MASTER OF PHILOSOPHY (MPHIL)

WILLIAM ATAMBEOGO ANAMOO

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SIMON DIEDONG DOMBO UNIVERSITY OF BUSINESS AND INTEGRATED DEVELOPMENT STUDIES (SDD UBIDS)

INTEGRATING E-PARTICIPATION INTO DECENTRALIZED PLANNING: PERSPECTIVE OF PLANNING OFFICERS IN NORTHERN GHANA

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THESIS SUBMITTED TO THE DEPARTMENT OF PLANNING, FACULTY OF PLANNING AND LAND MANAGEMENT, SIMON DIEDONG DOMBO UNIVERSITY OF BUSINESS AND INTEGRATED DEVELOPMENT STUDIES, IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE AWARD OF MASTER OF PHILOSOPHY DEGREE IN STRATEGIC PLANNING AND MANAGEMENT

JUNE, 2023D

DECLARATION

DECLARATION

Student

I hereby declare that this thesis is the result of my own original work and that no part of it has been presented for another degree in this University or elsewhere:

Candidate's Signature:..... Date: 27-07-2023

Name: WILLIAM ATAMBEOGO ANAMOO

Supervisor

I hereby declare that the preparation and presentation of the thesis was supervised in accordance with the guidelines on supervision of thesis laid down by the SIMON DIEDONG DOMBO UNIVERSITY OF BUSINESS AND INTEGRATED DEVELOPMENT STUDIES (SDD UBIDS), Wa.

Supervisor's Signature:..... Date: 27.07.2023

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ABSTRACT

This study explored the status, opportunities, and the challenges of integrating e-participation into decentralized planning in Northern Ghana from the perspectives of planning officers. The study used phenomenological research and purposively selected Metropolitan and Municipal Planning Officers (MMPOs) and Regional Planning Officers (RPOs) for interview. The data gathered were coded using NVIVO 10 and then analysed thematically. The results found that the use of e-participation in decision making at the Metropolitan, Municipal and District Assembly (MMDA) level has been in existence for some time but to a limited scale. WhatsApp, Websites, Emails, Mobile Phones, Radio, Zoom, GIS Applications, Facebook, Google Meet were the most frequently used e-platforms. Although the study identified the availability of opportunities at the Metropolitan and Municipal Assemblies (MMA) level for the implementation of e-participation including the mass use of computers and mobile phones devices, high literacy rate, and the availability of ICT infrastructure and network connectivity, the absence of a policy framework and guidelines to support the adoption and integration of e-participation in decentralized planning at the MMDA was a major setback. Other factors that affected the adoption of e-participation in the studied Assemblies included high cost of participation, low trust and confidence and lack of political and leadership support among others. The study concludes that e-participation is not a new phenomenon to MMDAs in northern Ghana and its adoption is far better than the traditional mode of participation because of its convenience, cost effectiveness, and timeliness. The study thus recommends that the following measures should be considered: provision of ICT infrastructure and networks, training of Officers and public education, blending both e-participation and traditional method of participation and formulation and implementation of policy and guidelines on e-participation to aid its operationalization in decentralized development planning in Ghana.

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Last but not the least, I wish to appreciate my family, especially my brother Job Akubilla Anamoo, my wife Ms. Ngata Juliana Anamoo and Children; Ephraim Nsoh, Manasseh Awinborem and Mma-Atiah Nikita for your prayers and support.

DEDICATION

I dedicate this thesis to my late mother Mad. Atiah Ayembilla Afayang Anamoo who took the sole initiative and sent me to school, took care of me from Primary to the University before she was called to eternity on 28th December, 2015.

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LIST OF ACRONYMS

AD	Assistant Director
ADPO	Assistant Development Planning Officer
BaSIS	Basic Sanitation Information System
C2G	Community to Government
CDPO	Chief Development Planning Officer
CSOs	Civic Society Organizations
DAs	District Assemblies
DCDs	District Coordinating Directors
DDDP	District Development Data Platform
DHIMS-2	District Health Information Management System –2
DPCU	District Planning Co-ordinating Unit
DPO	Development Planning Officer
EA	Enterprise Architecture
E-GIF	Electronic Government Interoperability Framework
EBS	Electronic Brainstorming
EDMS	Electronic Document Management System
EGIF	E-Government Interoperability Framework
EMIS	Education Management Information System
EU	European Union
FPLM	Faculty of Planning and Land Management
G2B	Government to Business
G2C	Government to Citizens
G2G	Government to Government
GDSS	Group Decision Support Systems
GEFEC	Ghana Electronic Fund for Electronic Communication
GHS	Ghana Health Service
GIS	Geographic Information Systems
GPS	Global Positioning System
GSS	Ghana Statistical Service

ICT	Information and Communication Technology
IDS	Integrated Development Studies
IDT	Innovation Diffusion Theory
IT	Information Technology
KMA	Kumasi Metropolitan Assembly
KNMA	Kessena Nankana Municipal Assembly
LGS	Local Government Service
LI	Legislative Instrument
MDPCUs	Municipal and District Planning Coordinating Units
MLGRD	Ministry of Local Government and Rural Development
MMAs	Metropolitan and Municipal Assemblies
MMDAs	Metropolitan, Municipal and District Assemblies
MMDPCU	Metropolitan, Municipal and District Planning Coordinating Unit
MMPOs	Metropolitan and Municipal Planning Officers
MPCU	Model of PC Utilization
MTDPs	Medium Term Development Plans
NCA	National Communication Authority
NDAP	National Decentralization Action Plan
NDPC	National Development Planning Commission
NERCC	North East Regional Co-ordinating Council
NRCC	Northern Regional Coordinating Council
OECD	Organization of Economic Cooperation and Development
OHLGS	Office of Head of Local Government Service
PDPO	Principal Development Planning Officer
PHC	Population and Housing Census
RCC	Regional Co-ordinating Council
REPO	Regional Economic Planning Officer
RPCU	Regional Planning Coordinating Unit

RPO	Regional Planning Officer
SCT	Social Cognitive Theory
SDPO	Senior Development Planning Officer
SIET	Sustainable Information Engineering and Technology
SRCC	Savanna Regional Co-ordinating Council
TAM	Technology Acceptance Model
TPB	Theory of Planned Behaviour
TRA	Theory of Reasoned Action
UBIDS	University of Business and Integrated Development Studies
UERCC	Upper East Regional Coordinating Council
UN	United Nations
USA	United State of America
UTAUT	Unified Theory of Acceptance and Use of Technology
UWRCC	Upper West Regional Coordinating Council

CHAPTER ONE
GENERAL INTRODUCTION

1.1 Background of the Study

In the last decades, there have been major efforts globally to ensure citizens participate actively in government activities or programmes through a framework known as e-government (Kanwischer & Quennet, 2012). As a result, governments are under pressure from various stakeholders for an improved quality of public services and to expand the engagement or participation of the public in decision making (Nielsen, 2016; Nugraha et al., 2021; Shanneb, 2021). This among others has called for e-governance processes in decision-making. The traditional method of government which mostly deals with the use of paper is fading out and being transformed into electronic governance (e-government). This has become the order of the day in governance with the main goal of creating an online platform for service delivery and public participation (Adam & Dzang Alhassan, 2022; Nugraha et al., 2021; Putra & van der Knaap, 2020).

In line with the e-governance agenda, globally, there has been a growing interest in e-participation processes and the models. Accordingly, e-participation as a tool of public participation has seen some rapid growth with the improvement of Information and Communication Technology (ICT) (Akmentina, 2022; Musiał-Karg & Kapsa, 2019). E-participation involves using ICT to enhance public participation in making decisions (Aradeh et al., 2021). Countries in North America, Europe and South East Asia have made major steps in transforming their governance structure to include e-participation through the citizen's participation, transparency and accountability (Ertiö, 2018; Musiał-Karg & Kapsa, 2019; Weimann et al., 2016). The improvement in ICT has brought about e-participation with the aim of increasing people's ability to participate, through the increased development of more digital solutions which has supported the traditional methods (Kyere & Kumah, 2017; Nilsson & Barbutiu, 2019). The development of technologies has improved how government and its agencies render services to its citizens and the ways of interaction and communication (Alharbi et al., 2015;

Demirdoven et al., 2020; Ndiege, 2020). E-participation is seen by most people as the answer to the challenges of public participatory planning. This is because it grants equal opportunities to all to participate, promotes trust, enhances more citizens' inputs and strengthens the relationship between government and its citizens (Aikins, 2010; Alharbi et al., 2015; Ingrams & Schachter, 2019; Nilsson & Barbutiu, 2019).

In most countries in Western and Eastern Europe, citizen inclusion or participation has been part of their process of planning for centuries (Akmentina, 2022). Notwithstanding the long existence of participatory planning, planning institutions and agencies struggle to ensure smooth and meaningful participation in plan preparation and other decision-making processes. This may be due to the high cost involved in participation, limited trust in public participation, low interest in citizens' participation and the inability of planning agencies to delegate control (Aikins, 2010; Akmentina, 2022; Kodua, 2020; Nugraha et al., 2021). Even though the important role of ICTs in public participation is widely recognized in the Global North, there is little evidence in Africa countries on how ICTs can have an effect on local governance (Kyere & Kumah, 2017).

Decentralization is one of the governance approaches through which decision-making and services can get to the grassroot level, especially to the less privileged and marginalized in society. The addition of ICTs in decentralization processes will improve the delivery of services to people which will apparently promote the governance system and framework (Fayomi et al., 2014). Unfortunately, e-governance and e-participation in Africa have seen less exploration partly due to challenges of organizational skills and structure achievements, low levels of democratic practices, modern forms of leadership and inadequate involvement of stakeholders and above all poor attention to e-governance and e-participation policies and strategies (Fayomi et al., 2014; Musiał-Karg & Kapsa, 2019). E-participation in developing countries also remains a challenge because of ICT infrastructure. Sub-Saharan Africa countries are characterized by poor infrastructure. Even though there has been a huge penetration of 'mobile telephony' and 'internet services' coverage which is supposed to be a hope for e-

participation, the reality is that only few services and abilities or skills have been put in place to benefit from these. Besides, the e-participation challenges have been worsened with corruption and its related practices in the telecommunication sector (Kyere & Kumah, 2017; Ochara & Mawela, 2015; Weimann et al., 2016).

In the field of planning, e-participation results are seen by most people as the response to the difficulties of citizen participation in planning. E-participation integration into plan preparation, budgeting and other forms of decision making at the local level increases people participation because everyone has equal opportunities to participate, ensures trust, which strengthens the relationship between government and its citizens. This notwithstanding, there is not much empirical evidence on the supposed merits or advantages of e-participation in planning especially in Africa let alone Ghana and for that matter Northern Ghana (Aikins, 2010; Alharbi et al., 2015). The study aims to explore the current utilization of e-participation in decision-making processes at the Metropolitan, Municipal, and District Assembly (MMDA) level, identify the prevalent e-platforms being used, and assess the existing opportunities and barriers for implementing e-participation in decentralized planning.

The integration of e-participation is to ensure that people have access to participation tools so that they can participate at their places of convenience at any time. In Kenya, although there has been some efforts in improving public participation through the incorporation of indigenous knowledge into planning processes, in Kisumu the processes did not pay attention to the likelihood that e-participation offers in the quality and quantity of public participation (Onyimbi et al., 2018). The digital revolution of e-government, e-service, and e-participation (hereafter 3Es) has the high possibility of decentralized planning integration. This can be done at all stages to reduce the likelihood of operational failure (Gebrihet & Pillay, 2021).

Municipal, Municipal and District Assemblies are mandated by law to initiate the preparation of developmental plans in a participatory manner. This is done by engaging in consultation meetings with Community Members, Urban/Town/Area

Councils, Heads of Departments, and other Stakeholders to solicit their views on development issues and develop strategies to tackle those development issues identified. With the issues raised, the District Planning Co-ordinating Unit (DPCU) collates and harmonized them into a draft plan according to the various thematic areas contained in the framework developed by the National Development Planning Commission (NDPC) prior to the commencement of the plan preparation (Local Governance Act, 2016, LI 2232). The draft plan is validated in forums such public hearings at the community, Urban/Town/Area level and at the district level after which it is presented to the General Assembly for their inputs for onwards submission to the Regional Co-ordinating Council (RCC) and NDPC for their review and advice. The activities leading to this stage of the planning involves physical meetings, moving to one area to another organizing and mobilizing people that usually takes months if not a year.

1.2 Problem Statement

The main idea of the introduction of e-participation is to give the public the opportunity to engage with government and its agencies by means of the internet so that they can express their views or contributions in the development process without necessarily being present (Alharbi et al., 2015). Since Ghana adopted a decentralized system of governance in 1988 Ayee (2008) citizens' participation in decision making at the lower level has been part of the country's process of development (Kodua, 2020). In 2005, the government of Ghana developed an e-government implementation strategy which incorporated e-participation as a major initiative to promoting economic development and good governance (Kodua, 2020; Kyere & Kumah, 2017). In addition, the government of Ghana has developed an Electronic Government Interoperability Framework (E-GIF) policy which showed that Ghana's ICT environment is good and ready for implementing e-governance initiatives including e-participation. Despite these policies, not much has been done in ensuring citizens' participation in decision making and policy planning through the internet or electronic systems.

Unlike in the developed world where substantial research exists on e-participation tools and techniques, there have not been much consideration given to factors affecting the involvement of public in e-participation in developing countries including Ghana (Weimann et al., 2016). Even where some information exists, it is so scanty and dispersed making it extremely difficult to understand and to be utilized by policy makers and researchers (Bawack et al., 2018; Weimann et al., 2016). Although in Ghana, Kyere & Kumah (2017) carried out a study on "Imperatives of e-participation in sustainable community development in Ghana", their work was not geographically contextualized and failed to look at the factors that could either hinder the adoption of e-participation in Ghana. Also, Kodua (2020) carried out a research on e-participation in policy making in Ghana but this was limited to the Kumasi Metropolitan Assembly (KMA). Up to date the available and accessible literature shows that very little attention has been paid to the study of the integration of e-participation in decentralized planning in Northern Ghana. Being considered an underdeveloped geographic area in the country with limited resource capacity for decentralized planning, this study seeks to ascertain how Metropolitan, Municipal and District Assemblies (MMDAs) integrate e-participation into the development planning process at the local level. The study focuses on the status use of ICT application to promote e-participation and future potentials of e-participation of stakeholders at local level with regards to project conception, initiation, planning and implementation.

1.3 Research Questions

1.3.1 Main Research Question

To what extent has e-participation initiatives been integrated into decentralized planning in Northern Ghana?

1.3.2 Specific Research Questions

The specific research questions of the study were as follows;

i. How have ICT applications been used to promote e-participation in decentralized development planning in Northern Ghana?
ii. What are the factors affecting the uptake of e-participation in decentralized planning in Northern Ghana?
iii. What are the potentials for the adoption of E-participation tools in decentralized planning in Northern Ghana?

1.4 Research Objectives

1.4.1 Main Research Objective

To explore how MMDAs integrate e-participation into decentralized planning in Northern Ghana.

1.4.2 Specific Objectives

The specific objectives of the research were as follows:

i. To understand how ICT applications/tools have been used to promote e-participation in decentralized planning in Northern Ghana.
ii. To unearth the factors affecting the uptake of e-participation in decentralized planning in Northern Ghana
iii. To explore the potentials of E-participation for decentralized development planning in Northern Ghana.

1.5 Significance of the Study

The findings of this research will inform policy makers especially the Ministry of Local Government and Rural Development (MLGRD), Local Government Service (LGS), Institutions as well as Metropolitan, Municipal and District Assemblies (MMDAs) on the potential of integrating E-participation in the decentralized

planning process. Also, given the development of technology and unforeseen pandemics like the emergence of COVID-19 where there was a global restriction to movement and participation, the study will inform Government and its agencies of using e-participation as an alternative which could be the best option in stakeholder engagements and other programme and project implementation at both the local, national, and international level. In addition, it will also contribute to policy making on mechanisms for integrating e-participation in decentralized planning to include more people in decision making. Moreover, the findings of the study will contribute to knowledge of integrating e-participation into decentralized planning in Ghana and Sub-Saharan Africa and to theory building in academia and contribute to further research or studies.

1.6 Scope of the Study

Geographically, the study will take place in selected Metropolitan and Municipal Assemblies in the Northern Region, Savanna Region, North East Region, Upper East Region, and Upper West Region. The target group will be Development Planning Officers (DPOs) and District Coordinating Directors (DCDs) who spearhead the development of Plans at the MMDAs level and Secretaries to the Metropolitan and Municipal Planning Coordinating Units (MMPCUs). Regarding content, the research will focus specifically on ascertaining how ICT applications are used to promote e-participation in decentralized planning process in Ghana, the benefits and barriers to their adoption and the potential of integrating e-participation in decentralized planning in Northern Ghana.

1.7 Organization of the Study

The report of the research is organized into five chapters. Chapter one talks about the background, statement of the research problem, research questions and objectives, significance of the study, scope of the study and the organization of the study. Chapter two talks about the literature review outlining the theoretical framework, the conceptual framework and empirical framework of the study. Chapter three has to do with the study context and the research methodology. Chapter four entails the results and discussions section, while chapter five presents the summary of key findings, conclusions, and recommendations.

CHAPTER TWO

E-PARTICIPATION AND DECENTRALIZED PLANNING: A LITERATURE REVIEW

2.1 Introduction

This chapter reviews literature on integrating e-participation into decentralized planning globally, Africa and in Ghana. It includes theoretical, conceptual, and empirical literature. The theoretical framework and conceptual literature present the relevant theories and concepts on e-participation in planning at the local level while the empirical literature look at relevant studies carried out on e-participation in local government across various cities.

2.2 Conceptualizing E-Governance, E-Participation, and ICT Infrastructure

2.2.1 E – Governance

The term “electronic government” was coined in 1993 by United States Performance Review but the term e-governance became popular in 1997 (Chipeta & Ngoyi, 2018; ; Mahlangu & Ruhode, 2021; Majeed et al., 2019). E-governance has three basic elements, namely: e-government, e-regulation, and e-democracy. Whilst e-government in general is about how the state uses ICT in the provision of services, e-regulation deals with how the state with the use of ICT “regulate and provide public services” such as price, quality and accessibility and e-democracy is the use of ICT by the state in its decision making process (Adam & Dzang Alhassan, 2021; Majeed et al., 2019; Watat & Jonathan, 2021). The UN defined e-government as the application of ICT to “deliver to all citizens” better services both internal and external in both information provision and governance process (UN, 2010). It involves the use of web-based applications and Information Technologies (IT) together with the process of implementing the IT to improve access and delivery of information and service by government to its citizens, agencies and entities (Chomba & Lusaka, 2017; Majeed et al., 2019; Nkomo & Moyane, 2021). In other words, it is the use of ICT to enhance efficiency and effectiveness in governance, ensuring government service accessibility and improving access to information by the public and

promoting government accountability to its citizens (Adam & Dzang Alhassan, 2021; Kagoya & Mbamba, 2020; Nugraha et al., 2021). The above definitions present e-government as a modern way of leveraging ICTs to help citizens to electronically access information and services from government for development socially, economically, and politically.

E-Government is classified into three groups namely: Government to Government (G2G), Government to Citizens (G2C) and Government to Business (G2B) (Chipeta & Ngoyi, 2018; Chomba & Lusaka, 2017; Mahlangu & Ruhode, 2021). The aims of implementing e-Government are to provide services with little or no public institution intervention, encourage good governance and ensure that the public access information in an easy way which has the potential of reducing corruption (Zaied et al., 2017; Kagoya & Mbamba, 2020; Nugraha et al., 2021). Thus, the e-Government concept is basically to create a friendly, transparent and less expensive connections between government and its citizens, business enterprise and inter-governmental interaction (Chipeta & Ngoyi, 2018). According to Adeyemo, (2011), the United Nations e-Government global survey indicated that there are five stages of the e-Government model.

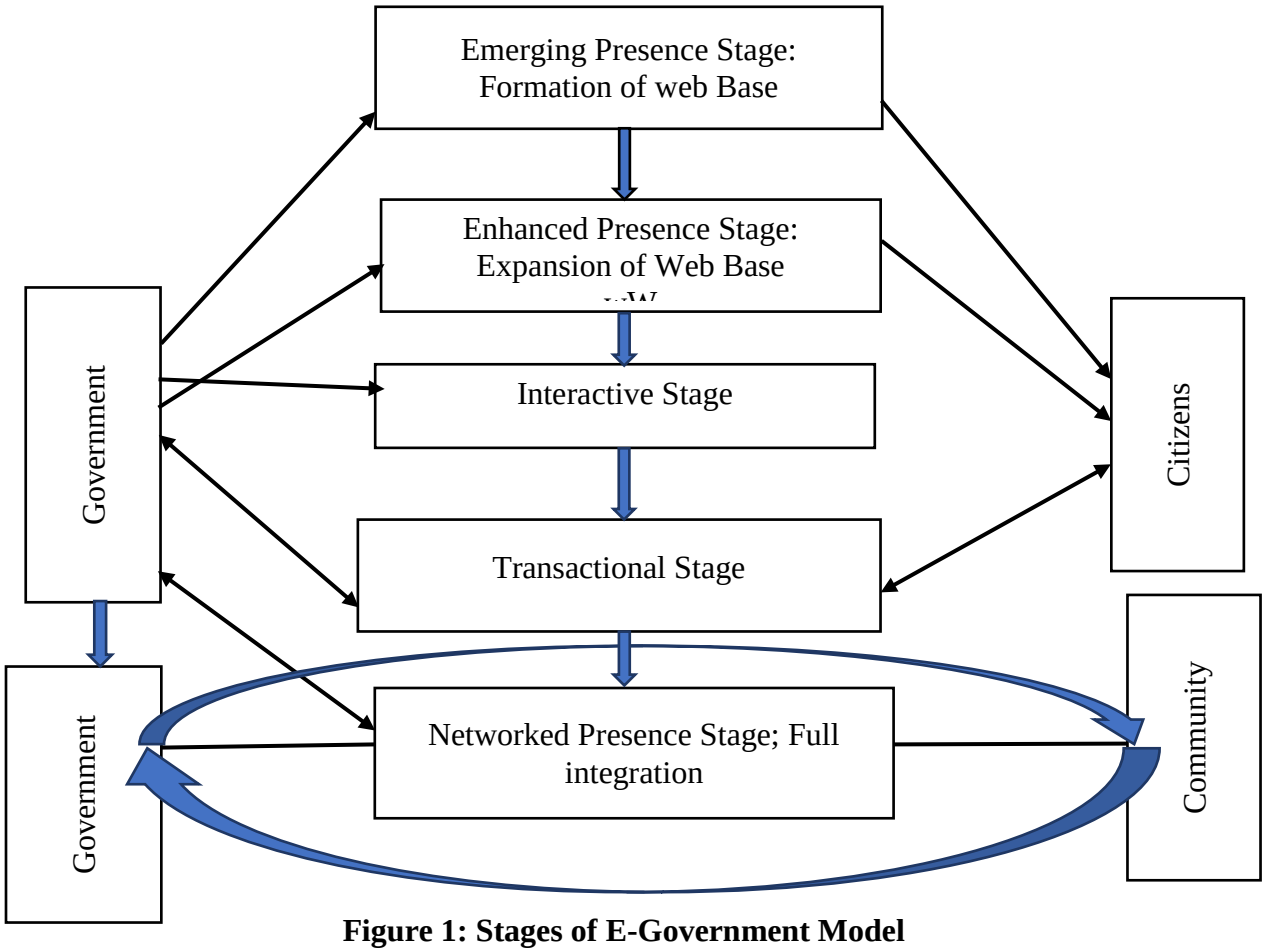

Figure 1: Stages of E-Government Model

Source: Adopted from Adeyemo, (2011)

The emerging presence stage: This is the stage a country makes commitment to begin the implementation of e-Governance. At this stage government establishes a formal web presence even though limited to the provision of users with organizational and political information.

