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Brief Philosophy of the Journal

This Journal aims to publish original research and provide a forum for critical conceptual and analytical debate which extend the bounds of knowledge in and about business and organisational functionality in Africa. This does not preclude consideration of papers from other parts of the world. This journal will typically have the following content: Editorial, Peer-reviewed papers and cases, practitioner view-point papers and book reviews.

Submissions

Papers should be submitted by email and online in accordance with the 'Notes to Contributors'.

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Editorial

Welcome to volume 29 issue 1 of the *African Journal of Management Research*. In this issue, we publish ten quality articles.

The articles cover a broad range of interesting topics - attracting, job satisfaction and retention of medical personnel; designing and implementing policies in respect of the Ghana Health Insurance Scheme; competency-based training implementation; financial inclusion and taxes; multilateral debt relief initiative (HIPC II); passenger satisfaction with road transportation service; adoption of computerized accounting systems; monetary and non-monetary issues in staff turnover;

and capacity development and performance of municipal assemblies in Ghana.

The papers are based on research conducted in Tanzania, Nigeria and Ghana. In addition, one article is an investigation that uses panel data from 15 sub-Saharan African countries.

Varied methodologies are adopted in these investigations to the benefit of the reader. All told, this edition too makes for interesting reading.

I wish you happy reading and please stay tuned for more interesting research findings in subsequent volumes and issues.

Editorial Policy and Information for Authors

Focus of the Journal

African Journal of Management Research seeks to publish works that test, advance and develop models, frameworks and concepts in the broad areas of management, organisation, finance, public sector management, marketing and decision systems. The Journal is international and multidisciplinary, which means that topics and themes appropriate for African Journal of Management Research will come from and cut across organisational/institutional sectors (public, private, non-for-profit) and address matters of theory, research and practice from a variety of management and organizational disciplines (finance, operations, human resource, organisational behaviour, marketing, services). The Journal's multidisciplinary character means it seeks to promote the interplay and nexus between organisational functionality, management practice and economic / national development. The Journal's aim is to facilitate greater understanding of organisational processes, managerial processes and functions and critical firm level challenges facing developing and emerging areas.

Papers will have strong theoretical foundations, solid and defensible methodological frameworks with clear empirical stance. In this regard, *African Journal of Management Research* is mainly empiricist. Our definition of 'empiricist' in this context is not to exclude the phenomenological. Rather those papers will have sound quantitative and/or qualitative data, rigorous design and demonstration of exploring and advancing knowledge of the world 'as-is'. The Journal will periodically accept prescriptive, theoretical and conceptual papers (the world-as-should-be) which in its view

present sufficiently ground-breaking discourse of theory, models and methodological paradigms, reviews of the literature or practice which lead to new understandings.

Structure of the Journal

The Journal is published in a 2-part Volume each year: January and June. It has the following typical structure:

- Topical Editorial: Written by the Editorial Board, the Editor or his nominee
- Articles/Invited papers
- Solicited and unsolicited papers that have come through the review process
- Practitioners' view point: Written by a practitioner or an academic, but with a clear practice slant
- Peer reviewed teaching case,
- Book Review

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Submission Guidelines

The Journal's circulation is worldwide. It pursues a policy of double-blind peer-review. Papers are likely to vary in length from 5000-7500 words. Papers outside this range may only be considered under special circumstances.

Papers are invited from the general academic, research and practitioner community in Africa and around the world; the journal will occasionally issue calls for papers along particular thematic lines or request peer commentaries on topical issues.

