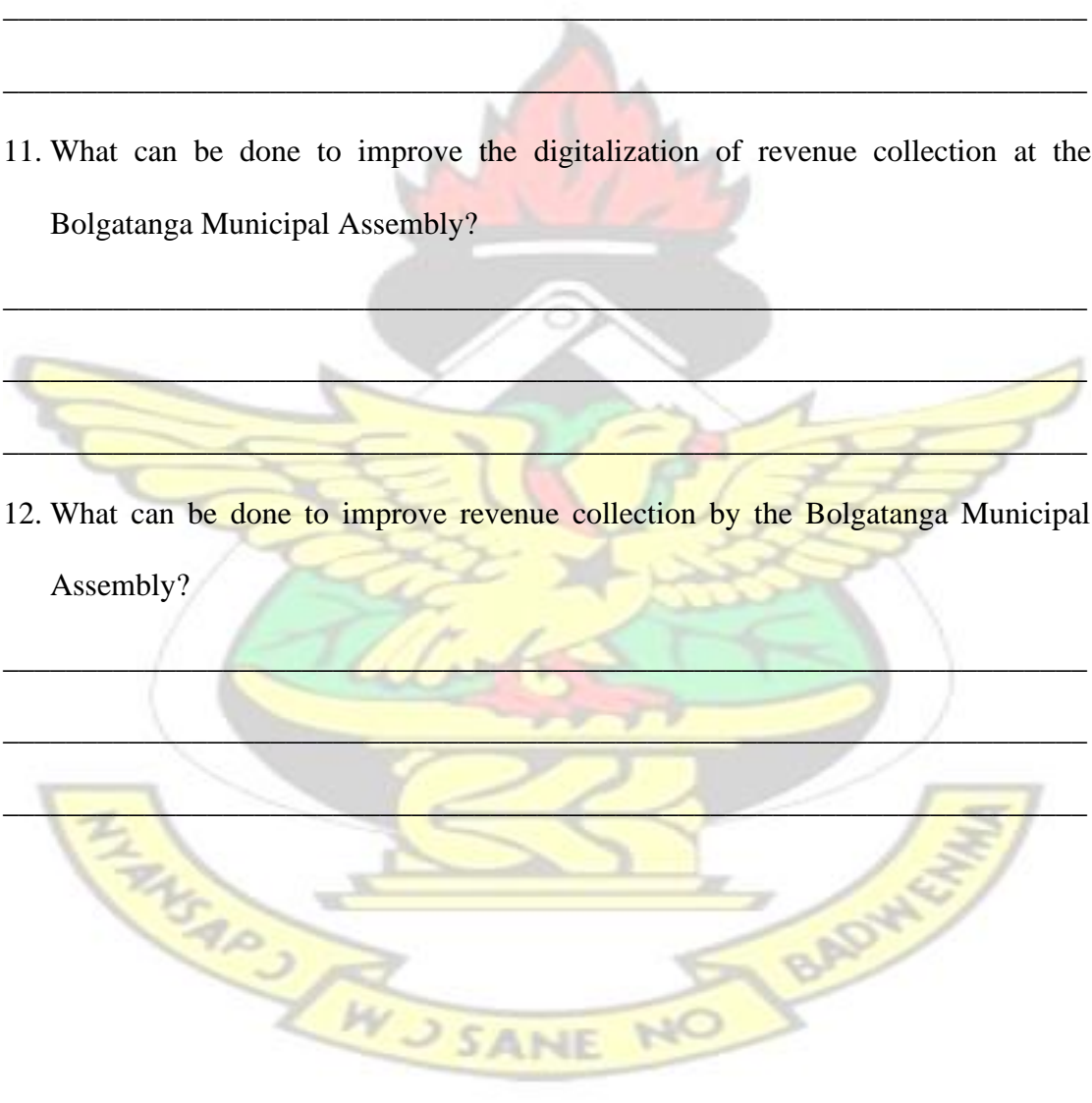
9. How has digitization improved transparency and accountability in rate collection at the Bolgatanga Municipal Assembly?

10. What are the challenges in digitizing revenue collection at the Bolgatanga Municipal Assembly?

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11. What can be done to improve the digitalization of revenue collection at the Bolgatanga Municipal Assembly?

12. What can be done to improve revenue collection by the Bolgatanga Municipal Assembly?



APPENDIX 3 FOCUS GROUP DISCUSSION GUIDE

Topic: Digitalization of Local Revenue Collection in Ghana: A Case of Bolgatanga Municipal

The purpose of this study is solely for academic purposes and respondents are assured of confidentiality of information provided. Thank you.

1. When did you start paying your rates digitally?
2. How do you pay rates?
3. How has digitization improved transparency and accountability in rate collection at the Bolgatanga Municipal Assembly?
4. What are the challenges in digitizing revenue collection at the Bolgatanga Municipal Assembly?
5. What can be done to improve the digitalization of revenue collection at the Bolgatanga Municipal Assembly?
6. What can be done to improve revenue collection by the Bolgatanga Municipal Assembly?