The enhanced presence stage: This stage experiences the expansion of web presence by increasing the number of websites, with active and special information content being frequently updated. Here the information flow is one direction, that is from government to its citizens.

The interactive presence stage: This is the stage that the country's presence on the internet increases histrionically by moving to the interactive means by ensuring access to a greater range of government sectors or institutions and services by the public.

The transactional presence stage: The transaction presence is the stage of interaction between citizens and government that is there is access to information from the both partners.

The networked presence stage: This stage is the classy level in the e-government initiatives. It is the stage that integrates government to government (G2G), government to community (G2C) and community to government (C2G) and vice versa interactions. In this stage, government encourages planned participatory decision making willingly and is able to engage the public in a two-way interaction or dialogue (Adeyemo, 2011). According to Mahlangu & Ruhode (2021), many developing nations especially African countries are still at the emerging presence stage with the majority of government services not upgraded into online platforms. This could be one of the reasons why African countries are experiencing the least benefits in terms of the development of e-government service.

2.2.2 E-Participation: Concept, Levels and Relevance

One key dimension of e-government is e-participation (Kyere & Kumah, 2017). E-participation developed as an area of "work and research" during the early stages of the transformation of e-government which became popular globally in the year

2005 with different political impetus. For instance, in Europe the political motivation was to re-create citizens trust in public institutions, improve their rightfulness and re-engage people in their democratic process (Le Blanc, 2020; Nugraha et al., 2021). E-participation was identified as the mechanism to bridge the "democratic deficit" in Europe which received the full support of the European Union (EU) and its member states.

E-participation is the use of Information and Communication Technology (ICT) in public participation with the aim of increasing access to information and services for citizens (Adnan et al., 2022; Le Blanc, 2020; Kodua, 2020; Kyere & Kumah, 2017; Musiał-Karg & Kapsa, 2019; Orwa & Salim, 2014). Simply put, it is the contribution of people to government activities using electronic means like social media to facilitate citizens participation. E-participation thus involves providing information to people through an online system or technology where the people are involved and give feedback.

Similar to Arnstein's participation ladder that entails several degrees of participation including, information, consultation, collaboration, involvement and empowerment Le Blanc (2020), e-participation is made of three levels, namely: e-engaging, e-enabling and e-empowering with the latter being the most important level as it uses the bottom-up approach in the e-participation process (Alharbi et al., 2015; Aradeh et al., 2021; Le Blanc, 2020; Kyere & Kumah, 2017; Nilsson & Barbutiu, 2019). E-enabling is the functional role of ICT in ensuring access to relevant information, e-engaging is where a wider people or citizens are contacted and can participate in decision-making process through networked technologies as zoom, google, skype, etc. e-empowering is the real participation of people in decision-making process. E-empowering takes the form of both formal and informal processes in civic participation or engagement (Kubicek & Aichholzer, 2016; Nilsson & Barbutiu, 2019). According to Kyere & Gyamea Kumah (2017), the Organization of Economic Cooperation and Development's (OECD) 2001 model, e-participation includes 'information, consultation and active participation. In like manner, the United Nation's (UN) 2012 model for e-participation focused on e-information, e-consultation and decision making. They

conceptualized E-participation into the following framework: *E-information;* this framework of participation involves providing citizens with and access to information with or without demand. *E-consultation;* it is the involvement of the public to contributes and deliberation on public policies or plans. *E-decision-making*; it is the empowerment of the public in the policy making and the delivery of services (Ventimiglia, 2013).

In recent time, governments are faced with complicated socio-technical issues which has pushed them to devise new strategies that involve the use of ICTs. E-participation solutions are seen by most people as the answer to the challenges of public participatory planning by increasing people participation, equal opportunities to all to participate, ensuring there is trust, enhancing more citizens' inputs and strengthen the relationship between government and it citizens (Adnan et al., 2022; Aikins, 2010; Alharbi et al., 2015; Manda & Backhouse, 2016; Nugraha et al., 2021).

The rationale of e-participation is important for both "intrinsic reasons and instrumental reasons"(Le Blanc, 2020). It is important for intrinsic reasons because e-participation contributes to the inclusiveness of citizens or communities directly and through civic engagement. Also, it is important for instrumental reasons because e-participation is a mechanism through which government renders accountability to it citizens on its activities and finances and being more responding to the needs of the people and improving policy formulations quality and legislations. E-participation also aims to increase people's access to information and services and advance the participation in public decision-making which has a direct correlation of the individual person and the country as a whole.

E-participation has the opportunity of ensuring transparency, accountability and anti-corruption (Kyere & Kumah, 2017; Musiał-Karg & Kapsa, 2019). According to Bawack et al. (2018), since the implementation of e-participation clients have access to information without paying for which would have been a headache with the traditional method and its associated bureaucracy and corruption tactics. Also, clients track the movements of their documents submitted and can tell whom it is

with and at what time. Again, they can use the system to report directly to the head of any corruption or issues that they are not happy with.

In countries such as Ghana which have adopted decentralization and resolved to combat the incidence of poverty and strive for accelerated development, e-participation is key because of its contribution in creating job opportunities and promoting businesses development at the lower levels (Kyere & Kumah, 2017). Also, e-participation makes it easy for government in data storage and access. Its lessens data collection processes, analysis and contributes a lot in capacity building (Kyere & Kumah, 2017).

2.2.3 ICT Infrastructure

Information and Communication Technology (ICT) infrastructure are the technical equipment like computers, internet, mobile devices, and other facilities that exist in a country. ICT infrastructure advances the quality of services provision and provides better opportunities for citizens participation in decision-making and process. It is therefore obvious that the availability of ICT infrastructure has a direct bearing on the level to which e-government services spread in a country. This means countries with high ICT infrastructure derive greater opportunities for e-participation as against countries with low ICT infrastructure (Ifinedo et al., 2021). The internet which is a form of ICT infrastructure saves time and ensure people access to government information and services effectively (Ifinedo et al., 2021). Also, the use of online consultation in countries as part of their e-government services experience high level of e-participation. For example, USA scored the highest in the 2008 e-participation index because of its strength in both e-consultation and e-information which gave citizens to interacts with government but a country like the United Kingdom drop in the ranking the highest in 2005 to 24th in 2008 as a result of the migration of e-participation products and service from its national portal to local government portals (Adeyemo, 2011).

2.3 Theoretical and Conceptual Framework for the Study

2.3.1 The Unified Theory of Acceptance and Use of Technology (UTAUT)

Since the beginning of the 20th century to date, technology acceptance theories have been evolving (Momani, 2020). The user's acceptance or otherwise of new technology has been made an integral issue in the "information system cycle" (Ayaz & Yanartaş, 2020; Liu et al., 2022; Momani, 2020). The use of an "information system" relies subtly on the presence of intent of using it but the persistence use of the "information system" is subject to; 1. the acceptance of the information by the users, and 2. the satisfaction of users with the system (Momani, 2020).

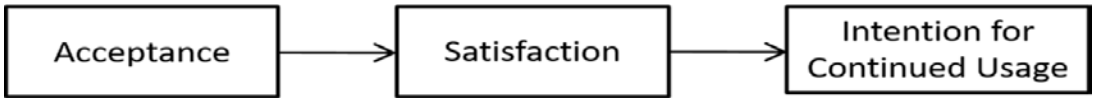

Figure 2: The influence of acceptance and satisfaction on continued usage of intention

The figure above depicts the "acceptance and satisfaction" relationships and how they influence the "intention for continuous use of the system" (Momani, 2020). According to Ajzen (1985) as cited in Momani, (2020 p.80) the users' "successful controlling the factors means successful actual usage behaviour. These factors are experiences and skills, will power and abilities. Accordingly, the successful behaviour is not only depending on favourable intention, but it is also depending on the behavioural control. Acceptance of a technological idea is not enough but should be followed by skills development, ability to use and other factors to ensure it usage as stated above. It is therefore true that once those factors are controlled, the probability of intention for continued usage of the technology will be high.

The development of the Unified Theory of Acceptance and Use of Technology (UTAUT) started in 2003 by Venkatesh, Morris, Davis and Davis **(**Liu et al., 2022; Marikyan & Papagiannidis, 2023) after they review some eight theories of technological acceptance. These theories include; Theory of Reasoned Action (TRA), the Theory of Planned Behaviour (TPB), Technology Acceptance Model

(TAM), the combination form of TAM and TPB (C-TAM-TPB). Others were; the Model of PC Utilization (MPCU), Innovation Diffusion Theory (IDT), Motivational Model (MM), and the Social Cognitive Theory (SCT). UTAUT therefore benefits from inimitable features of the above theories and models (Ayaz & Yanartaş, 2020; Liu et al., 2022; Momani, 2020).

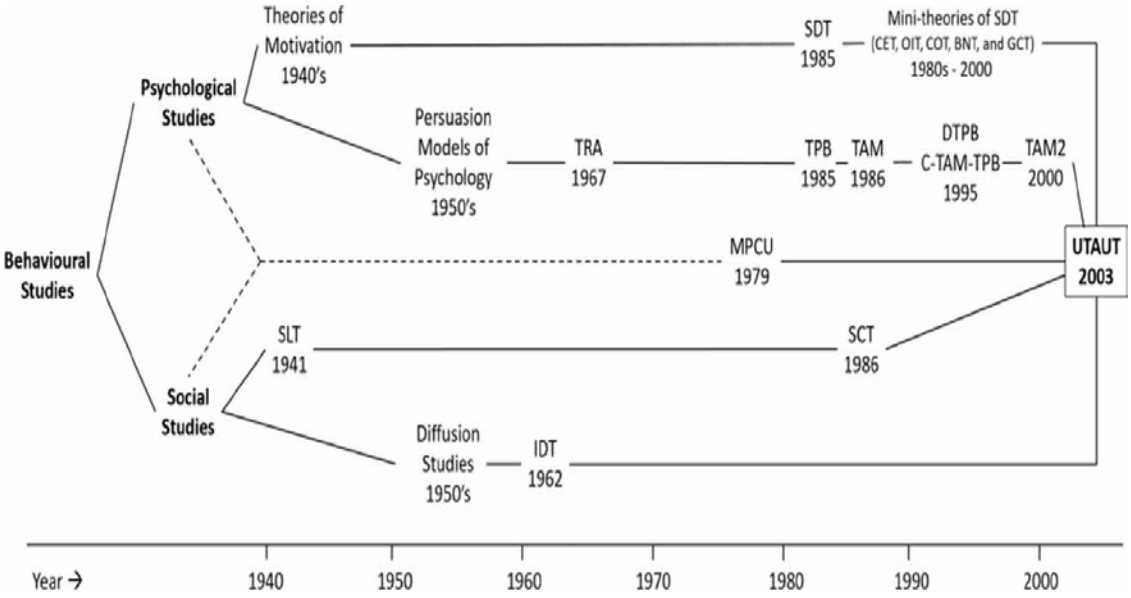

Figure 3: Stages of UTAUT revolution

Source: (Liu et al, 2022)

The above graph demonstrates the stages of evolution and development sequentially in four main roots in order of the behavioural field and the timeline of the evolution.

According to Liu et al., (2022), a total of 32 constructs were tested in the eight theories and their characteristics examined. They realized that seven constructs have the likelihood of determining "usage behaviour" and hypothesized four of the seven as the most important which have a direct influence on the "behavioural intention or usage behaviour". These four constructs are; performance expectancy, effort expectancy, social influence and facilitating conditions (Liu et al., 2022).

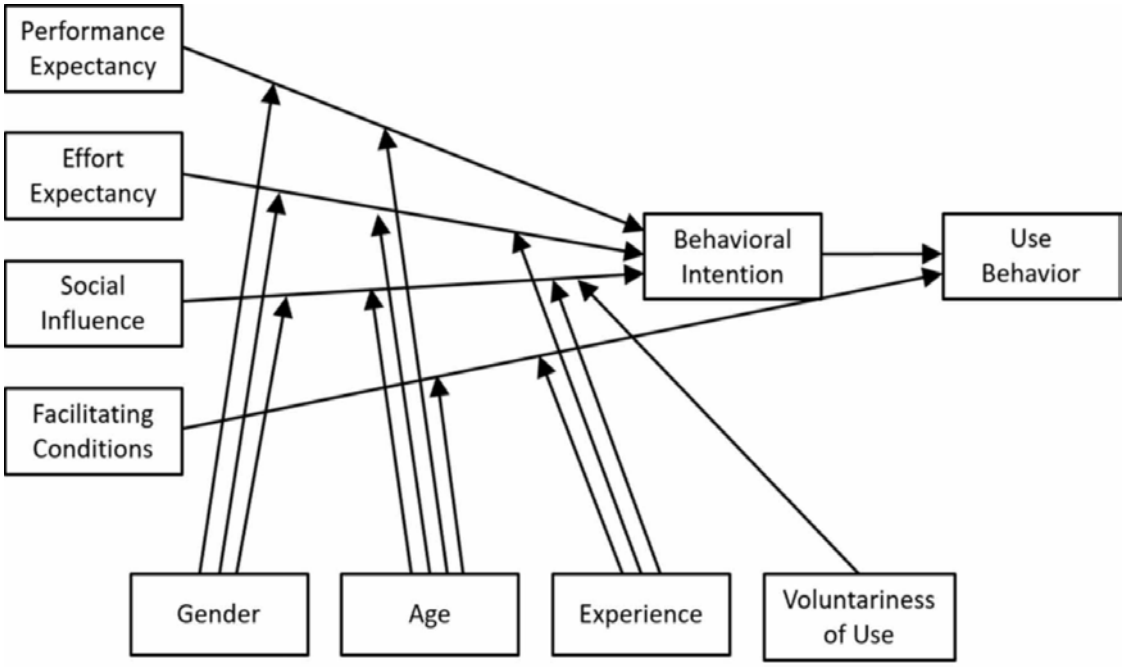

Figure 4: The UTAUT Model

Source: Liu et al., (2022)

From the figure above, four variables are supposed to moderate the influence of the constructs (performance expectancy, effort expectancy, social influence and facilitating conditions) on behavioural intention and usage behaviour. This can be summarized as follows:

- The performance expectancy is assumed to influence the behavioural intention and moderated by gender and age, with greater consequence for younger men.
- The effort expectancy equally influences the behavioural intention and moderated by gender, age, and experience, with greater effect for young women and older workers at the early stage of the introduction of technology.
- The social influence influences the behavioural intention and being moderated by all the moderation variables, with a stronger effect for woman, particularly in mandatory usage in early stages of experience
- Facilitating conditions construct does not have an influence on behavioural intention, whereas, it influences the behaviour of usage that is moderated

by age and experience with stronger effect for older workers, particularly with increased experience.

The Unified Theory of Acceptance and Use of Technology (UTAUT) served as an analytical framework for this study by providing a comprehensive and theoretical basis for understanding the factors influencing the adoption and integration of e-participation technology in decentralized planning. The UTAUT framework identifies several key factors that can impact the acceptance and use of technology, including performance expectancy, effort expectancy, social influence, and facilitating conditions.

In the context of this study, the UTAUT framework helped analyse the planning officers' acceptance and use of e-participation technology. The performance expectancy dimension of UTAUT helped the researcher to examine the perceived benefits and advantages of using e-participation in decentralized planning, such as improved decision-making processes, increased efficiency, and enhanced citizen engagement. The effort expectancy dimension helped the researcher to explore the planning officers' perceptions of the ease of use and usability of e-participation tools and platforms. The social influence dimension of UTAUT helped the researcher to assess the impact of factors such as trust, leadership support, and social norms on the acceptance and adoption of e-participation in decentralized planning. It further helped to examine the influence of colleagues, superiors, and other stakeholders on the planning officers' attitudes towards e-participation technology. The facilitating conditions dimension of UTAUT helped the researcher to explore the availability of necessary resources, infrastructure, and support systems for the successful implementation of e-participation in decentralized planning.

The study considered factors such as ICT infrastructure, network connectivity, policy frameworks, and guidelines. By utilizing the UTAUT framework, this study systematically analysed and understood the planning officers' acceptance

and use of e-participation technology, and identified the key factors that influence their decision to adopt or resist its integration into decentralized planning processes. This framework provided a robust theoretical foundation for assessing the various dimensions and factors that play a role in the successful implementation of e-participation in the context of decentralized planning in Northern Ghana.

2.3.3 Conceptual Framework of the Study

The conceptual framework is drawn based on previous literature and the theoretical framework. As in the conceptual framework it is hypothesized that the intention adopt e-participation is inspired by effort expectancy, social influence, performance expectancy and facilitating conditions (see Figure 5).

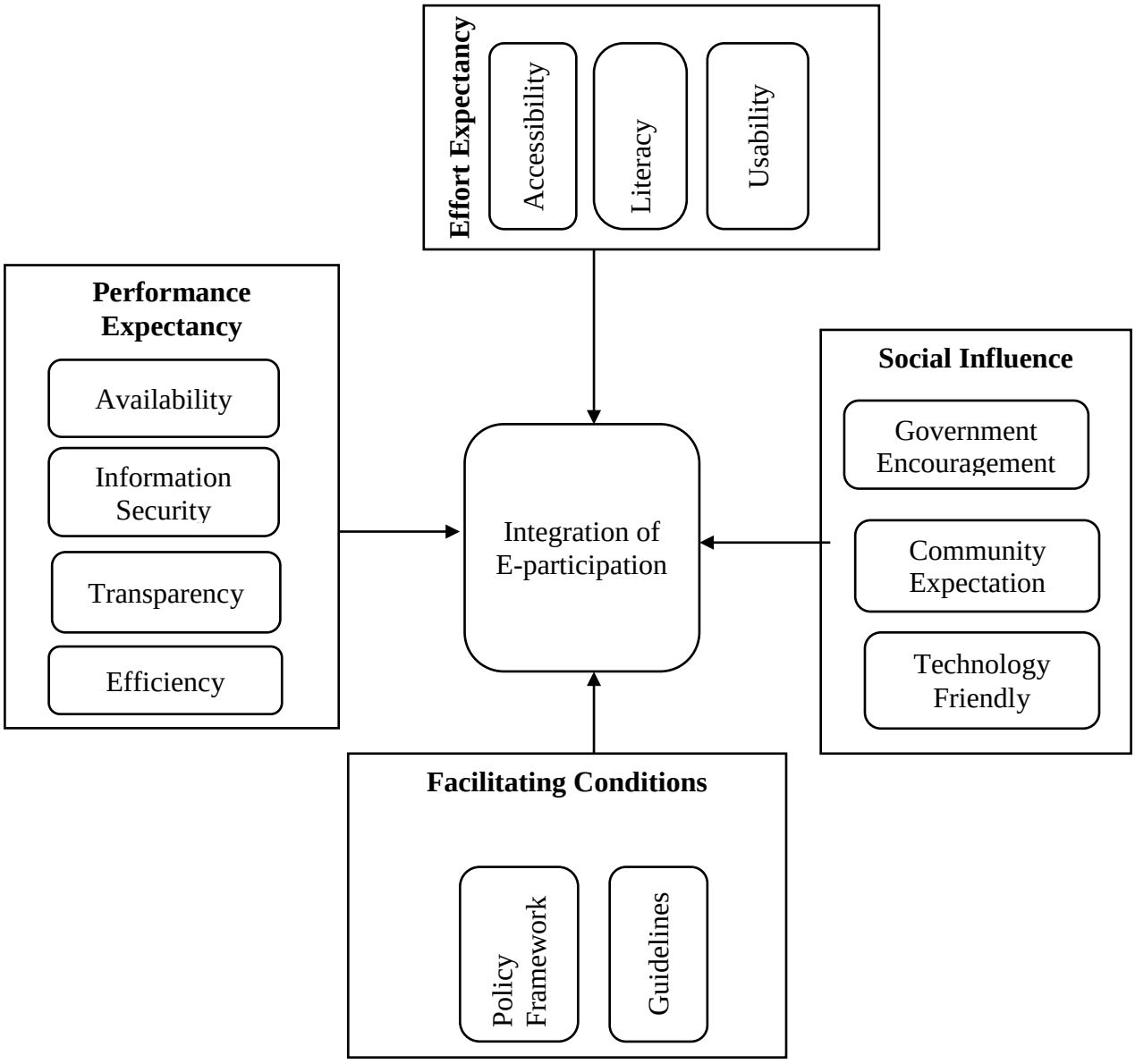

Figure 5: Conceptual Framework for Integration of E-participation

Source: Adopted from (Sabani et al., 2018)

Performance Expectancy

This is the capability of the technology in providing the benefits and increasing or improving performance to the user to meet his or her expectations. Performance expectancy is the level to which citizens have trust that the integrating of e-participation would bring about an improve performance, measured by their perception of whether they will benefit from the integrating of e-participation which influence largely the intention to use e-participation (Momani, 2020; Sabani et al., 2018).

Effort Expectancy

Effort expectations is about how easy it is for the users of the technology to use it. This is the degree of effortlessness of learning and using new technologies which is known to influence the intention to use e-participation. This is employed to study if participants perception of the gains of integration e-participation overshadow the effort of learning it (Momani, 2020; Sabani et al., 2018).

Social Influence

The expected level of organizational conditions and technical resources that can support the use to the technology to achieve its intended purposes (Momani, 2020). It is an external dimension that influence one decision to accept and use a new technology (Sabani et al., 2018).

2.4 The Use of ICT Applications to Promote E-participation in Planning

2.4.1 The role of E-Participation in Planning

The development of good plans requires “good information and good decision-making”(Paulus & Baruah, 2018). Using computers in planning started in the 1960s when there was an optimistic increase in incomes and a widespread confident in the “science and technology”(Klosterman, 2012). E-planning is the application of the e-governance concept in the urban and regional planning context. It is mainly used to transfer the paper-based process of consultation in planning to an electronic system (Williamson & McFarland, 2016). In planning, the aim of e-planning is to ensure the provision of quality and efficient public services in a less costly manner within the shortest possible time and in a more participatory, transparent, and accountable process using ICT. It gives planning authorities the opportunity to implement the existing planning guidelines or procedures in a modern format by using GIS, computer aided designs, internet browsers among others. Also, it provides access to various steps of planning services covering the decision making, consultation, development control process, and public hearings, etc using online system.