Notes to Contributors

Authors are to note that should the Editor deem it necessary, the Journal may call for data file/analyses and/or research instruments for separate or simultaneous review. It is a condition of acceptance for review, that the paper is not under consideration elsewhere and that the data are not being repeated from a previous work (except that clear and demonstrable alternate issues, concepts or extensions are being developed, in which case due reference and notification must be made to said previous work). The Journal has an internet Editor. The following are the key submission requirements:

- There must be an **Abstract** of up to **250 words**. Manuscripts must be prepared with MS Word and in **Times New Roman font size 12**. 1 inch margins must be maintained all round, fully justified and in double line spacing. The Abstract and References must be in single line spacing and font **size 10**.
- Title Page (title, author's name/s, institutional affiliation, full contact details - phone, fax, email and post) must be prepared separate from the body of the paper. Titles must be as concise as possible and not more than 15 words. Authors must avoid any reference to themselves no matter how tangential in the body of the text.
- Avoid the use of foot or end notes.
- Tables, Figures and Diagrams must be camera ready and sharp, set within the text; numbered, titled at the bottom without spacing from table, figure or diagram, all in font size 10. Voluminous descriptive data tables are not encouraged, except that they have direct bearing on the discourse and need to be referred to. Parsimony in use of tables and figures is preferred.
- All articles should include in the methodology, clear statement of

where and when data were collected. The use of student populations where the matter at hand does not relate to student issues is not encouraged.

- Formulae must be presented using appropriate font and symbols, and set to centre, font size 10.
- It is the responsibility of authors to secure the necessary copyright permissions if reproducing illustrations and diagrams or using extensive ditto quotes reaching to 100 words or more at anyone quote.
- *African Journal of Management Research* requires that authors note that copyright is vested in the Journal.
- It is generally preferred that authors should ensure they articulate the nature of their paper's contribution to theory, method, policy or practice.

Manuscripts must be prepared according to the following format:

- Title of the paper should be in **Title Case, Bold and centred**
- No paragraph numbering,
- Follow APA referencing style in the body of the text and in the reference listing.
- Examples of referencing in body of text:
 - ◆ In sentence: Aryeetey (2001);
 - ◆ End sentence: (Hinson, Domfeh and Ayee, 1999);
 - ◆ If a work has more than 2 authors, cite all in the first instance and use 'et al' subsequently;

Reference list should use the following style:

- Journal articles: Pupilampu, B. (2004). Meaning of Work, **Journal of Behaviour**, 2, 3, 111-120.
- Books: Pupilampu, B. (2004). **Meaning of Work**. Publisher, Place of Publication

Headings must follow the house style:

FIRST HEADING (Bold, UPPER CASE, 1 space from text, font size 12, centred); **Secondary Heading** (Bold, Title Case, not paced from text, font size 12, left justified); **Tertiary Heading** (Italicised, Title Case, not spaced from text, font size 12, left justified)

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Review Process

We detail below, the typical process for all papers received.

Upon receipt of any manuscript, the Editor will make an initial determination as to compliance with editorial policy and submission requirements. Papers found to be compliant will receive an entry number and the Editor will then write to the corresponding author acknowledging receipt and quoting an entry number. The Editorial Board will then send the paper to at least 2 reviewers. Authors whose papers are not found to be initially compliant may be asked to resubmit a revised version or informed of an outright rejection by email

such papers will not receive an entry number.

African Journal of Management Research maintains a 2–3-month turnaround time from submission to decision. The secretariat will keep authors informed by email, of the progress of their paper/s.

Reviewers are expected to apply the strictest codes of scientific professionalism to the process and are to turn papers round within 8-10 weeks and are not expected to use or quote from any manuscripts they review.

Authors will receive a notification of the Editor's decision with any necessary comments from reviewers. Where the manuscript is accepted subject to amendments suggested by reviewers, authors are to turn such revisions around within reasonable time of not more than 2 months. Authors are to pay particular attention to typographical errors, print errors, grammatical aberrations, completeness of references, etc. as such lapses tend to delay the review process.

Accepted papers will be published in order of receipt of final versions. **Final versions must be submitted in both MS Word and PDF format.** Authors whose papers are accepted will receive 1 complimentary copy of the journal issue in which their paper appears.