To Aikins (2010), e-planning provides the potential for increasing wider participation of citizens in deliberations which gives participants more knowledge in the policy and other opportunities as compared to the face-to-face participation mode. In recent times, there has been an effort in the application of advanced and sophisticated ICT in planning which has change the face of planning and the role of technology in research and practice in planning. The use of ICT in planning, which involves the use of the models and methods of computer, was assumed to be the basis or foundation for a “value-neutral planning” in public service which enabled planners to understand the process of urban development, make predictions for the future and determine the best policy option with little involvement of the pubic (Klosterman, 2012).

With the coming into being of computer system for decision-making, there has been an increase among groups in the use of digital devices for information and idea sharing mostly referred to as Group Decision Support Systems (GDSS). In the e-planning context, GDSS is seen as a system that "support person-to-person collaboration, structuring and aligning the information shared with and among groups or individuals. It allows participants in knowledge sharing electronically with ease without necessary waiting for their turn (Paulus & Baruah, 2018). In addition, Electronic Brainstorming (EBS) provides the public with the chance to work as a group with no constraint of time because members can contribute their ideas at their own time. With this technology, different tasks such as "planning, voting, negotiation, decision- making, problem-solving, and idea generation can be performed using this method" (Paulus & Baruah, 2018 p.197). EBS is an electronic systems of sharing messages either in a synchronous or asynchronous place. It can be used in different forms such as "instant messages" like WhatsApp, messenger, Facebook, Twitter, Instagram, Snapchat, or web-conference like google hangout, zoom, skype which have peculiar features that enable individuals and groups to communicate in a more convenient way. The EBS system gives participants the opportunity to share information with no production blockage. The information is shared in an anonymous manner to avoid or minimized apprehension and can be downloaded for analysis or evaluation purposes. Moreover, EBS has the advantage of doing digital recording of information and an efficient way of voting on a basket of ideas collected (Paulus & Baruah, 2018 Williamson & McFarland, 2016).

In the USA, plans were one of the most frequently available pieces of information because about 53% of the planning websites were providing at least one plan online. Most departments made available online their recently adopted land-use plans and draft plans for public review and inputs. Also, plan maps were uploaded online which gave an enhanced visualization of the expected future development of the communities. The public could access documents of planning departments including agendas for meetings, meeting minutes which gave citizens a fair idea as to when their issues will be attended to. Stakeholders who could not attend such

meetings due to time constraints, distance and conflict of commitment could do so using the online systems. This allowed proceedings to reach a greater public because all those with hearing and visual disability could participate (Damurski, 2012, 2016; Nugraha et al., 2021).

In Kuninga District in Nigeria, a Web-Based e-participatory app was developed which supported Kuninga District in soliciting the aspirations of the Kuninga communities. It also facilitated in monitoring the progress of development implementations focusing on the status, funds released as against timeframe of projects and budget allocated respectively (Nugraha et al., 2021). Due to the emergence of geographic information systems (GIS) and computer aided designs, database systems, the internet and information and communication technologies (ICTs), e-Planning has given planning authorities the opportunity to execute the existing procedures in a different way with either same or better quality within limited time period (Klosterman, 2012; Williamson & McFarland, 2016).

2.4.2 Tools for E-Participation in Planning

Websites

According to Akmentina (2022), twelve case studies in Baltic Cities came out with a set of commonly-used e-participation tools in three Baltic countries: municipal websites, different social media sites, and online polls and surveys. Again, there is a major development in using map-based solutions such as web and mobile applications but not purposely for planning or planning related activities. For instance, every municipal primary medium of providing information and other e-services are the websites but they are often abandoned or difficult to access because of some complex structures or in other cases municipalities do have create separate websites for each department hence making harmonization a challenge thereby making interaction between the authorities and the people difficult (Akmentina, 2022; Ponelis & Holmner, 2015).

Social Media

The emergence of social media has brought about changes in social norms and manners at the societal level like “civic and political engagement privacy and public safety” (Bawack et al., 2018 p.137). This has brought about a new form of participation in governance issues using social media which has given opportunities for every citizen to contribute to and express their (dis)satisfaction on issues of democracy. For developing countries, citizens involvement is crucial in the development of democracy. Social media stand the chance of influencing youth in e-engagement in contexts where freedom of expression of citizens is not hindered (Bawack et al., 2018; Magro, 2012). Common social media platforms used by city planning authorities include YouTube, Facebook, Twitter and Instagram, as major channels of information dissemination with Facebook regarded as the most patronized platform (Akmentina, 2022; Magro, 2012).

Mobile Applications

Mobile applications are one of the best methods that planning authorities can use to engage citizens in development planning processes for both passive and active participants. Citizens’ participation in planning with mobile application has not been encouraging in most developing countries as different mobile applications are adopted for different services. In Latvia, three different apps were developed as interactive and communication tools between and among citizens and visitors where news, reports, and other e-services were shared (Ponelis & Holmner, 2015). Even if these are not related to planning, they perform an import function in the adoption of technological approach in the municipal activities which could gradually evolve into the planning process in the future.

Tallinn City municipal (in Estonia) has been able to develop an application known as ‘AvaLinn App’ purposely for the citizen engagement in planning. It was developed through a participatory approach, that is with the citizens and stakeholders, with inputs made by actors into its functionality which made its

design user-friendly. It provided daily updated information on progress of planning processes and feedback gathering of specified projects which serves as inputs in the municipal planning unit or department in the next planning circle as well as helps the municipality in the successful implementation of planned projects (Akmentina, 2022; Ponelis & Holmner, 2015).

GIS Software

With the inception of technology, citizen participation methods have been enhanced by ICT tools such as GIS with the use of the internet. These technologies provide stakeholders the opportunity to participate in discussions, visualize their issues and learned through interaction with facilitators and colleague participants. Participants who participated in a planning meeting using the GIS-based technology indicated high level of satisfaction as against those who participated in the traditional method (Damurski, 2012, 2016).

2.5 Factors Affecting E-participation in Planning in Africa

The purpose of e-participation is to move from the traditional face-oriented to a digital-oriented form of participation with the objective of increasing efficiency, improving access to information, and sharing between the state or government actors and the citizens. However, there have often been challenges with how to carry out e-participation within under-resourced contexts in Africa. These challenges have been compounded with continued technological changes which present huge cost implications (Damurski, 2012, 2016, 2021; Mahlangu & Ruhode, 2021). According to Saguar Urquiola, (2021) the factors presented in the figure below are crucial for the success of e-participation.

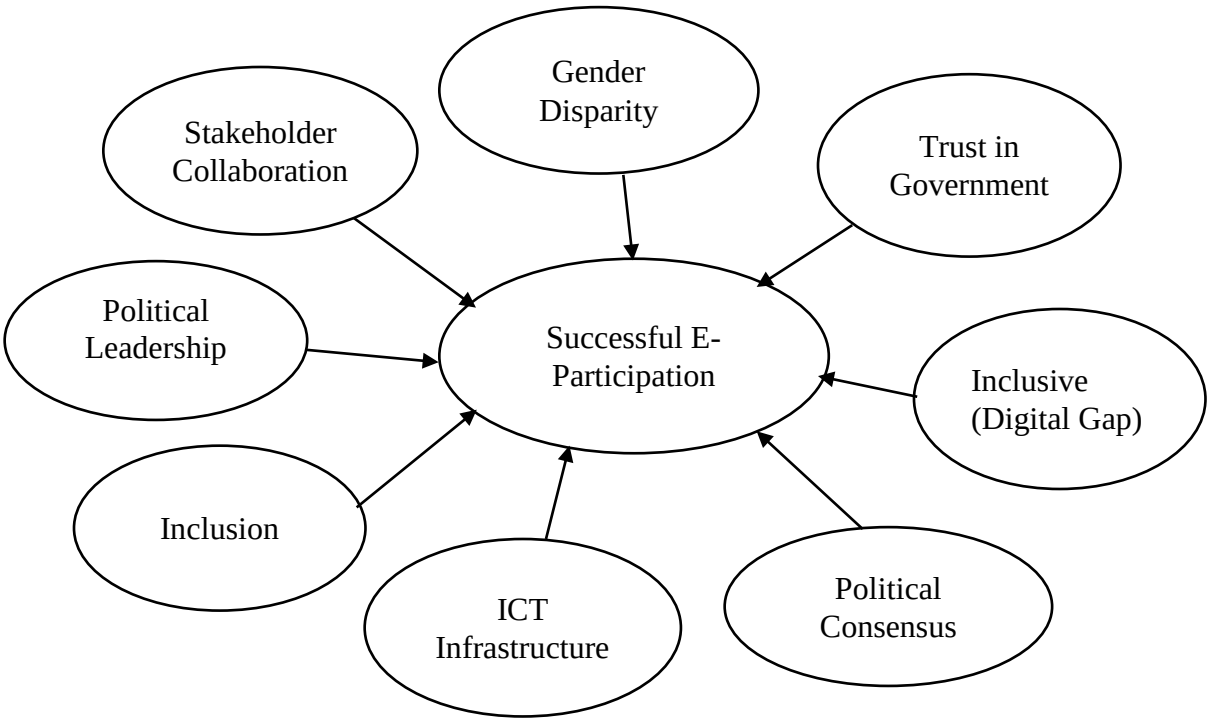

Figure 6: Factors affecting E-participation

Source: (Saguar Urquiola, 2021)

The constraints facing e-participation in planning are not far different from that of e-government. These include legislative and budgetary issues, technological requirements and digitization issues as well as lack of human resource training in e-planning services (Mahlangu & Ruhode, 2021). These factors account for the disparity in the rate of adoption of e-participation among municipalities and regions in various countries.

2.5.1 ICT Infrastructure

In Africa, especially sub-Saharan Africa, where democracy is still emerging, e-participation is still a difficulty (Mahlangu & Ruhode, 2021; Weimann et al., 2016). Even with the 'penetration of mobile telephony' and some social media applications or programmes, there is no clear achievement in the implementation of e-participation. E-participation in developing countries remains a challenge because of ICT infrastructure (Le Blanc, 2020). These have been worsen with corruption and its related practices in the telecommunication sector (Manda & Backhouse, 2016; Ochara & Mawela, 2015; Weimann et al., 2016). It is therefore not new that most studies have pinpointed poor ICT infrastructure as a main challenge in 'e-governance and e-participation' in less developed countries especially in Africa because ICT plays a crucial role or is a main factor in the successful implementation of e-participation (Bawack et al., 2018; Gamayuni & Hendrawaty, 2020; Weimann et al., 2016). These infrastructures include telephone networks, broadband internet networks, electricity, etc. This was supported by Bennett (2015) when she analysed ICT productivity growth in six countries in West Africa and concluded that the ICT sector of the economy was decreasing even though significant progress has been made in ICT infrastructure. Bennet argued for the need to balance the investment in ICT infrastructure as against other sectors like education, health and agriculture, among others (Bennett, 2015). According to a study of e-participation in Uganda (Nilsson & Barbutiu, 2019) one major challenge of citizen participation is access to materials for e-participation and the skills in the usage of the digital medium. According to Kodua (2020), the internet infrastructure in Ghana is poor which makes it difficult to use internet which is essential for e-participation.

2.5.2 Political Consensus

Political consensus is needed in the successful implementation of e-participation projects. Unfortunately, in most African countries there have not been political consensus on the importance of e-governance and e-participation that will give the government the momentum to support the e-governance initiatives. In African

countries, everything is politicized to the extent that governments in power find it extremely difficult to initiate or support some development programmes. For instance, in Ghana lack of consensus resulted in an unclear Telecommunication Act of 1996. This affected the implementation of ICT infrastructure programmes which affected productivity in the public sector. This slowed down the rollout of e-governance as well as other ICT programmes (Ertiö, 2018; Gamayuni & Hendrawaty, 2020; Zaied et al., 2017) which are very essential in participatory planning. Once political parties, groups or civic societies cannot build consensus, it affects the implementation of policies, programmes and activities that could result in an improvement in policy planning because the process or system will be frustrated. Again, the institutional structure in sub-Saharan Africa lacks political will and support such as inadequate leadership in technology, lack or poor IT framework and poor implementation, bureaucracy and political instability couple with corruption, nepotism, and power abuse. These discourage citizens from participating in policy-making process that affects their lives (Weimann et al., 2016).

2.5.3 Inclusive – Bridging the digital divide

Some studies have revealed that one of the main challenges for e-government and e-participation in most African countries is how to bridge the digital divide and to ensure that every citizen has access to digital services in their countries (Mahlangu & Ruhode, 2021; Ochara & Mawela, 2015). Digital divide in simple terms “is the gap between the have and have not in ICT” (Bawack et al., 2018;). This definition is in line with the belief that technological development determines social change which implies that technology should physically be made available to all people no matter the class.

Others however argued that access is simply not about the “have” and the “have not” but other factors (human and social) also play a key role. To them one may have access to technology but may not be able to afford the cost of it (Bawack et al., 2018; National Communications Authority & Ghana Statistical Service, 2020).

Also, citizens may have access to technology but lack the skills to apply it or understand it content (Manda & Backhouse, 2016). This means that physical access to technology is not all about the “have” and “have not” but that there are “information want-nots” that is people who does not accept and use technological even if it is available. This is supported by the soft determinism that sees “technology to be a key factor that may facilitate change” but not the change itself (Gamayuni & Hendrawaty, 2020).

The digital divide in most African countries is too wide due to the slow pace of the penetration of internet. Citizens in countries such as Cameroon and Ghana find it difficult in assessing online services due to unavailability of internet and its associated high cost (Bawack et al., 2018; National Communications Authority & Ghana Statistical Service, 2020). This makes it difficult for citizens without internet access to participate in planning activities because they cannot be present physically and cannot also have digital platforms to engage participates due to the wide digital gap.

Gender inequality is one factor that accounts for low e-participation because most women are not involved in e-participation at the local level. Involving everyone that is both women and men will increase e-participation level because women are dominating the information market in this technological era (Kodua, 2020). Also, the poverty situation in most sub-Saharan Africa countries has made access to internet as a luxury instead of a necessity hence making it difficult for people to participate in expressing their opinions or interest in planning and other decision-making process despite the efforts made recently in making connecting devices such as mobile phones, Personal Computers, Tablets, etc affordable by reducing the cost and accessing internet services (Ertiö, 2018; Zaied et al., 2017; Weimann et al., 2016).

2.5.4 Citizens’ Trust in Government

According to Adnan et al. (2022), citizens willingness to use e-government and e-participation services and trustworthiness are positively related. This means

before people will use e-government services they should have some level of confidence in both the government and the governance system at one side and the technology at the other side. For instance, when Uganda's government wanted to use the Uganda Watch platform, the issues of privacy and security was a major concern because citizens felt their identities might be made public which could put them in danger (Bawack et al., 2018; Ertiö, 2018; Mahlangu & Ruhode, 2021; Manda & Backhouse, 2016). Similarly, Kodua (2020) in a study of the Kumasi Metropolitan Assembly revealed that the "low e-participation" in policy making in Ghana is as result of "no trust and confidence". The citizens have the fears that Ghana's system is not strong enough and so their inputs will be manipulated to suit the interest of government. He therefore suggested that for e-participation to be successful, government must build the system to ensure citizens have trust and confidence in it that their views will not be manipulated or pushed under the carpet in decision making. Also, there is mistrust between governments of sub-Saharan Africa countries and their citizens which hinders the e-participation process thereby making citizens to coil back in participation (Saguar Urquiola, 2021; Weimann et al., 2016).

2.5.5 Inclusion

Though most African countries have high literacy rates, their e-literacy rate is low. For instance, Cameroon's literacy as at 2017 was 75% but its e-literacy rate stood at 29% meaning 71% could not use the internet as a result of their computer illiteracy (Bawack et al., 2018). In Ghana, the literacy rate as at 2021 stood at 69.9% but the number of people of aged 5 and above who were aware of internet services as at 2019 was 39.7%. Out of this, 55.6% used the internet in the last three months which clearly showed the e-literacy rate in the country is high (National Communications Authority & Ghana Statistical Service, 2020).

Gender is another factor that affects usage in Sub-Saharan Africa. The gap between men and women around ICT access is wide due to factors such education, income, and social status. One may argue women spend more in access to ICT just as men but comparing the expenditure in relation to the salary levels then on

average men spend more since most men have salaries than women. In like manner, the number of educated men in Africa is higher than women and since digital skill is directly related to education fewer women have the skill to use the digital service resulting in gender disparity or low participation of women who forms the greatest percentage of the populace in decision-making including participating in planning for their development. Other factors such as heavy work load, harassment in public places and culture hinders women from ICT usage (National Communications Authority & Ghana Statistical Service, 2020; Nilsson & Barbutiu, 2019).

2.6 Potentials of E-Participation in Planning in Africa

According to Aikins (2010), the commonest method of people participation is sharing and dissemination of information to the public. Public participation has often been conceptualized as a one-side flow of information with the aim of reaching out to a greater number of recipients which is always a high-bottom or top - down approach that is from government to its citizens. With the emergence of digitization, this is always done using online systems where authorities are expected to use both the digital and traditional system or channels of information dissemination (Aikins, 2010; Akmentina, 2022). The tools and approaches of e-participation are continuously evolving with the technological and digital revolution in service delivery (Akmentina, 2022). These days e-participation in planning employs and accepts platforms that were not invented for that purpose in additions to the tools that were designed for planning uses. For instance, social media platforms such as WhatsApp, Facebook, Instagram and so on have been adopted in addition to the traditional methods of participation known as the hybrid participation which is very dominant in planning practice (Aikins, 2010; Akmentina, 2022; Weimann et al., 2016).

The introduction of ICT such as mobile technologies has made it possible for two-way communication through quick feedback and information gathering through data collection (Aikins, 2010; Akmentina, 2022). A blended participatory approach which is a two-way interaction between the authorities in planning and

the people is key to planning. This should be a continuous and direct interaction between the citizens and stakeholders through negotiations, discussions, or dialogue. The major challenge here is how to ensure that the process is not only consultative but rather interactive in practice. The introduction of e-participation has been able to support in the blended participatory planning process of engagement by combining online methods with the 'place-based' or traditional approach to facilitate discussions (Akmentina, 2022).

The emergence of Web 2.0 (W 2.0) social media like "Facebook, Twitter, and YouTube" has brought some great improvement or changes and opportunities to the governments and its citizens in developing countries especially Africa countries for enhanced participation (Bawack et al., 2018; Santini & Carvalho, 2019). With these technologies, citizens as well as government can create and share information, participate in policy making process and even provides services which makes social media platforms more attractive (Bawack et al., 2018; Nilsson & Barbutiu, 2019). Unlike other e-participation tools that come with huge costs, social media is less costly, can easily be modified to meet the needs of the people and government, and is more acceptable to the various age groups of people. These have made citizens to take the lead in creating, sharing, organizing content through W 2.0 social media (Bawack et al., 2018). By that W 2.0 can be relied upon to improve the bureaucracy of information sharing in the government, involve the private sector in delivery of services and enable the citizens to partner with government in its service delivery to the citizenry (Bawack et al., 2018; Santini & Carvalho, 2019).

2.7 Decentralized Planning in Ghana

Decentralization policy has been a major agenda in the political arena since independence. Ghana embarked on the implementation of its comprehensive decentralization policy and reforms of the local government programme in 1988 (National Decentralization Policy, 2010). The objective was to establish an efficient decentralized government to provide good support for participatory

development which has become a major feature of government policy reformation. The decentralization policy seeks to create a decentralized system of administration through the transfer of functions, authority, and means from the highest level to the lower level that is from Central government to Regional Coordinating Council and then MMDAs to improve the capacity to plan, manage and monitor development within their jurisdictions (National Decentralization, 2010, Local Governance, 2016). The Local Governance Act, 2016 (Act 936) clause 12 section 3 subsection a and b mandates MMDAs to take responsibility for the development of their Districts and develop and execute plans, programmes, and strategies for the effective mobilization of the resources necessary for the overall development. The National Development Planning (Systems) Regulation 2016 section 1 and 2 also mandate the MMDAs as a planning authority to initiate the preparation of plans through the Metropolitan, Municipal and District Planning Coordinating Unit (MMDPCU) in line with the guidelines issued by the National Development Planning Commission (NDPC) (NDPC, 2016).

2.7.1 Policy Framework for E-Participation: The E-Government Interoperability Framework in Ghana

The Ghana E-Government Interoperability Framework (EGIF) was developed with the aim to "improve interoperability in the practical application of information and communication technologies" (ICT) to assist government's interaction with its citizenry and partners (Ghana EGIF, 2014 p.3). The scope of the framework implemented was based on government and its agencies' interaction with "businesses and industry", communities, Civic Society Organizations (CSOs), associations, groups, etc. on issues of taxation, planning regulations, importations and exportations (Ghana EGIF, 2014). The EGIF seek to achieve the following outcomes among others (Chomba & Lusaka, 2017; Ghana EGIF, 2014):

a. Convenience and Satisfaction: The EGIF will ensure the provision of services at any time irrespective of one's location. Access to information will be easy as there would be different channels of information and services provision

electronically. This will improve the traditional method of delivery of service like through the post, telephone, counter, etc.

b. Integration and Efficiency: One of the most expected outcomes of the framework is to ensure the provision of services integration, efficient and customer-centred services of information and service in a well-packaged form at a very minimal cost, as well as enhance people, businesses, service providers' results.

c. Participation: EGIF is to ensure that people participate in governance activities to be well informed of the happenings in the country. They do this by making online participation become part and parcel of our development policy and service delivery standards and investing the democratic process to make it more electronic like the implementation of e-voting in our national election, e-participation in development planning and other decision-making activities.

d. Improved Service Delivery: One of the aims of the E-government programme was to improve delivery of service to ensure that people engage with multiple programmes at MMDAs by ICT system and process.

The implementation of the provisions in the policy framework depends largely on internet penetration. Although the African continent has recorded the lowest internet penetration, Ghana has seen a reasonable increase in the internet usage. For instance in 2008, 4.27% per 100 inhabitants in Ghana had access to internet which increased to 7.8% in 2010 and again increased significantly to 17.11% 2012 above the 15.27% average in sub-Sahara Africa (Frimpong & Vaccari, 2015). In like manner Ghana has experienced an exponential growth in terms of mobile access, technological improvement and subscription (Frimpong & Vaccari, 2015). The policy and legislative frameworks have been established to create a good environment for the implementation of ICT technologies in governance. Also, there are strategies for accessibility, service delivery, and content development which forms the pivot around which the ICT revolves (Kyere & Kumah, 2017).

2.8 Summary of Chapter

From the review it is realized that e-participation uptake in African countries and for that matter Ghana has not been encouraging due to infrastructural inadequacies. Unlike the developed countries, most African countries have not established the necessary infrastructure needed for proper usage of ICT services which is essential for participation. In addition, factors such as digital disparity, gender poverty, and trust have had an influence in the adoption of e-participation in our effort to make planning an inclusive and participatory approach in the planning process.

Also, there has not been enough research in most Africa countries on the integration of e-participation into decision-making process at the local level especially in the field of planning. For instance, in Ghana Kodua, (2020) and Kyere & Kumah, (2017) carried out studies on the subject matter. But none of those studies is centred on e-participation in decentralized planning at the MMDA level. Additionally, their studies have not looked at the policy framework and guidelines on the implementation of e-participation and its potential. Moreover, this study looked at the Unified Theory of Acceptance and Use of Technology (UTAUT) and how it can be applied in integrating e-participation into district level planning in Northern Ghana.

CHAPTER THREE

STUDY AREA AND RESEARCH METHODOLGY

3.1 Introduction

This section presents the profile of the Northern Ghana, data sources, sampling procedures and techniques for data collection, analysis, and presentation of findings on the integration of e-participations into decentralized development planning in the study area.

3.2 Study Area

This study was carried out in Metropolitan and Municipal Assemblies (MMAs) in Northern Ghana. Northern Ghana is in the upper part of Ghana, comprising five administrative regions namely Northern, Upper East, Upper West, Savanna, and North East Regions. It is bordered to the north by Burkina Faso, to the east by Togo, the west by Ivory Coast, south-west by Bono Region, South by Bono East Region, and South East by Oti Region (See Figure 6). These five regions are further divided into 55 administrative MMDAs with Northern region having 16 MMDAs, Upper East 15 MDAs, Upper West 11 MDAs, North-East 7 MDAs, and Savanna 6 MDAs (see Figure 7) (GSS, 2021).

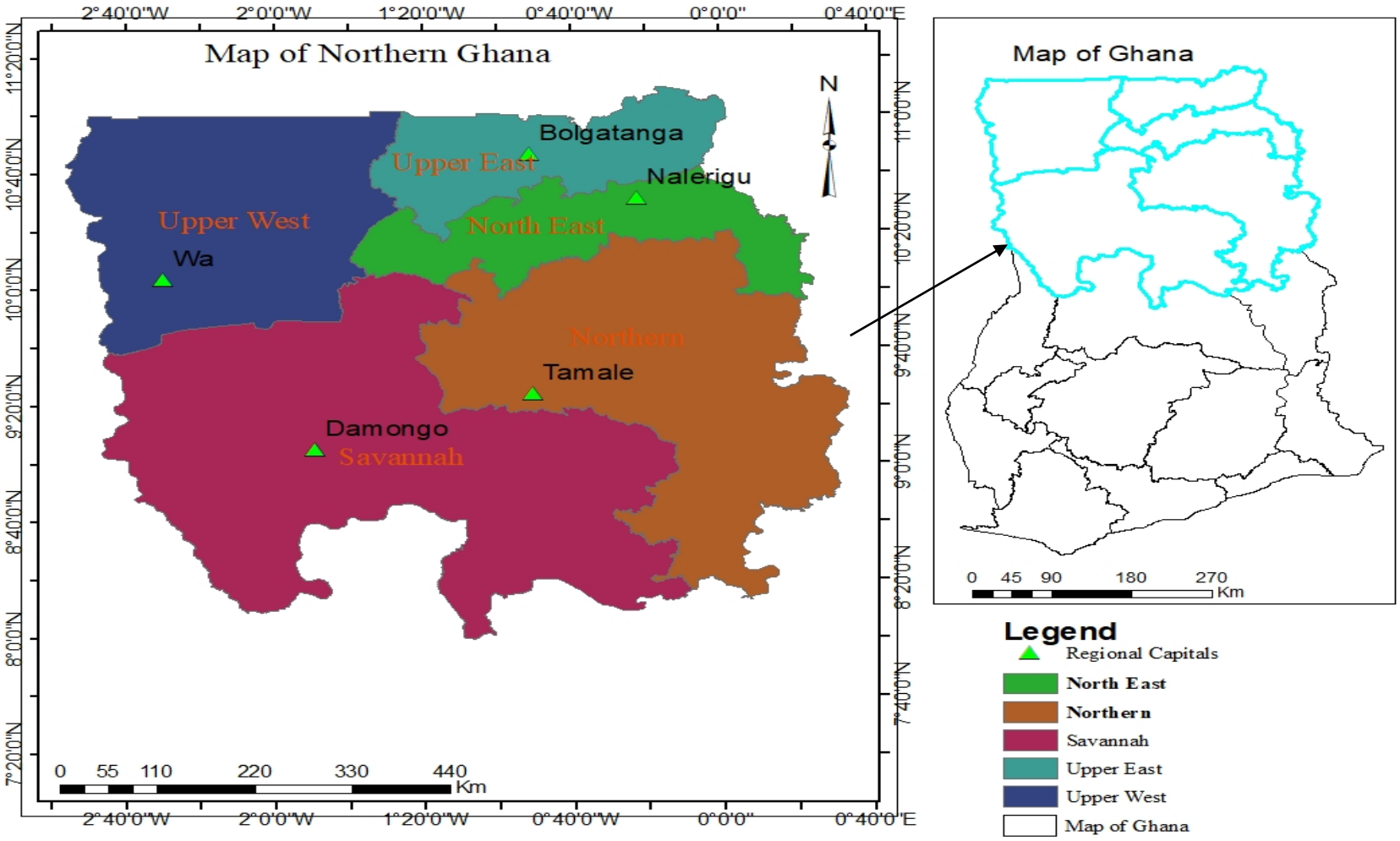

Figure 7: Map of administrative regions in Northern Ghana in Ghana Map

Source: Author's Own Construct, (2023)

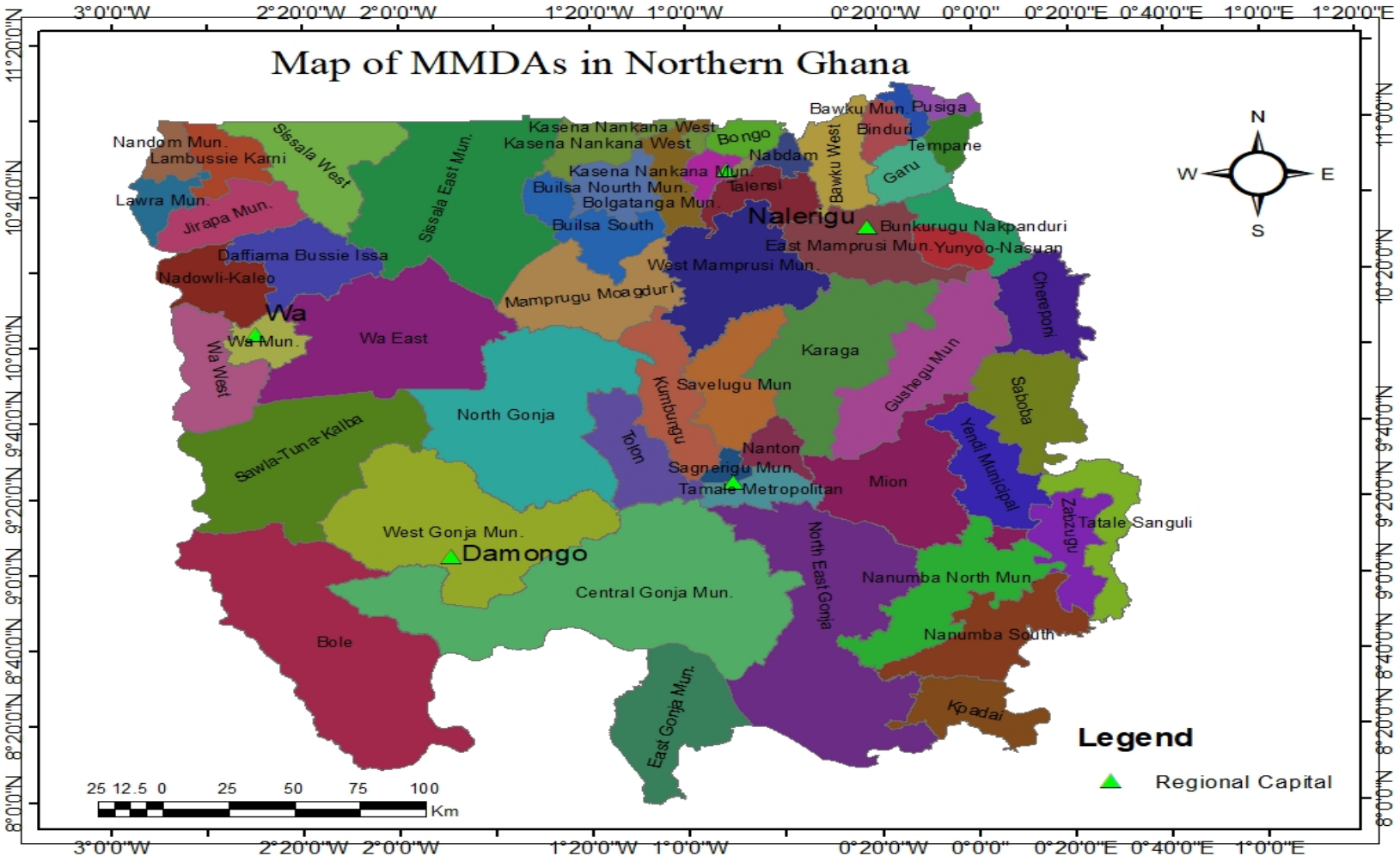

Figure 8: Map of MMDAs in Northern Ghana

Source: Author's Own Construct, April, (2023)

The choice of Northern Ghana as the study area is because the e-participation phenomenon has not been researched into in that part of the country despite technological developments in ICT across the country. The study in northern Ghana is again limited to Metropolitan and Municipal Assemblies (MMAs) and excludes District Assemblies because according to National Communications Authority & Ghana Statistical Service (2020) the percentage of urban people who have access to mobile phones is higher than that of rural people. Hence MMAs have much larger urban populations in northern Ghana than District Assemblies, hence the focus on them in this study. The choice of MMAs in northern Ghana is also because, compared to District Assemblies, MMAs have relatively higher literacy levels, which have a direct influence on e-literacy and internet usage and hence e-participation. According to the Ghana Statistical Service Population and Housing Census (PHC) report, the population of Northern Ghana was 5,825,879 in 2021 representing 18.9% of the 30,832.019 total national population. Among the five regions of Northern Ghana, Northern Region had the highest population of 2,310,939 representing 39.67% of Northern Ghana's population while Savanna Region had the lowest population 653,266 representing 11.21% of the region's population. Out of the total population of Northern Ghana, 2,863,121 representing 49.14% were males and females were 2,962,758 representing 50.86%. This means Northern Ghana just as the national population has more females than males (GSS, 2021). Below are the details of the population of Northern Ghana by Regions.

Table 1: Population of Northern Ghana

Region	Population	Male	Female
Total Population	**5,825,879**	**2,863,121**	**2,962,758**
Northern Region	2,310,939	1,141,705	1,169,234
Savanna Region	653,266	327,687	325,579
North-East Region	658,946	322,149	336,797
Upper East Region	1,301,226	631,263	669,963
Upper West Region	901,502	440,317	461,185

Source: GSS, (2021)

3.2.1 ICT Infrastructure in Northern Ghana

"Information and communication technologies (ICT) have been the basis for human existence from time immemorial and this has driven man to continuously seek ways to improve the processing of information and communicating such information to one another irrespective of distance and on a real-time basis" (Jirapa MTDP, 2022 p.74). In Northern Ghana, the common ICT Infrastructure available are mobile phone, radio, computer, internet, television, video and Satellite TV (OBENG et al., 2019). About 26.2% of the people in Northern Ghana own a mobile phone (Frimpong & Vaccari, 2015; National Communications Authority & Ghana Statistical Service, 2020). See Table 3 for further details. Also, most of the MMAs have Community Information Centres. For instance, Kassena-Nankana Municipal just like many other Municipalities has an ultra-modern ICT Centre newly constructed and furnished with computers (Kasena-Nankana MTDP, 2022). The mobile network operating in Metropolitan and Municipal Assemblies are MTN, Vodafone and AirtelTigo.

Table 2: Regional ownership of mobile phones in Ghana

Region	**Mobile Ownership (%)**	**National (%)**
Ghana	790	100
Northern Region	41.8	5.3
Savanna Region	47.7	6.0
North-East Region	37.1	4.7
Upper East Region	43.9	5.6
Upper West Region	36.3	4.6
Total (Northern Ghana)	206.8	26.2

Source: National Communications Authority & Ghana Statistical Service, (2020)

In Wa Municipal, a total of 36,631 (57.3% males and 42.7% females) people of age 12 years and older owns mobile phone. Also, in terms of internet usage, about 10,207 of the population aged 12 years and older uses internet services for various purposes (See Table 3 for details) (Wa MTDP, 2022).

Table 3: Population 12 years and older by mobile phone ownership, internet facility usage and sex

I C T Indicators	Number	Percent	Number	Percent	Number	Percent
Population 12 years and older			Population having mobile phone		Population using internet facility	
Total	76,378	100.0	36,631	100.0	10,207	100.0
Male	37,569	49.2	20,981	57.3	6,951	68.1
Female	38,809	50.8	15,650	42.7	3,256	31.9

Source: (Wa MTDP, 2022)

3.3 Research Paradigm

The study adopted the constructivist research paradigm. Constructivists seek to examine "how people engage in processes of constructing and reconstructing meanings through daily interactions" (Leavy, 2017 p.129). Constructivism is also known as "social constructivism" which has its root from the ideas of Mannheim and the works of Berger and Luckman's (1967) "The Social construction of Reality" and Lincoln and Guba (1985) "Naturalistic Inquiry" (Creswell & Creswell, 2017). With social constructivism, much attention is concentrated on how, through people's interaction patterns and interpretative procedures, they assign connotations to issues or events and situations. Social constructivism prioritizes people's understanding subjectively and differently and multiple meanings in the process of the research which leads the researcher to search for involvedness of views either than limiting meanings into an insufficient ideas (Creswell & Creswell, 2017; Leavy, 2017). By anchoring the research on this paradigm, the researcher relied on the research participants as much as possible to get their understanding and interpretation of the status of e-participation in development planning, the factors that influences e-participation and the prospects of its integration into decentralized planning. Hence, the researcher broadens and generalized the questions to allow participants to construct their own understanding or meaning of the subject in their daily experience as development planning technocrats at the district level.

3.4 Research Design

The research used the qualitative research approach with a greater leaning towards phenomenology. Phenomenological researchers are concerned with the consciousness of human as a means of understanding social truth, that is one experience of a phenomenon (Leavy, 2017). This method is used to find out about people's experience, acceptance and use of the topic being studied or under investigation. It is a philosophical and psychological design of inquiry in which the researchers describes the experience of a person about a particular

phenomenon under study as described by the participants themselves (Leavy, 2017).

3.5 Study Population and Sampling

3.5.1 Target Population

The target population of the research were the Metropolitan and Municipal Development Planning Officers (DPOs) in the MMAs in the five regions of Northern Ghana (Northern Regions, Upper East Region, North-East Region, Upper West Region, and Savanna Region). The choice of the DPOs was based on the fact that they are Secretaries to the Metropolitan, Municipal and District Planning Coordinating Units (MDPCUs) which is vested with the mandate to initiate the preparation, ensuring approval and implementation of development plans of MMDAs (NDPC, 2016). They are the key actors in decentralized planning at the MMAs. In like manner, the Local Governance Act, (2016) (Act 936) section 84 and 85 mandates the "establishment of a District Planning Co-ordinating Unit (DPCU)" respectively. Section 84 (5) further states that "each Metropolitan, Municipal and District Planning Authority shall have a Metropolitan, Municipal and District Planning Officer who shall be the secretary to the DPCU (Local Governance Act, 2016) who leads the DPCU Members and other Stakeholders when it comes to the preparation of local plans.

3.5.2 Sample Size

A total of 24 respondents were selected purposively for the study. The sampled size comprises 19 Planning Officers from the 19 MMAs as well as 5 REPOs from the five RCCs in the five regions of Northern Ghana.

3.5.2.1 Sampling Techniques

The MMDAs in the regions were first of all stratified into Metropolitan, Municipals and District Assembly before selecting the sample for the data collection (Creswell & Creswell, 2017) (see Appendix 3 for details). After the stratification of the MMDAs, fixed purposive sampling was used to select all

Metropolitan and Municipal Assemblies out of the 55 MMDAs for the study (see Table 4 for details). This is because it might not be possible to engage all the MMDAs taking into consideration the vast nature of the study area. The selection of MMAs was since they were assumed to have the more resource base for the implementation of e-participation. They are more urbanized with high literacy rate, have better access to ICT infrastructure and have a larger number of residents using mobile phones and computers.

Table 4: Selected MMDAs for the study

Region	Metropolitan / Municipal Assembly
Northern	1. Tamale Metropolitan Assembly 2. Sagnerigu Municipal Assembly 3. Savelugu Municipal Assembly 4. Gushiegu Municipal Assembly 5. Nanumba North Municipal Assembly 6. Yendi Municipal Assembly
Upper East	1. Bolgatanga Municipal Assembly 2. Bawku Municipal Assembly 3. Kasena-Nankana Municipal Assembly 4. Builsa North Municipal Assembly
Upper West	1. Wa Municipal Assembly 2. Sissala East Municipal Assembly 3. Nandom Municipal Assembly 4. Lawra Municipal Assembly 5. Jirapa Municipal Assembly
Savanna Region	1. West Gonja Municipal Assembly 2. East Gonja Municipal Assembly
North-East Region	1. West Mamprusi Municipal Assembly 2. East Mamprusi Municipal Assembly

Source: (GSS, 2021)

Also, a fixed purposive sampling was used to select REPOs for the study. The purposive sampling was used because the study is targeting the Regional Economic Planning Officer at each of the five Regional Planning Coordinating Units (RPCUs) of the Regional Co-ordinating Council (RCC). These officers were selected for the key informant interviews because of their in-depth knowledge and the role they play in providing technical back stocking to the MMDAs in the planning process of the MMDAs to ensure that plans are in line with the national guidelines issued by National Development Planning Commission (NDPC, 2016).

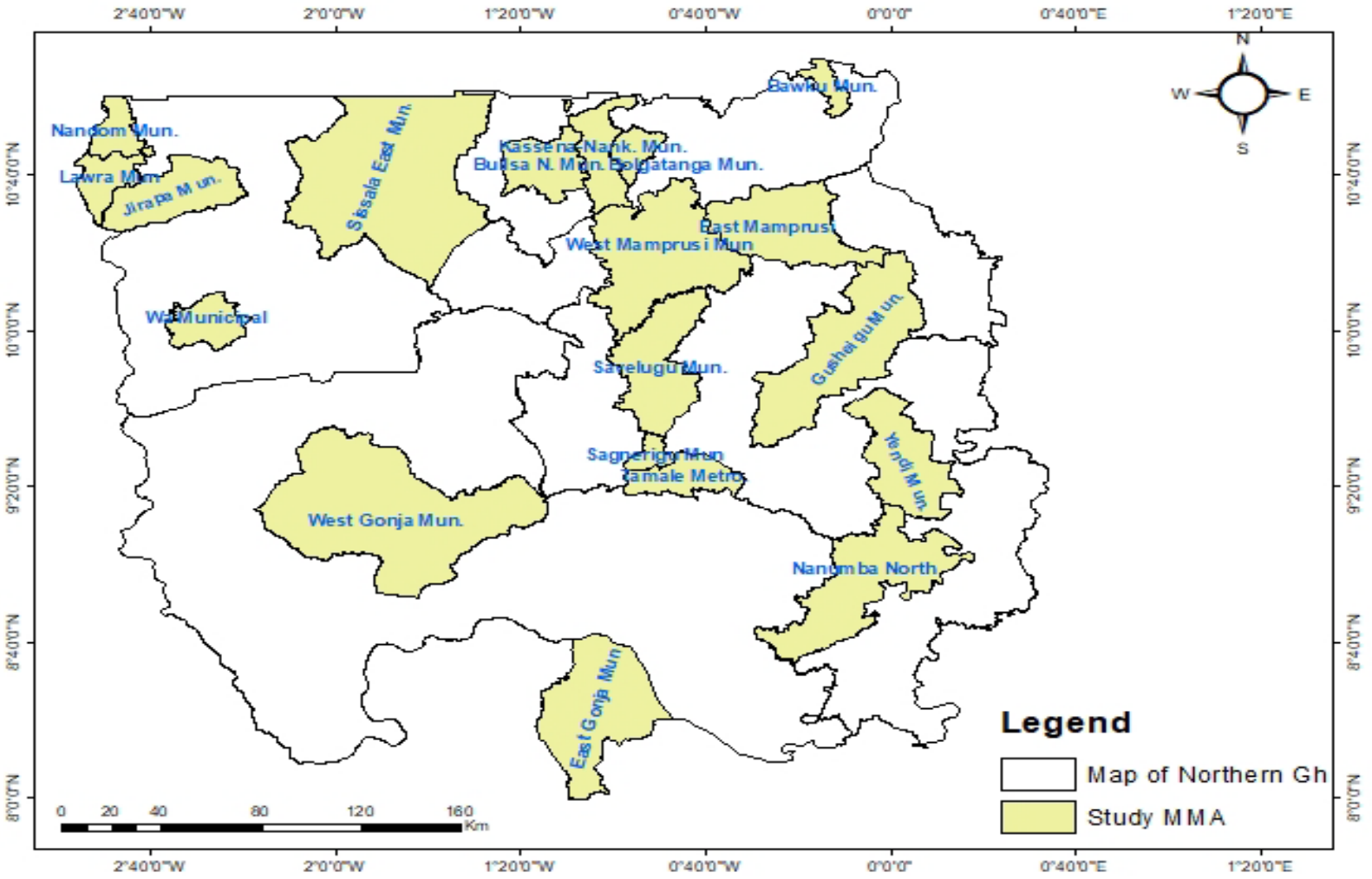

Figure 9: Map of Study MMAs in Northern Ghana

Source: Author's Own Construct, (2023)

3.6 Types and Sources of Data

The study relied on primary and secondary data from primary and secondary sources respectively. The primary data collected from MPOs was centred on; the use of ICT application for the promotion of e-participation, factors affecting and potentials of e-participation in decentralized planning in Northern Ghana. Also, primary data that were collected from the REPOs were used to validate the data on the status of e-participation, challenges, and potential of e-participation from the MPOs.

The secondary data were collected from policies and documents on decentralization, E-Government Interoperability Framework, ICT Policy, and usage which enhanced the validity and reliability of the primary data collected. In addition, literature on the research topic was gathered from articles, journals, books as well as other publications which enhanced the researchers understanding of issues related to e-participation in decentralized planning.

3.7 Data Collection Methods

Because of the dispersed nature and scope of the study as well as the type of design, the researcher used Key Informant Interviews. The study adopted and used face to face interviews for the data collection except in situations that were efforts to meet the Participants face to face was impossible where phone interviews were used (Creswell & Creswell, 2017. Interviews were conducted with DPOs of each of the selected MMAs, and with REPOs of each of the Regional Coordinating Councils (RCCs). The Key Informant Interviews were conducted using a semi-structured interview guide. The key topics discussed during the interview centred on: knowledge and level of integration of e-participation in decentralized planning, potentials of e-participation and the barriers or factors that hinder e-participation in planning in decentralized planning in the selected MMDAs. The interviews lasted for about two months (from March to April, 2023).

3.8 Data Analysis Methods and Presentation

The data analysis was a reflexive and iterative process. The data collection and analysis were taken simultaneously. The interviews were transcribed verbatim in English by the Researcher. The transcribed data were entered into NVIVO version 10 for qualitative data analysis and coded for easy identification of categories and themes emerged from the data for purposes of thematic analysis (Creswell & Creswell, 2017). The data were analysed using deductive thematic analysis that is building the analysis from particular to general themes. with the help of NVIVO version 10. Thematic analysis is "identifying, analysing and reporting patterns" of data collected. This process involves thorough reading of the transcripts and proper scrutiny so as to make sure that themes represented the original data and constitute a comprehensive amalgamation of the pieces of information generated from the data (Creswell & Creswell, 2017).