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Factors affecting job satisfaction and retention of Medical Laboratory Professionals in Ghana

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Abstract:

Job satisfaction and retention assessments have been widely used to assess employees' job contentment, affection, and motivation in institutions including the health sector. However, these evaluations are missing in Ghana, particularly among the medical laboratory fraternity. Thus, this study assessed the factors that influence job satisfaction and job retention among medical laboratory professionals in Ghana. An online self-administered questionnaire was used to collect data from the medical laboratory professionals from August 2022 to September 2022. Out of the 500 questionnaires administered by email and text message, 432 medical laboratory professionals successfully responded to the questionnaires. Descriptive, bivariate, and multivariate analyses were performed with Stata version 16.0. Statistical significance was considered at a P-value of less than 0.50. A total job dissatisfaction rate of 66.2% was recorded. This was made up of 18.5% very dissatisfied professionals and 47.7% dissatisfied professionals. Most respondents had an imbalanced work and personal life (52.8%). About 59.7% of the professionals had intentions of leaving their jobs. Lack of appreciation (42.8%), respect (36.4%), and recognition (18.5%), lack of safety at work (47.9%), bad relationships with managers (12.7%), poor annual appraisal (21.5%), poor salaries (89.8%), lack of professional autonomy (77.3%), lack of professional development opportunities (77.1%), and lack of staff accommodation (75.5%) resonated as factors of poor job satisfaction. Lack of appreciation (52.6%), poor working conditions (57.9%), and a lack of benefits (68.8%) contributed to their attrition tendencies. A broader stakeholder consultation is needed to improve job contentment and motivation among the medical laboratory fraternity in Ghana.

Key words: job satisfaction; job retention; quality of life; Medical Laboratory; Ghana

Introduction

The World Health Organisation's (WHO) global strategy on human resources for health seeks to optimize health staff performance and quality of work towards the achievement of the health and health-related Sustainable Development Goals by 2030 (WHO, 2016). However, healthcare workers worldwide continue to suffer poor personal well-being (PW), quality of life (QoL), and quality of work life (QoWL) (Awosoga et al., 2022; Kandula & Wake, 2021; Kumar et al., 2018; Woon et al., 2021). Although they face challenges in healthcare systems, they continue to provide quality and accessible healthcare to patients (Kumar et al., 2018). Above all, they ensure patients' satisfaction and prompt recovery of their ailments. The COVID-19 pandemic exacerbated the level of maintained QoL among the majority of health professionals (Afulani et al., 2021; Gupta et al., 2021; Kandula & Wake, 2021). Health professionals suffered from stress disorders, stigma, suicidal tendencies, burnout, financial difficulties, infections, and even death (Chang, 2022; Gupta et al., 2021; Konlan et al., 2022; Lin et al., 2022; WHO, 2021). However, most were either left unnoticed or overlooked (Beusekom, 2020; Dollemore, 2021). Healthcare workers in low- and middle-income countries (LMICs), particularly in sub-Saharan Africa (SSA), may be worse hit. Despite their high commitment and productivity, healthcare workers reported poor perceived personal and work-related well-being in studies and reports. For instance, a study in Southwest Nigeria demonstrated poor PW, QoL, and QoWL (54.7%, 56.1%, and 61.6%, respectively) among health professionals (Awosoga et al., 2022). Another study reveals that only 3% of global healthcare professionals work in Africa (van de Klundert et al., 2018). In Southwest Ethiopia, about 45.9% of

healthcare staff left the service in five (5) years for various reasons (Gesese et al., 2016). The WHO revealed a significant health workforce shortage, inequitable distribution of the healthcare workforce, poor workforce working conditions, and poor health workforce policies and planning in the WHO African region (WHO Africa, 2021). However, it may not be statistically prudent to generalize since some SSA countries may be better off than others (Blauw et al., 2013).

Diagnostic investigations are crucial to public health. They guide the disease diagnostic process, influence patient care, and provide valuable data for research and policy direction for effective and accessible intervention programs (Balogh et al., 2015). Ultimately, early detection of diseases provides linkage to care, reduces the cost of care, and improves the disease prognosis (Elsink et al., 2020; Lee et al., 2004). Medical laboratory professionals play a central role in the clinical diagnostic process. They perform timely and evidence-based differential diagnoses, monitor disease progression, and provide prognostic information to guide the patient recovery process (ASCLS, 2022; CSMLS, 2022; MCCMS, 2022). In addition, they play pivotal roles in disease surveillance, epidemic management, and control programs. Though they are often referred to as the "hidden everyday heroes" in healthcare systems (Campbell, 2011; Leal, 2022; Rohde & Noblit, 2016; Utzig, 2022), COVID-19 shined a spotlight on their expertise (Gohar & Nowrouzi-Kia, 2022; M. Uchejeso et al., 2021; Will, 2022). However, medical laboratories in Low and Middle-Income countries (LMICs), particularly in SSA, face challenges in human resources, supply chain management, staff motivation, capacity building, career development, and progression (Alrawahi et al., 2019;