The coding process involved a careful reading and re-reading of the transcripts and assigning nodes to the sentences. Following series of reading of transcripts coding was done and grouped into themes. The themes emerged were then grouped according to the initial data analysis or themes. The themes generated established an articulated integration of the different pieces of information which constitute the research findings. These themes captured issues of importance that are related to the research questions. The findings were presented in line with the study objectives using the themes. The insights provided by respondents were incorporated to back the arguments. Also, findings were present in tables and charts using the codes from NVIVO.

3.9 Ethical Considerations

To build the confidence and trust of respondents, the researcher took them through the purpose of the study and why there is the need to participate in achieving the objectives of the research. Participants were given the liberty to participate voluntarily. There were also given assurances over their confidentiality and anonymity; their personal information that may be taken from them willingly would not be divulged. There was a letter attached to the interview guide explaining the motives and objectives of the research to respondents. The Researcher also accordingly informed and received permission before recording of voices during the interviews. This gave respondents the confidence of giving out information with no fear. Furthermore, the respondents' anonymity was taken into consideration by omitting names of respondents and locations from the use of verbatim quotations in the results. Moreover, matters of plagiarism were given much attention. To avoid this, the researcher appropriately acknowledged all information or data used from various sources with an in-text citation and reference.

CHAPTER FOURRESULTS AND DISCUSSION

4.1 Introduction

This chapter presents the results of the data collected in the field as well as a discussion of the key findings that emerged from the results. The results and discussions are presented in subsections which include: a brief profile of the respondents; status / level of e-participation in decentralized planning; the potentials of e-participation in decentralized planning, the factors affecting e-participation in decentralized planning and the challenges of e-participation implementation.

4.2 Socio-Demographic Profile of Respondents

The study was conducted in Metropolitan and Municipal Assemblies (MMAs) in the five regions of Northern Ghana. Out of a total of 24 Development Planning Officers interviewed, the regional respondents were selected based on the number of Metropolitan and Municipal Assemblies (MMAs) in each Region. Northern Region has the highest number of MMAs and so had the highest respondents of 7, followed by the Upper West Region, with the North East and Savanna Region having the least (3 each MMAs) as shown in Table 5.

In terms of gender, 21 (87.5%) of the total respondents were Males while 3 (12.5%) were Females. This shows that there is male dominance over female in the Development Planning Class of the Local Government Service. The professional ranks of officers were in line with the Local Government Scheme of Service. In the Development Planning Class, the highest rank that an Officer can obtain in the service is the Chief Development Planning Officer (CDPO), followed by Principal Development Planning Officer (PDPO), Senior Development Planning Officer (SDPO), Development Planning Officer (DPO), and the least

being an Assistant Development Planning Officer (ADPO), which is the entry point.

Table 5: Regional Representation of Respondents

Region	No. of Participants
Total	24
Northern Reg	7
Upper East	5
Upper West	6
North East	3
Savanna	3

Source: Author's Own Construct, April, (2023)

In terms of professionalism or experience of Respondents, all Participants were Senior Development Planning Officer and above except one Respondent who was a Development Planning Officer (see Figure 10 for details).

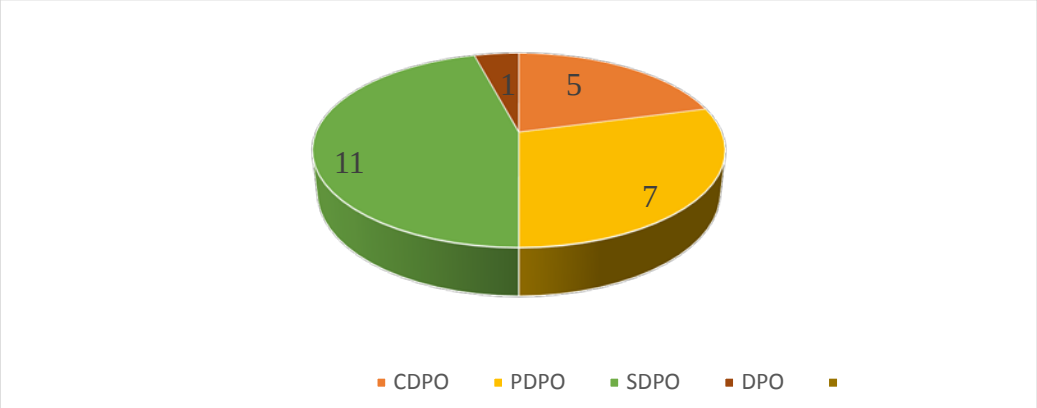

Figure 10: Professional Rank of Respondents

Source: Author's Own Construct, April, (2023)

From the study, majority of the Participants (about 46%) were Senior Development Planning Officers, followed by Principal Development Planning Officers of about 29% while 21% and 4% respectively were Chief Development Planning Officers and Development Planning Officers (see Figure 10 for details). This means that each participant had participated at least once in the preparation of district development plans and so had a fair idea of the processes and procedures in the preparation of district plans. Thus, the participants had the requisite experience to comment on the integration of e-participation into the district development planning processes. Also, the experience of the respondents moderates the effort expectancy and social influence which influence the behavioural intention to use e-participation thus leading to the acceptance and continuous use behaviour. It also moderates the facilitation conditions which influence the use behaviour (Liu et al., 2022; Momani, 2020).

4.3 Word Cloud of Study

Having transcribed the audios into English which were read thoroughly, a query of Word Frequency of the transcripts using NVIVO 10 was carried out to determine a firsthand information of the issues participants discussed during the interview, (see Figure 9 for details).

Figure 9: Word Cloud from Interview Transcripts

Source: Author's Own, (2023)

The diagram above depicts the word frequency of 100 words with minimum length of 10. It revealed that participation is the most frequently appeared word in the study with 2,368 counts representing 4.31% making it the most significant word in the study, followed by electronic with 410 counts representing 0.75% while accessible had the least count of 12 representing 0.02% making it the least significant word.

4.3 Use of ICT applications/tools to promote e-participation in decentralized planning in Northern Ghana

4.3.1 Respondents Perspectives of Participation in Decentralized Planning

The empirical study results revealed that planning at the local level is participatory because it facilitates the identification of needs and issues, ensures ownership and sustainability of plans, and facilitates informed decision-making. From the key informant interviews, most respondents stated that planning at the local level is participatory and so you cannot plan without participation. According to one of the Senior Development Planning Officers:

> *Participation play a role in planning because we don't plan for ourselves, we plan for the community, ours is the technical role that we play but actually it is the responsibility of the community to plan and implement because we are trying to address their development needs and we only play a facilitation role in developing those plans as well facilitating the implementation of the plans that has been prepared by the communities so the participation from communities is very key to our processes" (Senior Development Planning Officer, Upper West Region, February, 2023).*

From the discussion above, planning at the local level is participatory with e-participation being inclusive. Unlike those days where plans were drawn by officers in their offices for the development of their respective MMDAs, the current planning system mandates District Planning Coordinating Units (DPCUs) to involve community members from the start of the planning, implementation, monitoring, and evaluation. Development plans of MMDAs emerge from the communities since they are the best people in identification of their needs and aspirations, develop strategies to address those needs with the Planning Officers only facilitating the process (LI 2232). Also, community members are involved keenly in pre-implementation, implementation, and post implementation. The pre-

implementation involves community sensitization, mobilization funds, procurements process while the implementation stage deals with the execution of the project or programme and monitoring for identification of issues for rectification. The post-planning however, involves the evaluation of project to see the impact of the project whether it is addressing the needs that it was designed for. The feedback from the evaluation is in cooperated into the planning circle to inform stakeholders of the next plan. The above support the work of Demirdoven et al., (2020) when they argued that participation augments public participation through ICT.

Also, participation brings about identification of community needs and issues so when people participate in planning, they bring out their needs and issues that border on their living. This is very key because it helps Metropolitan and Municipal Assemblies to determine the type of programmes and projects to initiate to address them. A development planning officer remarked:

> *Participation plays a key role in the planning process especially when it comes to the preparation of the MTDP you need everybody on board. You need communities' issues; community needs and aspirations moving forward to be able to help do the planning and facilitate the planning process because we are now planning with the people from the grassroot using the participatory approach in data gathering and interaction with the community people (Principal Development Planning Officer, Upper East Region, March, 2023).*

From the perspective of Planning Officers, plans are developed by the participation of the people with officers facilitating the process and not for the people. This is done through participation where the people bring out their development needs and aspiration and develop strategies, projects, and programmes to address those needs. Participation ensures sustainability and

ownership of development plan and projects because the people will see them as theirs not for the Government or Assembly. In a situation where this is overlooked, just as in most cases in MMDAs people will not see the policy or project as theirs and so will always look up to Government and its agencies to come for their maintenance, repairs, etc because they were not involved in the process of identifying the issues let alone taking part in taking decisions to implement plans and project to address those issues. The perspectives of the study participants regarding the role of participation in development planning corroborates (Onyimbi et al., (2018) assertion that public participation is a method through which institutions or organizations interacts with their citizens, groups, communities, CSOs and other Government Organizations with the main objective of ensuring that issues of communities are tackled with the most acceptable decisions.

4.3.2 Respondents Knowledge and Experience of E-participation in Planning

In exploring the status of integration of e-participation into decentralized planning, the research first found out the level of awareness of the participants on e-participation and their understanding of the meaning of e-participation. Up to (83%) had heard about e-participation. For planning officers who had indicated they had heard about e-participation, they explained it to mean the use of electronic means to participate in either decision making without necessary being physically present. Examples of some definitions given for e-participation include:

> *It is just using electronic media to engage citizens by disseminating information to citizens through radio programme, through platforms such as websites, WhatsApp, etc (Senior Development Planning Officer, Upper West Region Upper West Region, February, 2023).*

E-participation is a situation where the decision of the people is made known by ICT such as zoom meetings, social media, internet, Microsoft Teams etc. (Chief Development Planning Officer, North East Region, February, 2023).

When Planning Officers were asked about their previous experiences of using e-participation in planning and monitoring and evaluation, up to 79% of the respondents indicated ever using e-participation to undertake planning, monitoring, and evaluation. One of such Respondents said:

We have been using these platforms especially when we were preparing the MTDP that was the time of Covid 19 pandemic so we turned to use some of these platforms because it was difficult to bring people together and even now due to the conflict so we used some of these platforms like zoom to organize DPCU meetings, committee meetings (Principal Development Planning Officer, Upper East Region, March, 2023).

Another respondent remarked when asked about whether he had used e-participation in planning activities:

Yes, we have used it but very limited. We have participation in sessions in zoom meetings but very limited at the highest Stakeholders' level. This WhatsApp platforms are created everywhere for our local level stakeholders, general stakeholders, and general assembly's such that you can pass information to Assembly Members through WhatsApp groups and some other district M&E stakeholders but is still restricted to people with higher level of education, access, and use of technology (Senior Development Planning Officer, North East Region, March, 2023).

These remarks by the planning officers support the work of (Kyere & Kumah, 2017) who argued that e-participation as political strategy has the potential of

complementing and strengthening Ghana decentralization structures for effective engagement of citizens at the local level.

In an era of uncertainties like conflict and an outbreak of diseases such as COVID 19, Ebola and other contagious diseases, electronic means of working and participation in programmes is the best option as rightly outlined in the work of (Gunu, 2022) that the use of ICT has become a normal phenomenon since the outbreak of Covid 19. It has made a lot of impact in education and other sectors especially in recording keeping, online modules creation for learning and participation.

During this period people who didn't know anything about zoom, google meet quickly learnt and adopted their usage because that was the only way one could be involved. From the study, since majority of the participants ever used e-participation in planning, it means it is a medium that can be integrated into decision-making at the MMA level especially in terms of planning. Also, it encourages public popular participation because it widens the scope of participation giving access to the less privilege and vulnerable, both men and women including the youth the opportunity to take part in taking decisions regarding the development of their Municipalities once they have access to the e-platforms like radio, computer and or mobile phone. These are in line with the finding of Aikins (2010) who revealed that e-planning provides the potential for increasing wider participation of citizens in deliberations which gives participants more knowledge in the policy and other opportunities as compared to the face-to-face participation mode. Also, E-participation allows participants in knowledge sharing electronically with ease without necessary waiting for their turn (Paulus & Baruah, 2018).

4.3.3 Level of Integration of E-participation into Decentralized Planning

On e-platforms and tools used for e-participation at the studied MMAs, WhatsApp, Websites, Emails, Radio, Zoom, GIS Applications, Facebook, Google Meet and other platforms such as District Development Data Platform (DDDP), E-Library similar to those identified by Paulus & Baruah (2018) and Mahlangu & Ruhode (2021) in their work were they revealed that e-participation is about how information is carried out through ICT application such as zoom, email, website, GIS including social media channels such as Facebook, WhatsApp, Instagram, and websites among others.

In terms of the number of MMAs and the number of platforms used, Bawku Municipal, Sagnarigu and Jirapa recorded the highest number of platforms used while Bolgatanga, East Mamprusi, Nanumba North and Savelugu recorded the least number of e-platforms used (see Figure 11 for details)

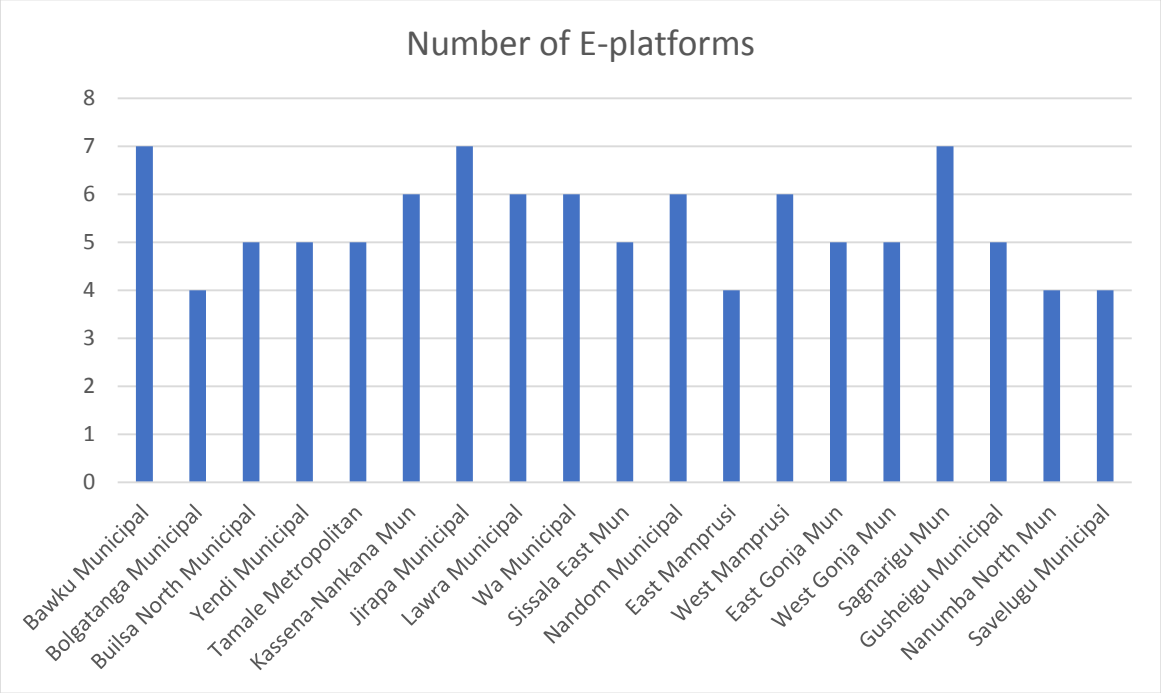

Figure 11: E-platforms Used by MMAs in Participation

Source: Author's Own Construct, April, (2023)

Also, in terms of e-platforms and the number of MMAs that used them in participation WhatsApp recorded the highest number, followed by Website, Email and Mobile Phone while the least used e-platform was Google meet with 1 respondent (see Figure 12 for details).

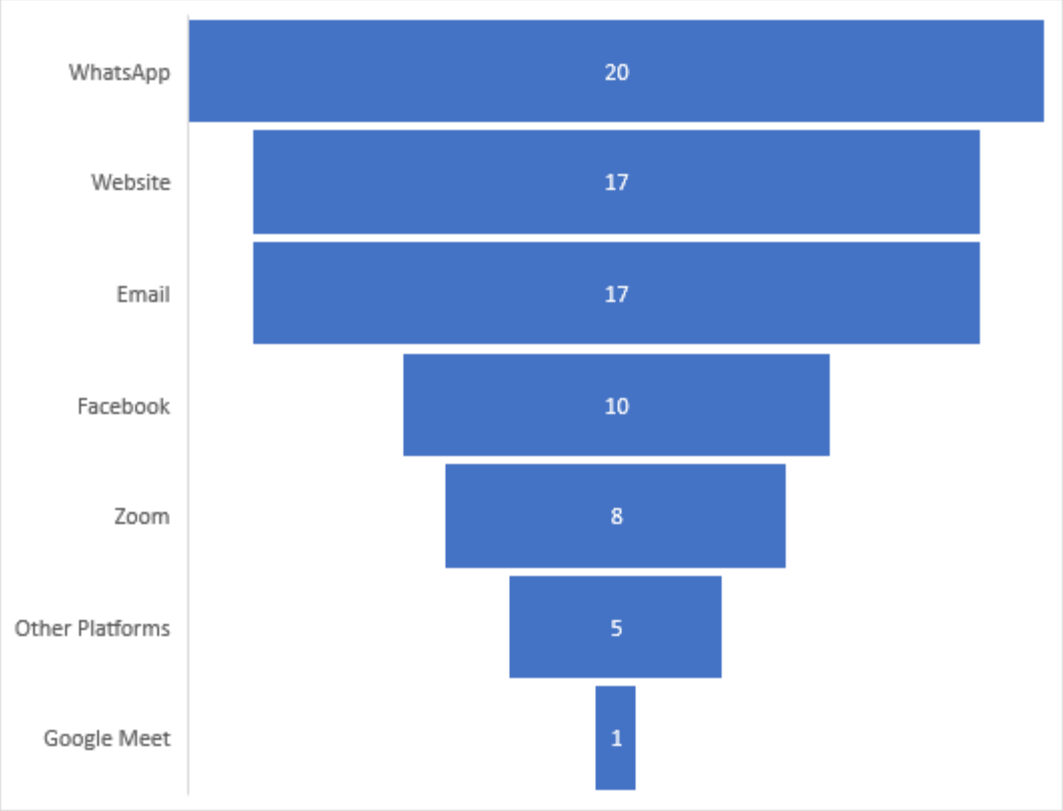

Figure 12: E-Platforms for E-Participation

Source: Author's Own Construct, April, (2023)

WhatsApp

From Figure 12, twenty MMAs used WhatsApp for planning purposes and other decision-making processes, making it the most used platform by MMAs. One of the participants elaborated that:

> *We also have WhatsApp platforms for all the various interest group in the municipality, depending on the interest areas we create a WhatsApp platform for them for communication and dissemination of information and clarification of issues. For example, Assembly Members have their platform where information is disseminated through and when they also have issues, they pass it through the same medium. We also have WhatsApp platform for Heads of Departments (HoDs), General Assembly Staff etc (Principal Development Planning Officer, Northern Region, February, 2023).*

In the same way a respondent in the Upper West Region remarked:

> *For sharing information like the guidelines for preparing MTDPs, sharing of annual reports, medium for inviting people for planning meetings. These speeds up the process because you don't to go round and through it you can engage a lot of people (Senior Development Planning Officer, Upper West Region, February, 2023).*

From the study, it was realized that, WhatsApp is one of the commonest and simplest means of transmitting information which it gradually becoming an official medium of disseminating information from national to regional and district level and vice-versa. All MMAs used WhatsApp for information sharing and even for official communication like sending and receiving letters, plans, reports, and other documents. It is not therefore strange that majority of MMAs from the study area used it. This is corroborated by the National Communications

Authority & Ghana Statistical Service, (2020) survey which revealed that WhatsApp is the most used app in Ghana. Other studies also confirmed that the use of social media platforms such as WhatsApp and Facebook has been adopted into the methods of participation (Aikins, 2010; Akmentina, 2022; Weimann et al., 2016). The participating planning officers further revealed that they are comfortable with WhatsApp and will recommend it for any MMDA to use to promote participation in planning. One such senior planning officer stated:

> *I will recommend WhatsApp because most planners find it difficult or don't access their emails frequently. Also, we use it every day to transmit letters to the RCC and as for our district level every minute issue or information are put on the platforms (Senior Development Planning Officer, Upper West Region, March, 2023).*

In comparing the most frequently used e-platforms in the study MMAs in terms of their convenience and impact for use, WhatsApp came as the topmost because it is easy to use with no much technicalities and require little data to either receive, send a message, or make a comment. In addition, it is the most dominant platform used by most people who have smart phones and will be good for e-participation as captured by one of the respondents below;

> *It is less expensive as compared to emails. For emails if you don't have much data, you cannot download a document but WhatsApp is less expensive and easy to use (Senior Development Planning Officer, Upper East Region, April,2023).*

This contradicts the work of (Akmentina, 2022) which argued that the common social media platforms used by city planning authorities include YouTube, Facebook, Twitter and Instagram, as major channels of information dissemination, with Facebook regarded as the most patronized platform. It was realized from this study that the most frequently used e-platform used by the MMAs in northern

Ghana is WhatsApp. This could be attributed to the fact that as stated earlier it is the most common, simple, and easy to use platforms as compared to YouTube, twitter, Instagram, etc. WhatsApp is used by majority of the populace in Northern Ghana and Ghana as whole.

Websites

From Figure 12, the second most used e-participation tool was websites.

> *We use Websites for publishing assembly activities and information of the Assembly which enable people instead of calling for information they can consult the website. The essence of the website is to make every information about the assembly accessible using the website but the challenge has to do with update (Principal Development Planning Officer, Northern Region, March, 2023)*

In Savanna Region, a development planner remarked:

> *It is a site that we display things that we have implemented and those that we are yet to do and we publish our reports and all that so if you have to go onto our website and you read our report or you get to know incoming activities then you will be able to participate in those activities and we have a section where you can drop in your comments so it all part of the participation process (Senior Development Planning Officer, Savanna Region, March, 2023).*

The findings affirm the work of Akmentina (2022) and Ponelis & Holmner (2015) which indicated that every municipal primary medium of providing information and other e-services are the websites but they are often abandoned or difficult to access because of some complex structures or in other cases municipalities do have create separate websites for each department hence making harmonization a challenge thereby making interaction between the authorities and the people

difficult. Even though all MMAs had websites which served as the primary medium of information sharing, they are only visited during times of monitoring or assessments like District Performance Assessment Tool (DPAT) or Urban Development Grant where there are marks allocated for functionality of Assembly websites. Most Assemblies visited did not make conscious efforts to manage their websites frequently and where there is effort to keep it functional there is scanty information regarding the activities of the Assembly.

Mobile Phone (Calls and Messages)

Mobile phone is one of the common e-platforms used to promote participation at the study MMAs. According to the study, 17 MMAs out of the 24 studied used mobile phones for planning through messaging, calls to give information and received information or other issues related to their districts as stated by a respondent below:

> *We use Mobile phones for calls and messaging, it facilitates invitation to planning meeting and sharing of planning policies (Chief Development Planning Officer, North East Region, February, 2023).*

Other MMAs use mobile phone to collate issues or complaints from communities that aid the Metropolitan and Municipal Assemblies to strategies and develop programmes to address them during planning period just as one stated:

> *We use mobile phone as hotlines for phoning to receive complaints. This helps us in collating grievance and issues in the municipality for decision-making (Principal Planning Officer, Northern Region, March, 2023).*

The mobile phone is an important device for transmitting and receiving information. It also enables the functioning of other application such as WhatsApp, Facebook, etc. just as Breuer & Groshek (2017) indicated that mobile

phone plays an important role for organizations in collective action and the production and sharing of political knowledge. Mobile phone users are not constrained by physical location and thus become able to search for information about social and political issues wherever and whenever they wish to. They are also enabled to upload and share politically and societally relevant content almost instantaneously, thus allowing others to discuss events in real time as they unfold, provided those skill sets are likewise developed across users. A respondent remarked:

> *Mobile phone calls and messages have the potential and impact for use. With these ones, you can get your information quickly. But the with GPS unless you go to the location you cannot get location right the same as the GIS (Principal Development Planning Officer, Northern Region, March, 2023).*

Email

Up to 17 of the studied MMAs use Emails to facilitate decentralized planning in addition to websites and mobile phone calls and messages (see Figure 12). Most MMAs emails for sending, sharing, and receiving documents because it is one of the cheapest and easiest means of sending information at your convenient time at any place. The use of emails has saved people a lot of time, cost, and energy when it comes to sending documents as compared to the old system where people use to travels for a long distance to submit documents to meet deadlines or through posting that usually take weeks with uncertainty of whether the information has reached it suppose destination. During the interview, one participant stated:

> We use email for *sharing of invitation letters, submission of reports, plans and other documents, it facilitates the process of planning by enabling officers to send plans and planning related documents to the relevant*

agencies at a distance with less cost (Chief Development Planning Officer, Upper East Region, March, 2023).

From the study, though participants indicated they used emails for sharing letters, submission of plans and reports, they do that using their personal emails because most of the MMAs have no official emails which could serve as a backup. This is makes difficult to keep tract of information sent out leading to loss of documents shared with relevant authorities especially when the officer whose email was used to send out that information is no longer available. According to Bawack et al. (2018), electronic platforms have brought about a new form of participation in planning which has given opportunities for every citizen to contribute to issues of democracy and development making where freedom of expression of citizens is not hindered. In the view of one respondent:

> I'm *comfortable with emails. My reason is that with emails after several years you can still access the information but for WhatsApp the tendency is for you to use for a short time and that becomes like a temporal arrangement but to have permanently email is always the best. So, if I have a serious document, I prefer emails because you can access it at any place even when your laptop develops a fault (Chief Development Planning Officer, North East Region, February, 2023)*

In general, when asked about the feasibility of integrating e-participation into planning activities at their MMAs, most respondents (83%) supported the assertion that it is possible to use e-participation in decentralized planning. According to one respondent:

> *For me, e-participation is feasible because for us we have tried it and what made it easy was the fact the covid 19 made us to know that there are other ways of participating in decision making because some of the things that*

we used during the covid we never used them, we were not even aware that there is zoom meeting that you can sit in your comfort zone and participate in a meeting in a different place like Accra and looking at each other face to face and sharing ideas. It is something that we should encourage and it will even encourage more people to be part of decision making because in the zoom meeting you can even record the number of people who took part, proceedings and you will be able tell that these number of people participated and all that (Principal Development Planning Officer, Upper East Region, March, 2023).

Another responded argued that because of unforeseen events such as diseases, pandemics, and conflict, sometimes meeting physically is not possible and so they rely on electronic means to organize most of their meetings. According to him:

It is feasible because we use electronic platforms in most of the meeting and other activities due to the conflict (Chief Development Planning Officer, Upper East Region, February, 2023).

It is therefore obvious that the application of e-participation in planning at the district level is possible because e-participation is currently being applied in some Assemblies. These supported the findings of (Kyere & Kumah, 2017) that the communication network in Ghana is good and can support the implementation of e-participation at the district level. A few respondents on the contrary however indicated that it will not be possible to wholly adopt e-participation into the Assembly level planning due to network challenges but a blend of both traditional method and the electronic means of participation will be the best option. This supports arguments by Akmentina, (2022) that the introduction of 'e-participation solutions' has been able to support participatory planning through

combining online methods with the 'place-based' or traditional approach to facilitate discussions. In one of the MMAsa respondent indicated that:

> *Somehow, it will be suitable for the elite group but may cut off those who do not have access. So, a blend of the two approaches will be appropriate; the traditional and e- participation (Principal Planning Officer, Northern Region, March, 2023).*

4.3.4 Advantages of E-Participation in Decentralized Planning

Reduces Cost in Planning

Majority (83%) of the participants indicated in the study that one major potential advantage of e-participation is that it will reduce cost in planning. Unlike the traditional method where you must pay for costs such as fuel, snacks, lunch and sitting allowances. With e-participation one needs to only pay for the cost of data for participants. One participant explained:

> *In terms of cost, moving to the community is very expensive than the electronic means. Electronic participation is more convenient and saves time too and effective especially in a certain circumstance say conflict prone areas or in times of pandemic or disaster like Covid 19 (Senior Development Planning Officer, Upper West Region, February,2023).*

> *It covers a lot of people and so a lot of people can participate, interact you don't need to come to any venue before you can contribute because when we organized the zoom and share the link wherever you are once the host open it you can participate. In one of them I could see that a lot of people join. In terms of cost e-participation is opened to everyone but with traditional method you must limit the number of participants due cost of lunch, snacks, and T&T payment but with e-participation once you have*

the data you can join so e-participation is less costly" (Principal Development Planning Officer, Upper East Region, March, 2023).

These assertions notwithstanding, it is worth emphasizing that the initial cost of e-participation may be high because the MMAs must provide network infrastructure and computers among others at the initial stages. However, in the long run, cost will be cheaper than the traditional method because with e-participation certain cost will not be incurred and the coverage will be widened and more convenient for people to participate in. Even for those with mobile phones the cost of data to participate in decision making process is high and not everyone can afford. This is in line with Bawack et al. (2018) and National Communications Authority & Ghana Statistical Service (2020) arguments that one may have access to technology but may not be able to afford the cost of it. Also, citizens in countries such as Cameroon and Ghana find it difficult in assessing online services due to unavailability of internet and its associated high cost (Bawack et al., 2018). This makes it difficult for citizens from a distance especially the rural people to participate in any planning activities because they cannot be present physically and cannot also have digital platforms to be engaged.

E-participation is fast and can be carried out at any time once the host creates the link and shares with the audience. With e-participation, you can engage the whole Municipality in a public hearing in just one day but with traditional you will spend so many days moving from one place to another. From the above, as the cost of participation reduces it will facilitate the adoption (facilitation conditions) of e-participation for decision-making (use behaviour) as contained in the UTAUT framework (Liu et al., 2022; Momani, 2020).

Quick in Decision Making

E-participation will shorten the time it takes to make decisions on various planning issues. Unlike the traditional method in which you must go through the communities to Sub-Metros, Town and Area Councils which usually takes several days and even weeks during the planning process, with e-participation several communities or councils or even all the meetings can be organized in a day simultaneously and still achieve the same results. According to one of the respondents:

> *E-participation is fast and can be carried out at any time once the host creates the link and share with the audience. With e-participation, you can engage the whole Municipality in a public hearing in just one day but with traditional you will spend so many days moving from one place to another" (Principal Development Planning Officer, Upper East Region, March, 2023).*
>
> *It will shorten time because you don't have to go to all the communities at different times but with e-participation probable at one designated place you can get all the inputs from all the places simultaneously (Chief Development Planning Officer, North East Region, March, 2023).*

From the study, it was realized that e-participation will improve performance because programmes that used to take days in organizing in a District can take minutes or even a day to execute. This increases the performance expectancy which influences the intention of people to use e-participation (behavioural intentions) which result in acceptance and continue usage (use behaviour) as stated in the theoretical framework (Liu et al., 2022; Momani, 2020).

Increases participation coverage

The study participants also revealed that e-participation widens the scope of participation giving everyone the opportunity to participate once you have the means like phone, computer and data or radio to participate. This medium will increase the number of participants. For instance, a person who is concerned about his/her area development can participate no matter where she or he is located once they have access to the link to login. In one of the respondents' views;

> *It gives a lot of people the opportunity to participate, interact without necessary coming to any venue before you can contribute to the discussion (Principal Development Planning Officer, Upper East Region, March, 2023).*

These findings affirm that e-participation has the potential for wider participation of citizens in deliberations which gives participants more knowledge in the policy and other opportunities as compared to the face-to-face participation mode (Aikins, 2010). With e-participation people who are concerned about the development of their district can participate electronically regardless of where they found themselves as Damurski (2012, 2021) rightly put it that e-participation has the high potential for increasing citizens participation in governance especially in the field of planning because it presents people with the scope of opportunities and optional means at which the people can be involved.

Convenient and Less Risky

The next advantage of e-participation as identified by participants is that it is convenient and does not involve a lot of risk in participation. E-participation reduces the risk associated with movement like accidents, robbery, etc. According to a respondent in the Upper West Region:

> *With e-participation, you can sit in the office and share information and take concerns from the people without moving out or incurring any cost,*

bearing the risk and others but with the traditional mode of participation you must move to the community to mobilize the community members (Senior Development Planning Officer, Upper West Region, March, 2023).

4.4 Factors Affecting the uptake of E-Participation in Decentralized Planning in Northern Ghana

Figure 13 shows the various factors affecting e-participation at the MMAs in Northern Ghana. The figure presents the factors affecting the uptake of e-participation in descending order, with the highest being Cost of Participation and ICT Infrastructure & Policy Framework and the lowest or the least being Citizens ICT skill.

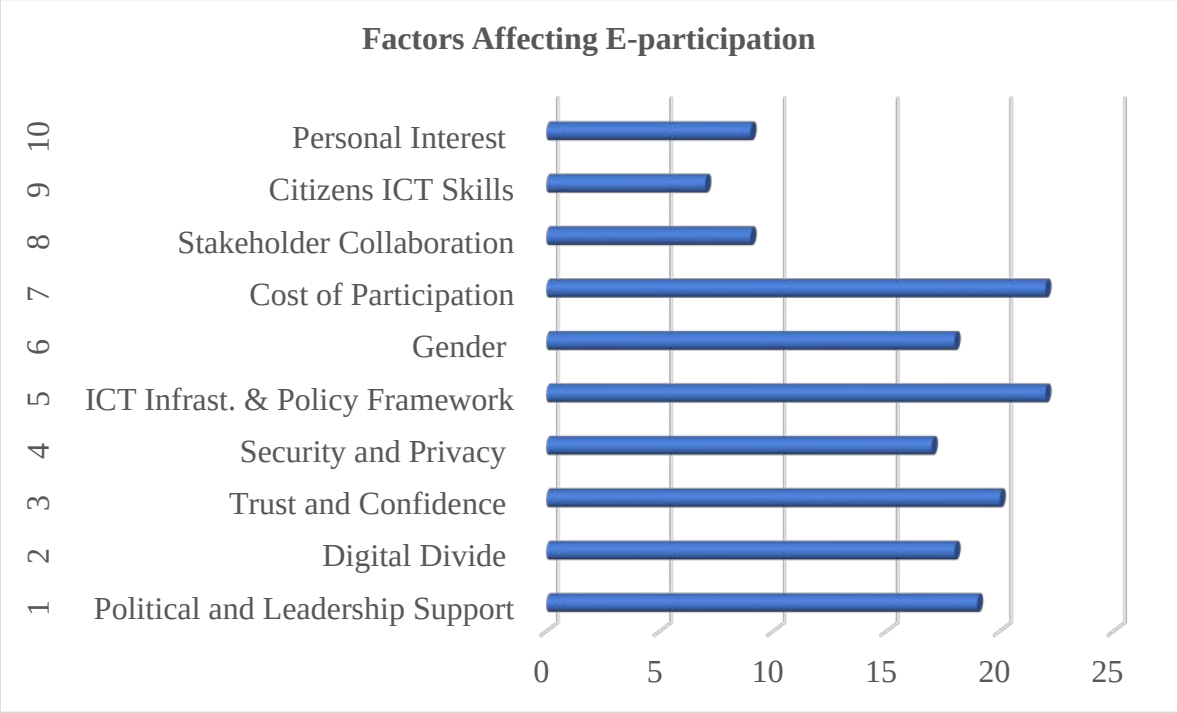

Figure 13: Factors Affecting the E-Participation Integration in Northern Ghana

Source: Author's Own Construct, April, (2023)

4.4.1 Enabling ICT Infrastructure & Policy Framework

ICT infrastructure is a key determinant or factor of e-participation. A successful electronic participation will depend largely on the ICT infrastructure and policy framework that is in place. From Figure 13, respondents from all the MMAs were of the view that the ICT Infrastructure is a factor that affects e-participation both positively and negatively. If the needed enabling infrastructure is provided, it will promote the use of electronic platforms in decision making. On the other hand, where the ICT infrastructure is not there it means citizens will find it difficult to communicate and hence e-participation will be affected negatively as one Planning Officer stated that:

> *Because the internet coverage within Ghana is limited sometimes if you are to use the e-participation it would not be able to cover all places probably one or two people at place may want to participate and they don't have the network or they may have the network but the internet connectivity may not be there so in that case going online they wouldn't be able to participate (Development Planning Officer, Savanna Region, March, 2023).*

The study shows that infrastructure determines the feasibility or otherwise of e-participation at the district level. This infrastructure includes telephone networks, internet broadband networks, electricity, etc. This shows why most studies have pinpointed poor ICT infrastructure as a main challenge in 'e-governance and e-participation' in less developed countries especially in Africa because ICT plays a crucial role or is a main factor in the successful implementation of e-participation (Bawack et al., 2018; Gamayuni & Hendrawaty, 2020; Weimann et al., 2016). Also, Kodua (2020) indicated that the internet infrastructure in Ghana is poor which makes it difficult to use internet which is essential in e-participation. So once there are infrastructure challenges it limits the people from having access to

internet to contribute meaningfully in planning for the development of their communities.

In one of the Municipalities, a participant indicated:

> *The infrastructure is a key determinant of e-participation implementation. So, there are so many places that are not having internet linkages and so voice network is very taint and this affect the people effort in participation. Also, the issue of policy that we were talking about means we must look at shifting our decision making to electronically but if we don't get the necessary attention of the inter-ministerial network to look at boosting the networks, we are going to deprived a lot of people of their right to participate because they do not have access to the network to be able to send in their voice or their views. Where we can improve upon the network connectivity then definitely, we can widen the net and participation will be effective and there will be wide acceptability of whatever interventions that are brought on because they will feel yes, we decided that this is what we want so ownership of those decisions becomes binding on them (Chief Development Planning Officer, North East Region, March, 2023).*

The study also found out from participants if there is an existing policy framework to support the implementation of e-participation in planning. A policy framework is a document that guides the procedure and process to follow in an organizational planning to achieve the desire goals (Bryson, 2018). The existence of a policy framework will guide people in the use of e-participation especially at the Assembly level because that will be a reference point for the use of electronic means in decision-making. Planning Officers would have preferred to use e-participation but were afraid because there is no legal backing or policy document for the use of electronic means of participation. Therefore, they may not be able to justify if they should use it. From the study, majority of the participants stated that

there was no existing policy on e-participation implementation. In one respondent's submission he indicated that:

> *In the planning process what they are encouraging or what the policy talks about is popular participation but the word electronic participation is not emphasized that is something that we need to look. It talks of popular participation in general and e-participation is part of it. We need to look at that so that in the guidelines you can use e-participation in gathering your information" (Senior Development Planning Officer, March, 2023).*

Kyere & Kumah (2017) indicated that the E-GIF policy framework is good for e-government initiatives and the data on internet and mobile users is a promising form for the implementation of e-participation. This study, however, contradicted their findings as 65% of respondents stated categorically that they were not aware of any policy supporting the implementation of e-participation in planning whilst 26% said that the current policy framework on planning does not prevent one from using e-participation in planning because the planning policy and guideline give one the room to be innovative. Unfortunately, the remaining 9% could not tell whether there was a policy framework. The study however supported the work of (Kodua, 2020) who indicated that though the E-GIF policy framework has shown that Ghana's ICT environment is one of Africa's greenfield in the e-government with a good condition for e-participation, Ghana's use of ICT in participation is low.

On the existence of guidelines for the implementation of e-participation, all study participants stated emphatically that there were no guidelines on the implementation of e-participation in decentralized planning. Some of the respondents in their submissions mentioned that even though the planning system in Ghana makes room for innovative ways in planning, the guidelines for the

preparation of Medium-Term Development Plans (MTDPs) talk about other methods of participation but has not specifically mentioned the use of e-participation but what it says is that you should always involve the beneficiary communities in planning process which is termed as Popular Participation.

4.4.2 Cost of Participation

Cost of participation was identified as one of the most significant factors influencing e-participation alongside ICT infrastructure and policy framework. The cost of e-participation affects its adoption at the district level. Because it is an online system it requires data and other gargets such as mobile phone, tablets, laptops which is costly to be acquired by most citizens at the district level. A district wide implementation of e-participation to cover all areas and sectors is a bit capital intensive and so Assemblies may not be able to support it fully unless central government intervenes. According to one respondent in Northern Region:

> *E-participation if effectively implemented will be cheaper than the traditional mode of participation (Principal Development Planning Officer, Northern Region, March, 2023).*

4.4.3 Citizens Trust / Confidence in Government

Some study participants indicated that trust and confidence affect e-participation. To them most of the citizens do not have trust that the Assembly is working for their development and so even physical meetings or programmes people feel reluctant to attend let alone going online. Also, due to the politicization of everything in Ghana it is difficult to get everyone on board to participate in activities of the Assembly but if we can build that trust and they believe in us they will be willing to participate electronically. This is what one Respondent had to say during the study interviews:

If we can develop interest and commitment from leadership e-participation would have been cheaper to use rather that traveling to meet people on the field because sometimes looking at people face to face, they are not able to express their views well for fear of intimidations, privacy but through e-participation you are not seeing the person so there are no fears about what s/he will say (Chief Development Planning Officer, North East Region, March, 2023).

Other participants were of the view that e-participation might not work because with even the traditional mode of participation people have contributed a lot but due to resource constraints their demands have not been met or fully met. So, they will have that reservation when it comes to e-participation because they think it is business as usual.

According to Adnan et al. (2022); Gamayuni & Hendrawaty (2020); Mahlangu & Ruhode (2021) & Nugraha et al. (2021), citizens' willingness to use e-government and e-participation services and trustworthiness are positively related. Also, Kodua (2020) in his study "exploring low e-participation in Ghana: a case study of Kumasi Metropolitan Assembly" revealed that the low e-participation in policy making in Ghana is as a result of no trust and confidence by citizens in government. Our study, just like the above studies, equally shows trust and confidence in government is crucial in e-participation with a significant number (83%) of the respondents expressed their concerns that if the citizens have trust in government, they will be willing to participate in decision making whether physically or electronically.

4.4.4 Political and Leadership Support

Political support was identified as one of the main factors influencing the uptake of e-participation in the study MMAs.

Sometime when you look at our politicians they always target where they had interest so if it something they don't have an interest in I am sorry the commitment won't be there unless it is something they have an interest in then the political support will be there. Currently our major problem is about getting leadership and political commitment into several aspects of our development paradigms. Most of our problems in e-participation has to do with political leadership, most of our leadership do not commit to such things. When one even makes effort to do these thing leaders discard it once that is not their interest (Senior Development Planning Officer, Savanna Region, March, 2023).

This assertion was reiterated by one REPO when he said:

"We need to look at the Assembly level of commitment of management in enhancing some of these platforms to promote the participation of citizens. Sometimes something is put on Facebook and mostly it is done to glorify the politician about what is being done but not actually to get the real participation of citizens. So, it is about information sharing which is not real participation as in the participation theory perspectives" (Chief Development Planning Officer, March, 2023).

Political and leadership support is very important in the successful implementation of government policies and programmes. In most African countries over politicization of things has made it difficult in the comprehensive implementation of programmes. In Ghana, failure of political consensus resulted in an unclear Telecommunication Act of 1996. This led to a delay in the implementation of ICT infrastructure programme which affected productivity leading to a slowdown in the rollout of e-governance as well as other ICT programmes which are very essential in participatory planning (Ertiö, 2018; Gamayuni & Hendrawaty, 2020;

Zaied et al., 2017). This was corroborated by the study as 79% respondents indicated that political support affects e-participation on both sides that is either negatively or positively. To some participants, Politicians and Leadership commitment at the Assembly in enhancing e-participation is not there because they are more interested in things that can fetch them votes during election but not software programs. Because of that, when the technocrats even try to promote software things like e-participation they will not support and rather discard such ideas.

4.4.5 Security / Privacy

Ghana's political system is characterized by political intimidation which makes people reluctant to express their opinions when it comes to issues of decision making. People are reluctant to contribute to issues for fear that their identity will be leaked and they will be victimized by those in authority. But with an online system people feel free to speak their minds in decision making. If you are not guaranteed of your security you can decide to register not with your own name or picture where people will be able to use it to harass or victimized you. This was evident in one of the participants' submissions in Upper East Region:

> *I think with e-participation, there is that guarantee of privacy than the traditional method because people can share their opinions without necessary showing their identity and so most people will like to participate (Senior Development Planning Officer, Upper East Region, March, 2023).*

> *For everything to work well there should be security. Whatever you are doing once you know you are safe, people will be willing to speak especially with e-participation where faces will not be seen people will not be afraid that they will be tag as belonging to party A or B (Principal Development Planning Officer, March, 2023).*

Due to the fear of intimidations people are not able to voice their views on national development. But with e-participation because they are not physically seen, it will be a good platform for people to feel free to contribute meaningfully to issues of national interest. Also, Ghana political system is characterized by over politicization of issues to the extent that people of a party in position doesn't want to participate in decisions of national development because the ruling governments usually see themselves as the owners and masters of all things which affects participation at the Assembly and national level in general. This is not surprising as some studies have stated that, when the Ugandans wanted to use the Uganda Watch platform the issues of privacy and security were of priority because citizens felt maybe their identities might be made public which could put them in danger (Bawack et al., 2018; Ertiö, 2018; Mahlangu & Ruhode, 2021; Manda & Backhouse, 2016).

4.4.6 Personal Interest

The interest of persons is a factor even though not all that significant as compare to others in term of records of respondents as in Figure 14. A Planning Officer in the Savanna Region remarked:

> *The interest of the both the Officers and the public has a greater potential for e-participation because if one is not having the technological interest no matter what you do, they will always not be in support in its implementation (Development Planning Officer, Savanna Region, March, 2023).*

Another Planning Officer in Upper West Region added that:

> *You know change is so difficult because people are stuck to their old way of doing things. In our Assembly we have spent like three to five times on electronic filing system, we have hired consultants who came and train our*

registry Staff after installing the software system but we are back to the hard way of filing because they are so adamant to change hence their interest is not in the electronic filing system (Senior Development Planning Officer, Upper West Region, February, 2023).

These views of the participants show that when officers and the citizens have technological know-how, they will have the interest to use electronics in participation but where they don't have the interest due to inadequate knowledge in its usage, they will always oppose e-participation. Also, because people are used to the old way of doing things, introducing e-participation might be met with resistance as they may be not be comfortable with its adoption.

4.4.7 Digital Divide (ICT Skills)

The technological know-how of officers will be key in the implementation of e-participation at the district level. Some believed Officers especially Planner Officers have the basic skills when it comes. However, doing some technical functions related to e-participation might be problematic as stated by one participant:

At least every Planning Officer has basic skills but even if they have the skills they are not at the same level because we have different level of skills. When it comes to manipulating networks, infrastructure, computer viz how to manipulate computer software to be able to capture, crack, record, forward and receive information we don't have those skills. While one can do this another cannot do that. This is why I said it must be enrolled gradually until such a time that we identify the gaps and fill those gaps to be able to have a wider participation (Chief Development Planning Officer, February, 2023).

Studies have established that one of the main challenges for e-government and e-participation in most African countries is the gap in the digital divide and how to make everyone have access to digital services in their countries (Mahlangu & Ruhode, 2021; Ochara & Mawela, 2015). Also, according to Bawack et al., (2018), the difference between the rural people and the urban people is wide in terms of access. This literature was established by the studies as it was discovered that the technological know-how of officers is very instrumental in the implementation of e-participation. According to some participants, Planning Officers possess some basic skills in ICT but their capacities need to be enhanced in the advanced use of electronic platforms so it can fully complement the traditional method in areas of setting, recording, contribution, grouping among other just as it is done with the traditional method.

4.5 Potentials of E-participation for Decentralized Development Planning in Northern Ghana

The study participants identified various potentials that exist in the Assemblies for the integration of e-participation into decentralized planning. These are summarized in Figure 14 and discussed below.

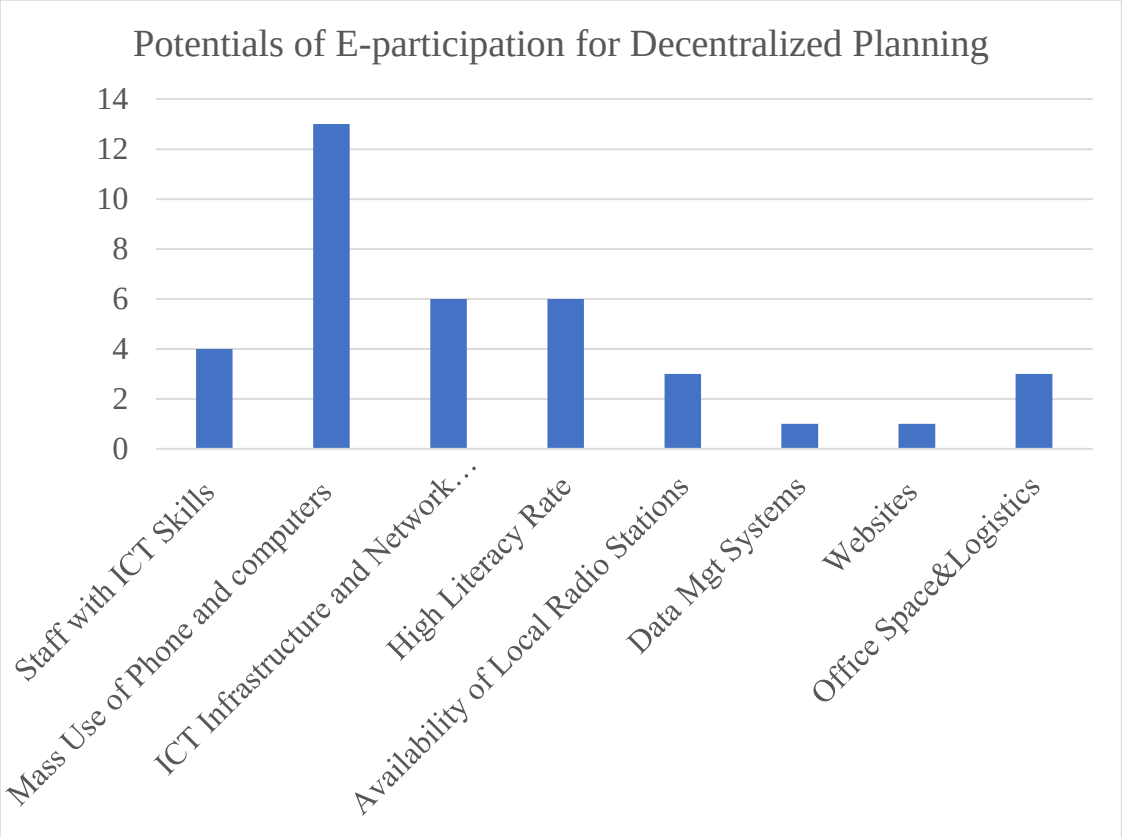

Figure 14: Potentials for the uptake of E-participation in Planning

Source: Author's Own Construct, April, (2023)

Mass Use of Phones and Computers

Mass use of mobile phones and computers was the commonest potential that can be leveraged to promote the integration of e-participation in the studied MMAs (See Figure 15). Respondents in Bawku, Kassena-Nankana, Jirapa, Sagnerigu, West Gonja, West Mamprusi, Yendi, Wa, Sissala East, Nandom, Builsa North as

well as Upper West Regional Planning Coordinating Unit (WRPCU) and Northern Regional Planning Coordinating Unit (NRPCU) said there is high use of phones and computers in the municipalities. In Upper West a respondent indicated that:

> A*lmost all the Assembly Members have smart phones and can easily communicate and use these phones so I think that is a major opportunity that we can take advantage of to promote e-participation. Also, most people especially the youth in the municipality have smart phones that they even use to do complicated things so I think that is an opportunity for e-participation implementation (Senior Development Planning Officer, Upper West, March, 2023).*

> *The opportunities that we have is that for us as MPCU we have equipment like computers, projectors, etc. The Assembly has tablets that can be used for electronic planning. Also, most of the people in the Municipality have android phones or smart phones that can help in promoting e*-participation (Principal *Development Planning Officer, Upper East Region, March, 2023).*

The above assertions of the planning officers imply that since most people in Northern Ghana have access to phones and computers, more people can e-participate in decision making and planning processes both at the district and national level which can enrich the decisions taken leading to ownership and sustainability of plans. This findings support some studies in Ghana which stated that about 54.1% of Ghanaians own mobile phone devices which can help promote e-government initiatives (Kyere & Kumah, 2017; National Communications Authority & Ghana Statistical Service, 2020; Sari et al., 2019). Also, availability of computers, tablets, and phones at the MMDPCU will reduce the initial cost of

implementation e-participation because there will not the need to purchased them entirely but as and when the need be.

High Literacy Rate

Some study participants in Bawku, Kassena-Nankana, Jirapa, Wa, Nandom and West Gonja also identified high literacy among residents of their MMAs as a facilitating condition for e-participation. A planning officer remarked:

> *The literacy rate in the in the Municipality is high, if you go to a typical village, you will see old women speaking English and using android phones (Principal Development Planning Officer, Upper East Region, March, 2023).*

The literacy rate in most African countries is high. In the case of Ghana the story is not different as the literacy rate as at 2021 was about 69.9% (Ertiö, 2018; Ghana Stastistical Servive, 2021; National Communications Authority & Ghana Statistical Service, 2020). These studies were corroborated by the findings of the study as the high literacy rate was mentioned by six respondents, making it the second highest number of respondents indicating that there is literacy rate among the populace as most people especially the youth have been using the phones and computers to do more complicated things that amazes many and so participating in electronic programmes will be a difficulty once they have the link or code.

ICT Infrastructure and Network Connectivity

ICT infrastructure and network connectivity also emerged as one of the relevant potentials that can be harnessed to promote e-participation. Respondents (Bawku, Lawra, East Gonja, Lawra, North-East Regional Planning Co-ordinating Unit (NERPCU) and Northern Regional Planning Co-ordinating Unit (NRPCU) indicated that the ICT infrastructure and connectivity in most of the MMAs is good which can be leveraged for the implementation of e-participation. Also, in

communities with network challenges efforts are being made to ensure its availability. In UWR, a respondent indicated that:

> *Ghana Electronic Fund for Electronic Communication (GEFEC) is supporting us to improve network connectivity in our communities by erecting communication mask just to boost up connectivity and supporting the Assembly by establishing and equipping community centres (Senior Development Planning Officer, Upper West Region, March, 2023).*

Even though ICT Infrastructure and Network Connectivity was indicated earlier as one barrier to e-participation, in some Municipalities like Bawku, East Gonja, Lawra and Wa the ICT infrastructure and networks are good and that can be leveraged in the implementation of e-participation. From the study, it was the second most significant facilitating condition for the uptake of e-participation. This contradicts general conclusions that e-participation in developing countries is a challenge because of ICT infrastructure (Blanc, 2020). Other scholars have also indicated that Sub-Saharan Africa countries are characterized by poor infrastructure even though there has been a huge penetration of 'mobile telephony' and 'internet services' coverage which is supposed to be a hope for e-participation, not much effort has been made by various governments to realize its potentials (Manda & Backhouse, 2016; Ochara & Mawela, 2015; Weimann et al., 2016).

Technological know-how of Staff

Respondents from Bawku, Sissala East, Lawra and Nandom Municipalities revealed that, the MPCU have the technological skills for e-participation. In some Assemblies they even have IT officers who can assist the MPCU in the use of digital platforms to engage in decision-making. One other prospect for e-participation lies in the fact that most MMAs:

Have Staff with basic ICT skill especially at the DPCU" (Chief Development Planning Officer, Upper East Region, March, 2023).

The Local Government Service has recruited and posted to the MMAs ICT Officers and Programmers so they are a good resource base for facilitating e-participation at the Assembly level. Also, most of the Planning Officers:

Have basic skills in ICT application and so with little capacity training on how to use electronic platforms to create, hold and participate in planning activities will be good for e-participation (Senior Development Planning Officer, Upper West Region, February, 2023).

All these allude to that fact the MPCU is the heart of the Assembly and has carried or supervised the implementation of many programmes and project successfully. Therefore, the use of e-participation will not be a big challenge but there may be the need to carry out some refreshers training or capacity building where necessary to ensure those whose are technologically handicapped are at the same level for its full take-off.

Existence of Radio Stations

Most studied Municipalities such as Bolgatanga, East Mamprusi and Savelugu have radio stations that can be used for electronic citizenship participation. During the study a Planning Officer in North East said that:

In the municipality we have some radio stations that we can make good use of. I quite remember when the Director General of NDPC during his field visits in four communities he even suggested that we could use radio to conduct public hearings instead of always trying to do things rigidly as we have been doing" (Chief Development Planning Officer, North East Region, February, 2023).

This was backed by a Regional Planning Officer when he said:

> *Some Districts have radio stations that they use for participation but as to whether people listen is an issue but it is also a platform that can be used to reach so many people. So, Assemblies for the start need to blend the two by either doing the radio discussion and now select people to meet face to face or do the traditional method so that the issue learnt from that you now do the radio programme to the broader masses" (Chief Development Planning Officer, February, 2023).*

Radio can be seen as one of the cheapest means of e-participation especially in the rural areas because with it one does not need to purchase a lot of gargets but only need to pay for the airtime to discuss the issues and whoever has a radio set can turned in and participate.

Data Management Systems

At the Assembly level there are different systems of reporting like District health Information Management System –2 (DHIMS-2) use by Ghana Health Service (GHS), Education Management Information System (EMIS) by Ghana Education Service (GHS) and Basic Sanitation Information System (BaSIS) by Environmental Health and Sanitation Unit of the Assembly so with the implementation of e-participation there exist already some data systems in place only there is the need for a centralized system of reporting probably at the M/DPCU where all other departments software can feed into them such that whenever they report we can always have a harmonized one it help in our planning. According to a participant;

> *We have different systems of reporting so if we could design a common platform especially at the central administration where all other departments software can feed into it such that whenever they report we*

can always have a harmonized one it will help (Principal Development Planning Officer, Northern Region, March, 2023).

The foregoing discussion suggests that there is great opportunity for the uptake of e-participation for planning and decision making at the local level given the advancement in technological development in the country. It is thus crucial that the various factors that inhibit its successful integration into decentralized planning be addressed so that its benefits discussed earlier can be realized. The next chapter summarizes the key findings from the discussion in this Chapter.

CHAPTER FIVE

KEY FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of key findings, conclusions, and recommendations of the study in line with the research questions and objectives as stated in chapter one.

5.2.1 Summary of Key Findings

5.2.1 Use of ICT applications/tools to promote e-participation in decentralized

The objective of the study was to find out the current level of e-participation at the MMDA level. It was realized that participation is very crucial in the development planning process at the district level as it is enshrined in the 1992 constitution of the Republic of Ghana and a major component in the transformation of Ghana's Decentralization process. It is the medium through which citizens contribute to decision-making process for ownership and sustainability of development at the local level. The study further established that, the use of e-participation in decision-making at the MMDA level has been in existence but not to a large extent. Majority of Planning Officers were aware of the e-participation phenomenon and have been using it in in their daily activities at their Assemblies.

Furthermore, the study identified that MMAs in northern Ghana have been using e-participation tools during their planning sessions. Some of the e-platforms that Assemblies used for electronic participation included WhatsApp, Websites, Emails, Mobile Phone, Radio, Zoom, GIS Applications, Facebook, Google Meet and District Development Data Platform (DDDP). Among the e-platforms, WhatsApp was the most frequently used by the MMAs and has the potential to be

used for many things. So, most planning officers are comfortable using it and will therefore recommend it for their MMDAs because it is user-friendly and consumes less data.

5.2.2 Factors Affecting the uptake of E-Participation in Decentralized Planning in Northern Ghana

The aim of this question was to find out the factors affecting the integration of e-participation into decentralized planning in Northern Ghana. The study showed that one of the major factors that affect the uptake of e-participation at the district level is ICT infrastructure, which includes telephone networks, internet broadband networks, electricity, etc. In addition to the infrastructure there is no policy framework that gives a backing to the adoption and use of e-participation in development planning at the district level. More to the point, it was realized from the study that there are no guidelines for the operationalization of e-participation. The guidelines issued by NDPC for the preparation of MTDP are silent on e-participation, hence some officers have fears of using e-platforms during the process.

Furthermore, the study identified the cost of acquiring e-participation systems and gadgets such as mobile phone, tablets, laptops, broadband as high hence making it capital intensive. However, in the long run the cost of using the electronic medium for planning is far less than the traditional method of participation since with e-participation one only needs to incur the cost of data compared to the cost of traveling and transportation, sitting allowances, lunch, snacks, and cost of venue which are associated with traditional participation methods.

Besides cost, the study also revealed that people are generally unwilling to participate electronically because of lack of trust in the political leadership and the

possibility of political victimization. However, where there is political will, intimidation-free political system and support from leadership, citizens will be willing to participate electronically because of its convenience. Also, with e-participation more people will be willing to participate once they are assured of their security or privacy. This is because one does not need to show his/her facial appearance, unlike in the traditional mode where people are always afraid to contribute for fear of victimization and intimidations from leaders.

5.2.3 Potentials of E-participation for Decentralized Development Planning in Northern Ghana

From the study, one major potential of e-participation at the MMA level is the mass use of phones and computers. Most people of age 5 and above (54.1% i.e. Urban, 63.2% & Rural 44.8%) in Ghana own mobile phones (National Communications Authority & Ghana Statistical Service, 2020) which are very essential in electronic participation. The study revealed that most women, youth in both urban and rural areas own phones and even use them to perform even more sophisticated tasks. They participate in radio phone-in programmes on development issues in most municipals. So, with the integration of e-participation some initial cost such as purchase of phones and computers, as mentioned earlier, may be an issue but the Assemblies only need to get the system for participation and make provision for data for the public to participate electronically.

The second potential from the study is that the literacy rate is high as majority of the people especially both women and men in urban and rural areas can read and write which is very essential in electronic communication. Not only that but also, the digital literacy rate in the use of applications on phones is high which is very essential for e-participation in decision-making.

Another major potential realized from the study is ICT Infrastructure and Network Connectivity. There is good ICT Infrastructure in the country with good connectivity in most areas for electronic purposes. Also, most of the MMAs have IT Officers or Planning Officers with basic ICT skills who when given basic refresher training will be capable of assisting their offices in the use of electronic methods of participation and other Assembly decision-making processes. The Assemblies therefore only need to be willing to make office accommodation available for the setting up of electronic systems for the uptake of electronic activities.

5.3 Conclusion

The motive of the study was to ascertain how Metropolitan, Municipal and District Assemblies (MMDAs) integrate E-participation into the decentralized planning process at the local level. The study focused on the perspective of Development Planning Officer on the status of E-participation in decentralized panning, factors affecting the integration of E-participation as well as the potentials available for the uptake of E-participation for decentralized planning at the local level with regards to project conception, initiation, planning and implementation.

The study revealed that e-participation is currently being used by MMAs in northern Ghana for planning and decision-making purposes but on a limited scale due to various factors including: inadequate and costly ICT infrastructure coupled with lack of a policy framework to guide the use of e-participation in decentralized planning, high participation cost, lack of trust and confidence in government, lack of leadership and political support, and inadequate technological know-how of citizens among others. Also, the study realized that potentials exist at the various MMAs for the uptake of e-participation. These include the mass use of mobile phones and computers, high literacy rate, relatively well-developed ICT

infrastructure and network connectivity in some MMAs, the possession of ICT skills by DPOs and the availability of office space for systems installation and other technical works and trainings.

The findings of this study contribute to the empirical literature on the integration of e-participation into the Local Government Planning System at the decentralized level of planning by highlighting the current issues surrounding the uptake of e-participation platforms in northern Ghana. This will inform policy makers especially the Ministry of Local Government and Rural Development, Local Government Service, institutions and MMDAs on the level of integrating e-participation and its potentials taking into consideration the factors that affects it integration into decentralized planning in Northern Ghana. Beyond the new information and empirical evidence generated by the study, it also contributes to the development of the Unified Theory of Acceptance and Use of Technology (UTAUT). The findings of the study affirm the theory's position that acceptance and satisfaction with technology have an influence on the intention for continuous use of the system. If the identified factors such enabling ICT infrastructure and policy framework, cost of participation, citizen's trust and or confidence in government, political and leadership support, among others that affect e-participation are controlled, it means the adoption of e-participations tools by planning officers will be high.

The advantages of e-participation integration into the planning process at the MMDA level will increase efficiency and reduce cost (performance expectancy), reduce time frame, and increase coverage (effort expectancy) and change the behaviour of officers (social influence) with government and its agencies ensuring the necessary conditions are established and supported (Facilitating Conditions). Government should therefore continue by investing in ICT infrastructure and improve internet connectivity for e-participation use. It is also crucial for the

drafting of a policy framework on the implementation of e-participation in decision making in Ghana most especially at the MMAs level. Also, key is the sensitization of the public so that people can put efforts into e-participation because of its numerous benefits such as reduction in cost in planning, development facilitation because you can sit in your home and contribute to development without necessarily having to travel there to make your input within the shortest time. This will reduce the risk associated with traveling from place to place to participate in programmes.

5.4 Recommendations

Based on the conclusions drawn from the findings of the study, the following recommendations are made to Government, Head Local Government Service, National Development Planning Commission, and other policy makers for the integration of e-participation into decentralized decision-making.

1. Since most Assemblies are aware of e-participation and are currently using its various tools, government, through the Ministry Local Government and Decentralization, should make it part of the official medium of participation in planning activities at the decentralized level by including the use of electronic platforms in decision making especially in planning into the guidelines release by NDPC.

2. Government through the Ministry of Communication and Digitization and the National Communication Authority (NCA) should provide ICT infrastructure in areas with bad network and make it accessible to citizens for easy communication. This will facilitate assemblies' electronic participation in decision and to able to create online meeting with its Stakeholders. Metropolitan and Municipal Assemblies should be willing to

take up the cost of data and other logistic for participants to encourage them to participate electronically just as they do in the traditional method of participation. Also, they should work together with the network providers to provide reliable network at a reduced price.

3. The Ministry of Communication and digitization, the National Development Planning Commission, the Ministry of Attorney General and the Local Government Service should jointly formulate a policy framework on electronic participation in decision making at the local level leveraging on existing E-Government Interoperability Framework and guidelines for the implementation of e-participation at all levels or sectors of the countries especially at the Local Government Services to encourage Assemblies in the use of e-participation in their decision making.

4. As part of government's effort at digitization, the Ministry of Communication, Ministry of Local Government and Decentralization should make investments in ICT equipment like provision of computers, tablets, and other logistics a priority. This will facilitate the full uptake of e-participation because e-participation will help Governments and its Agencies to minimize its cost of participation in decision making and make governance more inclusive. This is because with e-participation more people are bound to participate as it will bring more women, youth and the vulnerable on board.

5. The National Development Planning Commission together with the Ministry of Local Government and Decentralization and Ministry of Communication and Digitization as well as Metropolitan and Municipal

Assemblies should organized capacity training for Planning Officers, Heads of Departments on how to use electronic means and online system to create platforms for engagement. Also, MMAs should organize public sensitization on the use of mobile phones and other devices for e-participation to take advantage of the mass use of phones and high literacy rate.

REFERENCES

Adam, I. O., & Dzang Alhassan, M. (2022). The mediating role of ICT regulation on the effects of ICT access and ICT use on e-participation: Evidence from structural equation modelling and necessary condition analysis. *African Journal of Science, Technology, Innovation and Development*, *14*(5), 1161–1172. https://doi.org/10.1080/20421338.2021.1937815

Adeyemo, A. B. (2011). E-government implementation in Nigeria : An assessment of Nigeria ' s global e-gov ranking. *Journal of Internet and Information System*, *2*(1), 11–19.

Adnan, M., Ghazali, M., & Othman, N. Z. S. (2022). E-participation within the context of e-government initiatives: A comprehensive systematic review. *Telematics and Informatics Reports*, *8*, 100015. https://doi.org/10.1016/j.teler.2022.100015

Aikins, S. K. (2010). Participatory e-planning: Bridging theory and practice through improvements in technology. *Politics, Democracy and E-Government: Participation and Service Delivery*, *January 2010*, 131–149. https://doi.org/10.4018/978-1-61520-933-0.

Akmentina, L. (2022). E-participation and engagement in urban planning: experiences from the Baltic cities. *Urban Research & Practice*, 1-34.

Alharbi, A., Kang, K., & Hawryszkiewycz, I. (2015). The influence of trust and subjective norms on citizens' intentions to engage in E-participation on E-government websites. *ACIS 2015 Proceedings - 26th Australasian Conference on Information Systems*, *2011*, 1–12.

Aradeh, O., Van Belle, J. P., & Turpin, M. (2021). The impact of e-participation on sustainable livelihoods: A refugees' perspective from the palestine gaza strip. *2021 8th International Conference on e-Democracy and e-Government, ICEDEG 2021*, *June 1946*, 17–24.

https://doi.org/10.1109/ICEDEG52154.2021.9530881

Ayaz, A., & Yanartaş, M. (2020). An analysis on the unified theory of acceptance and use of technology theory (UTAUT): Acceptance of electronic document management system (EDMS). *Computers in Human Behaviour Reports*, *2*(October). https://doi.org/10.1016/j.chbr.2020.100032

Ayee, J. R. (2008). The balance sheet of decentralization in Ghana. In *Foundations for local governance: Decentralization in comparative perspective* (pp. 233-258). Heidelberg: Physica-Verlag HD.

Bawack, R. E., Kamdjoug, J. R. K., Wamba, S. F., & Noutsa, A. F. (2018). *E-Participation in Developing Countries*. *May*, 126–154. https://doi.org/10.4018/978-1-5225-5326-7.ch006

Bennett, D. (2015). *Factors influencing the success of an E-participation project in South Africa* (Master's thesis, University of Cape Town)

Le Blanc, D. (2020). E-participation: A quick overview of recent qualitative trends (No. 163; DESA Working Paper).

Breuer, A., & Groshek, J. (2017). Assessing the Potential of ICTs for Participatory Development in Sub-Saharan Africa with Evidence from Urban Togo. *International Journal of Politics, Culture and Society*, *30*(4), 349–368. https://doi.org/10.1007/s10767-016-9235-5

Chipeta, J., & Ngoyi, L. (2018). A review of e-government development in Africa: A case of Zambia. *Journal of e-government Studies and Best Practices*, 1-13.

Chomba, C., & Lusaka, Z. (2017). E-Government, E-Democracy, Freedom of Information and Open Government Data in Sub-Saharan Africa: An Overview of Progress, Challenges and Remedies. *Multiresearch.Net*. http://www.multiresearch.net/cms/publications/CFP2622017.pdf

Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches*. Los Angels/London/New Delhi/Singapore/Washington DC/Melbourne. Sage publications, V.3

Damurski, L. (2012). E-participation in urban planning: Online tools for citizen engagement in Poland and in Germany. *International Journal of E-Planning Research (IJEPR), 1*(3), 40-67. https://doi.org/10.4018/ijepr.2012070103

Damurski, L. (2016). Smart City, integrated planning, and multilevel governance: A conceptual framework for e-planning in Europe. *International Journal of E-Planning Research (IJEPR), 5*(4), 41-53. https://doi.org/10.4018/ijepr.2016100103

Damurski, L. (2021). How to Include Omnichannel Services in Land-Use Policy? E-Planning Holds the Key. *International Journal of E-Planning Research, 10*(3), 70–85. https://doi.org/10.4018/IJEPR.20210701

Demirdoven, B., Cubuk, E. B. S., & Karkin, N. (2020, September). Establishing relational trust in e-Participation: A systematic literature review to propose a model. In *Proceedings of the 13th International Conference on Theory and Practice of Electronic Governance* (pp. 341-348). https://doi.org/10.1145/3428502.3428549

Ertiö, T. P. (2018). Plan on the Move: Mobile Participation in Urban Planning. *University of Turku, Finland*.

Fayomi, O. O., Idowu, R. K., & Ayo, C. K. (2014). E-Governance and E-Participation: Panaceas for Effective Mobilization of Manpower and Resources in Selected Local Governments in Ogun State. *Covenant Journal of Business and Social Sciences*. 6(2), 303-305.

Frimpong, N. A. K., & Vaccari, C. (2015). The internet trends and experience: The case of Ghana. *Managing Intellectual Capital and Innovation for*

Sustainable and Inclusive Society, 397-405.

Gamayuni, R. R., & Hendrawaty, E. (2020). E-Planning, E-Budgeting and the Quality of Government Institution Performance Accountability System in Indonesia. *Talent Development & Excellence*, *12*(1s), 218–225.

Ghana EGIF. (2014). Ghana e-Government Interoperability Framework. *Ghana E-Government Interoperability Framework*. Ghana.

Ghana Stastistical Service. (2021). Ghana 2021 Population and Housing Census. *Ghana Statistical Service*, *59*, 128.

Zaied, A. N. H., Hanafy Ali, A., & El-Ghareeb, H. A. (2017). E-government Adoption in Egypt: Analysis, Challenges and Prospects. *International Journal of Engineering Trends and Technology*, *52*(2), 70–79. https://doi.org/10.14445/22315381/ijett-v52p212

Ingrams, A., & Schachter, H. L. (2019). E-participation Opportunities and the Ambiguous Role of Corruption: A Model of Municipal Responsiveness to Sociopolitical Factors. *Public Administration Review*, *79*(4), 601–611. https://doi.org/10.1111/puar.13049

Kagoya, S. M., & Mbamba, U. O. (2020). The influence of user participation attributes on e-government implementation success in developing countries: a study of Uganda. *University of Dar Es Salaam Library Journal*, *15*(2), 3–20.

Kanwischer, D., & Quennet, F. (2012). Distance Education and Spatial Citizenship in Africa: Challenges and Prospects. *Spring Review of International Geographical Education Online*, *2*(1), 95–117.

Kasena-Nankana Municipal Assembly. Municipal Medium Term Development Plan (MTDP, 2022-2025). Navrongo.

Klosterman, R. E. (2012). E-Planning. *International Journal of E-Planning Research*, *1*(1), 1–4. https://doi.org/10.4018/ijepr.2012010101

Kodua, L. T. (2020). Exploring Low E-Participation in Policy Making in Ghana: A Case Study of Kumasi Metropolitan Assembly. *Research on Humanities and Social Sciences, 10*(2), 1–10. https://doi.org/10.7176/rhss/10-2-01

Kubicek, H., & Aichholzer, G. (2016). Closing the evaluation gap in e-participation research and practice. In *Public Administration and Information Technology* (Vol. 19, Issue January). https://doi.org/10.1007/978-3-319-25403-6_2

Kyere, F., & Gyamea Kumah, N. Y. (2017). The Imperative of E - Participation in Sustainable Community Development in Ghana. *Journal of Public Administration and Governance*, *7*(4), 211. https://doi.org/10.5296/jpag.v7i4.12197

Leavy, P. (2022). *Research design: Quantitative, qualitative, mixed methods, arts-based, and community-based participatory research approaches*. Guilford Publications.

Liu, C. H., Chen, Y. T., Kittikowit, S., Hongsuchon, T., & Chen, Y. J. (2022). Using unified theory of acceptance and use of technology to evaluate the impact of a Mobile payment app on the shopping intention and usage behavior of middle-aged customers. *Frontiers in Psychology*, *13*, 830842. https://doi.org/10.3389/fpsyg.2022.830842

Magro, M. J. (2012). A review of social media use in e-government. *Administrative Sciences*, *2*(2), 148-161. https://doi.org/10.3390/admsci2020148

Mahlangu, G., & Ruhode, E. (2021). *Factors Enhancing E-Government Service Gaps in a Developing Country Context*. 422–440. http://arxiv.org/abs/2108.09803

Majeed, B., Niazi, H. A. K., & Sabahat, N. (2019). E-government in developed and developing countries: A systematic literature review. *Proceedings - 2019 International Conference on Computing, Electronics and Communications Engineering, ICCECE 2019*, 112–117. https://doi.org/10.1109/iCCECE46942.2019.8941963

Manda, M. I., & Backhouse, J. (2016). Towards a "smart society" through a connected and smart citizenry in South Africa: A review of the national broadband strategy and policy. *Lecture Notes in Computer Science (Including Subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, *9820 LNCS*, 228–240. https://doi.org/10.1007/978-3-319-44421-5_18.

Marikyan, D. & Papagiannidis, S. (2023) Unified Theory of Acceptance and Use of Technology: A review. In S. Papagiannidis (Ed), TheoryHub Book. http://open.ncl.ac.uk / ISBN: 9781739604400

Momani, A. M. (2020). *The Unified Theory of Acceptance and Use of Technology : June*. https://doi.org/10.4018/IJSKD.2020070105

Musiał-Karg, M., & Kapsa, I. (2019). Citizen e-Participation as an Important Factor for Sustainable Development. *European Journal of Sustainable Development*, *8*(3), 210. https://doi.org/10.14207/ejsd.2019.v8n3p210

National Communications Authority, & Ghana Statistical Service. (2020). Household Survey on ICT in Ghana. *National Communications Authority and Ghana Statistical Service*, *July*, 1–23. https://statsghana.gov.gh/gssmain/fileUpload/pressrelease/Household Survey on ICT in Ghana (Abridged) new (1).pdf

Ministry of Local Government and Rural Development. Draft Decentralization

Policy Framework (2010). Accelerating Decentralization and Local Governance for National Development.

Ndiege, J. R. A. (2020). Promoting e-participation in County Governments: A case of a county government in a developing country. *2020 7th International Conference on EDemocracy and EGovernment, ICEDEG 2020*, 275–278. https://doi.org/10.1109/ICEDEG48599.2020.9096756

NDPC. (2016). *National Development Planning (System) Regulations (NDPC), 2016 (L.I. 2232)*.

Nielsen, M. M. (2016). E-governance and stage models: analysis of identified models and selected Eurasian experiences in digitising citizen service delivery. *Electronic Government, an International Journal*, *12*(2), 107. https://doi.org/10.1504/EG.2016.076132

Nilsson, M., & Barbutiu, S. M. (2019). E-participation for increased citizen engagement? A case from Uganda. *EJournal of EDemocracy and Open Government*, *11*(1), 14–36. https://doi.org/10.29379/jedem.v11i1.542

Nkomo, N., & Moyane, S. P. (2021). Implementation of Grassroots E-Government Services in South Africa: A Literature Analysis. *African Journal of Library Archives and Information Science*, *31*(2), 203–214.

Nugraha, N., Nugraha, D., Hamdani, D., Nursyamsu, R., & Rahajaan, J. D. (2021). Design and development of information technology-based e-participatory application in participative development planning. *Journal of Physics: Conference Series*, *1933*(1). https://doi.org/10.1088/1742-6596/1933/1/012010

Obeng, F. K., Gumah, S., & Mintah, S. (2019). Farmers' perceptions of information and communication technology (ICT) use in extension service

delivery in Northern Region, Ghana. *Ghana Journal of Science, Technology and Development*, *6*(1), 21-29.

Ochara, N. M., & Mawela, T. (2015). Enabling Social Sustainability of E-Participation through Mobile Technology. *Information Technology for Development*, *21*(2), 205–228. https://doi.org/10.1080/02681102.2013.833888

Onyimbi, J. R., Koeva, M., & Flacke, J. (2018). Public participation using 3D web-based city models: Opportunities for e-participation in Kisumu, Kenya. *ISPRS International Journal of Geo-Information*, *7*(12), 1–20. https://doi.org/10.3390/ijgi7120454

Paulus, P. B., & Baruah, J. (2018). Enhancing creativity in E-Planning: recommendations from a collaborative creativity perspective. In *New approaches, methods, and tools in urban E-Planning* (pp. 192-222). IGI Global. https://doi.org/10.4018/978-1-5225-5999-3.ch007

Ponelis, S. R., & Holmner, M. A. (2015). ICT in Africa: Building a better life for all. *Information Technology for Development*, *21*(2), 163-177. https://doi.org/10.1080/02681102.2015.1010307

Republic of Ghana (2016) Accra, National Development Planning (Systems) Regulations, (L.I. 2232), Ghana Publishing Corporation.

Republic of Ghana. (2016). Local Governance Act, 2016 (Act 936).

Sabani, A., Deng, H., & Thai, V. (2018, December). A conceptual framework for the adoption of e-government in Indonesia. In *Proceedings of the Proceedings of the 29th Australasian Conference on Information Systems (ACIS)*. https://www.researchgate.net/publication/329089465

Saguar Urquiola, M. (2021). Participatory Communication Development: E-

participation in Sub-Saharan Africa Media as a driver for change.

Santini, R. M., & Carvalho, H. (2019). The rise of participatory despotism: a systematic review of online platforms for political engagement. *Journal of Information, Communication and Ethics in Society*, *17*(4), 422-437. https://doi.org/10.1108/JICES-02-2019-0016.

Sari, A. M., Purwandari, B., Hidayanto, A. N., Dzulfikar, M. F., Mishbah, M., & Kumaralalita, L. (2019, April). Dimensions of E-Complaint Service Quality: A Systematic Literature Review. In *2019 5th International Conference on Computing Engineering and Design (ICCED)* (pp. 1-6). IEEE. https://doi.org/10.1109/ICCED46541.2019.9161136

Shanneb, A. (2021). *Libyan E-Government Research Landscape*. *11*(09), 28834–28840.

Ventimiglia, D. (2013). Government for the people. In *Lighting Design and Application: LD and A* (Vol. 43, Issue 8, pp. 39–42). Cambridge University Press. https://doi.org/10.1017/9781316599983.002

Putra,W. Z. D., & van der Knaap, W. G. M. (2020). Pasikola: A co-creation process in urban transportation innovation of Makassar City, Indonesia. *International Journal of E-Planning Research*, *9*(3), 24–46. https://doi.org/10.4018/IJEPR.2020070102

UN-Report (2010). Leveraging E-Government at a Time of Financial and Economic Crisis.

Watat, J. K., & Jonathan, G. M. (2021). Citizens' acceptance of E-democracy: When the theory of reasoned action meets the civic voluntarism model. *27th Annual Americas Conference on Information Systems, AMCIS 2021*, 0–5.

Weimann, P., Johnston, K., & Johnston, K. (2016). *Characterising e-Participation*

in sub-Saharan Africa : A thematic review of the literature.

Williamson, W., & McFarland, P. (2016). Planning reform as a catalyst to advance e-planning. In *Geospatial Research: Concepts, Methodologies, Tools, and Applications* (pp. 1918-1943). IGI Global.

APPENDICES

Appendix 1: Interview Guide for Municipal Development Planning Officers

Department of Planning

Faculty of Planning and Land Management

SD Dombo University of Business and Integrated Development Studies (SDD-UBIDS), Wa.

The Researcher is an MPhil. Strategic Planning and Management Student at the Department of Planning, SDD UBIDS, Wa, Ghana. He is researching the topic – ***"Integrating E-participation into Decentralized Planning in Northern Ghana".*** The purpose of this interview is to solicit your understanding of the current use and applicability of e-participation in decentralized planning and the factors or barriers to integrating e-participation into the planning process at the district level. Please, be assured that your participation in this study is voluntary, and you can withdraw from the study at any time. Furthermore, any information provided will be treated with the utmost confidentiality and used solely for academic purposes. For further enquiry you can reach me through anamoowilliam@yahoo.com and or +233 246983914 / +233 206448402.

Please tick this box to confirm your participation in this study ☐

Part A: Socio-Demographic Data

Position / Rank of Interviewee …….

Name of MMDA: …….

Region: ……..….

Date of Interview: …….

Gender: …… Age: ……

Current professional rank: …….

Years of Experience in planning practice ……..

Educational Attainment

First Degree ( ): Study Field …….

Masters ( ): Study Field ……

PhD ( ): Study Field ……..…….……

Other (Specify) ……

Part A: Knowledge and level of integration of e-participation in decentralized planning

1. What is your general opinion on the role of participation in planning/decision-making processes?……
2. Have you heard about e-participation? ……
3. What, in your view, does e-participation mean/entail? ……..…
4. Have you ever had previous experience using e-participation tools for planning, implementation, monitoring, and evaluation? Please explain how it was done……..
5. Is it possible to use e-participation to promote public participation in planning in Ghana and your Assembly in particular? Explain your answer……
6. Do you know of any current electronic platforms used at the district level to promote public participation in planning and decision-makin…….

   ……

7. Please specify which of the following e-electronic platforms your Assembly currently uses and what you use them for.

Electronic Platform	**Yes/No**	**If yes, what is it used for?**	**How does it help to stimulate public participation in planning**
Website			
WhatsApp			
Facebook			
Twitter			
YouTube			
Mobile Phones/Apps			
GIS Sofware/tools			
Zoom			
Google Meeting/ Web Conferencing Apps			
Emails			
E-survey			
E-voting			
Others (Specify)			

8. Which of the above does the Assembly frequently use in its planning process and why?……

9. Which of the above tools do you think has greater potential and impact for use?……

10. Which electronic platforms are you personally comfortable with and will recommend for your District (give reasons)……
11. Which electronic platforms are you personally not comfortable with and will not recommend for your District (give reasons) ……
12. How easy is it to use e-participation platforms in decentralized planning as against the traditional method of participation? ……

Part B. Potentials of e-participation

1. Will e-participation be feasible to apply in your Assembly? Explain your answer …….
2. How do the existing planning system and the policy/legal framework support the implementation of e-participation in decentralized planning in Ghana?……
3. Are there clear guidelines for designing, implementing, and evaluating e-participation initiatives in decentralized planning? ……
4. What opportunities exist for the implementation of e-participation in your Assembly? …….
5. What are the potentials and advantages of integrating e-participation into planning at the district level plannin…….
6. How can Government and its agencies take advantage of e-participation in its planning processes? ……..

Part C. Factors of e-participation

1. Please explain in detail how the following factors are affecting the adoption of e-participation tools in your District
   a. Enabling ICT Infrastructure & Policy Framework……..….
   b. Citizen trust/confidence in Government……
   c. Leadership and Political Support……..

d. Stakeholder Collaboration……
e. Cost of e-participation…….…….
f. Digital divide (ICT Skills of Planners)……..…..…….
g. Civic skills (technology knowledge of the public)……
h. Social Influence ……
i. Personal Interest/Effort ……
j. Security/Privacy ……..……
k. Gender (please specify)……..……

Part E: Challenges of E-participation

1. What challengeswill affect the successful integration of e-participation into district-level planning in Ghana?……
2. How can these barriers be minimized to take advantage of the technological development in your District? ……..

Appendix 2: Key Informant Interview Guide for REPOs

Department of Planning

Faculty of Planning and Land Management

SD Dombo University of Business and Integrated Development Studies (SDD-UBIDS), Wa.

The Researcher is an MPhil. Strategic Planning and Management Student at the Department of Planning, SDD UBIDS, Wa, Ghana. He is researching the topic – ***"Integrating E-participation into Decentralized Planning in Northern Ghana".*** The purpose of this interview is to solicit your understanding of the current use and applicability of e-participation in decentralized planning and the factors or barriers to integrating e-participation into the planning process at the district level. Please, be assured that your participation in this study is voluntary, and you can withdraw from the study at any time. Furthermore, any information provided will be treated with the utmost confidentiality and used solely for academic purposes. For further enquiry you can reach me through anamoowilliam@yahoo.com and or +233 246983914 / +233 206448402.

Please tick this box to confirm your participation in this study ☐

Position / Rank of Interviewee ……

Region: …….

Date of Interview: …….

Part A: Socio-Demographic Data

Gender: …… Age: …….

Current professional rank: …….

Years of Experience in planning practice …….

Educational Attainment

First Degree ( ): Study Field ……

Masters ( ): Study Field …….

PhD ( ): Study Field ……

Other (Specify) ……

Part B: Knowledge and level of integration of e-participation in decentralized planning

1. What is your general opinion on the role of participation in planning/decision-making processes at the MMDA level? …….
2. Have you heard about e-participation? ……
3. What, in your view, does e-participation mean / entail? ……
4. Have you ever had previous experience using e-participation tools for planning, implementation, monitoring, and evaluation? Please explain how it was done. …….
5. Is it possible to use e-participation to promote public participation in planning in Ghana and the Assemblies in particular? Explain your answer…….…….
6. What are your personal fears / concerns about implementing e-participation in planning at the District level? ……
7. What problems will e-participation create for decentralized planning at the district level?……..……
8. Do you know of any current electronic platforms used at the district level to promote public participation in planning and decision-making processes?

   ……..……

   ……

9. Which of the above does your MMDAs frequently use in engaging your MMDAs in its planning process and why? …….
10. Which of the above tools do you think has greater potential and impact for use?……
11. How easy is it to use e-participation platforms in decentralized planning as against the traditional method of participation? ……..……

Part C. Potentials of e-participation

1. Will e-participation be feasible to apply in your Assemblies? Please explain your answer……
2. How do the existing planning system and the policy/legal framework support the implementation of e-participation in decentralized planning in Ghana?……
3. Are there clear guidelines for designing, implementing and evaluating e-participation initiatives in district planning? ……...
4. What opportunities exist for the implementation of e-participation in the Assemblies? ……
5. What are the potentials and advantages of integrating e-participation into planning at the district level planning……
6. How can Government and its agencies take advantage of e-participation in its planning processes? ……..

Part D. Factors of e-participation

2. How will these factors affect the adoption e-participation tools in decentralized planning?
    a. Enabling ICT Infrastructure & Policy Framework……
    b. Citizen trust/confidence in Government……..……

c. Leadership and Political Support ……..…….
d. Stakeholder Collaboration……
e. Cost of e-participation…….
f. Digital divide (ICT Skills of Planners)…….……
g. Civic skills (technology knowledge of the public)……
h. Social Influence……
i. Personal Interest/Effort ……
j. Security/Privacy……..
k. Others (please specify)……

Part E: Challenges of Integration of E-participation into Decentralized Planning

1. What challenges will affect the successful integration of e-participation into district-level planning in Ghana? ……
   ……
2. How can these barriers be minimized to take advantage of the technological development in your Districts?……
   …….

Appendix 3: MMDAs in Northern Ghana

Region/Capital	Metropolitan	Municipal	District
Northern Region, Tamale	Tamale Metropolitan Assembly	1. Yendi Municipal 2. Sagnarigu Municipal 3. Savelugu Municipal 4. Gushiegu Municipal 5. Nanumba North Mun.	1. Kpandai 2. Karaga 3. Saboba 4. Nanumba South 5. Kunbungu 6. Nanton 7. Mion 8. Zabzugu 9. Tatale-Sanguli 10. Tolon
Upper East Region – Bolgatanga		1. Bolgatanga Municipal 2. Bawku Municipal 3. Kassena-Nankana Municipal 4. Builsa North Municipal	1. Bawku West 2. Bolgatanga East 3. Bongo 4. Talensi 5. Kassena-Nankana West 6. Garu 7. Pusiga 8. Tempane 9. Builsa South 10. Binduri 11. Nabdam
Upper West		1. Wa Municipal	1. Nandowli-

Region – Wa		2. Jirapa Municipal 3. Nandon Municipal 4. Sissala East Municipal 5. Lawra Municipal	Kaleo 2. Wa West 3. Wa East 4. Sissala West 5. Dafiama-Busie-Issah 6. Lambusie-Kani
Savanna Region - Damongo		1. West Gonja Municipal 2. East Gonja 3. Central Gonja	1. Sawla-Tuna-Kalba 2. Bole-Bamboi 3. North-East Gonja 4. North Gonja
North-East Region – Nalerigu		1. West Mamprusi 2. East Mamprusi	1. Mamprugu-Moagduri 2. Yunyoo-Nasuan 3. Bunkpurugu Nyankpanduri 4. Chereponi

Source: (GSS, 2021)