Marinucci et al., 2013). Job satisfaction informs the level of contentment and pleasurable emotions employees or staffs of an organization have concerning their job (Ćulibrk et al., 2018). On the other hand, job retention creates concerns for employers as they inform the probability for employees to stay or quit their jobs (Bhattacharya & Ramachandran, 2015; Moore et al., 2021; Sija, 2022). Largely job retention is influenced by the level of satisfaction of the employee (Moore et al., 2021). As a metric, the rate at which employees leave their jobs determines the staff attrition rate of that organization (Tekle et al., 2022). Several job satisfaction and retention evaluations exist in Ghana for various professional groups, including nurses and midwives (Atitsogbui & Amponsah-Tawiah, 2019; Boafo, 2018; Boateng et al., 2022; Coudounaris et al., 2020; Poku et al., 2022), opticians (Akuffo, Asare, et al., 2021), and physicians (Opoku & Apenteng, 2014). These groups demonstrate varying levels of job satisfaction and attrition tendencies, which account for most of the perennial shortage of healthcare professionals in the country. Some factors affecting their perceived job satisfaction and job retention include inefficient and inequitable distribution of healthcare workers, which leads to overwork and staff burnout, poor salaries, a lack of career development policies, and an inconvenient working environment (Akuffo, Agyei-Manu, et al., 2021; Akuffo, Asare, et al., 2021; Asamani et al., 2021; Atitsogbui & Amponsah-Tawiah, 2019; Coudounaris et al., 2020; Odonkor & Frimpong, 2020; Opoku & Apenteng, 2014). However, there is no information on the evaluation of medical laboratory professionals' job satisfaction and retention in Ghana. In this survey, we established the levels of job satisfaction and attrition tendencies among medical laboratory

professionals. In addition, we assessed the factors affecting their job satisfaction and job retention.

Methodology

Study design and data collection procedures

This cross-sectional survey was conducted from August 2022 to September 2022. A 39-itemized online questionnaire was adapted from the validated Copenhagen Psychosocial Questionnaire third edition (COPSOQ III) (Burr et al., 2019; Llorens et al., 2019). The COPSOQ III questionnaire helps to assess staffs' psychosocial status and organizational development using metrics such as work demands; job content and workload management; job satisfaction, job retention tendencies, interpersonal relations; professional development and leadership; health and personal well-being, among others. The questionnaire was embedded in a Google Form and administered in English to the medical laboratory professionals. Over 500 questionnaires were administered to medical laboratory professionals by email and WhatsApp messages. Out of these, 432 medical laboratory professionals successfully responded to the questionnaire. This gave a response rate of 86.4%. The questionnaire included questions on socio-demographic information, work environment, job requirements, job satisfaction, and job attrition.

Sample size determination

Assuming a 50% job satisfaction rate among medical laboratory professionals and a 10% non-response rate, the minimum required sample size for the study was 428. This was estimated with the Cochrane sample size formula (Uakarn et al., 2021).

$$n \geq (z_{(\alpha/2)}^2 P(1-P)) / d^2$$

$n =$ Minimum sample size

$Z = Z \text{ score} = 1.96$

$P = \text{Pre-determined job satisfaction rate of } 50\%$

$d = \text{precision of estimate or marginal error} = 5\%$

$$n \geq \left(\frac{1.96^2 \times 0.5(1-0.5)}{0.05^2} \right)$$

$$n \geq 385$$

Assuming a 10% non-response rate

$$n \geq 385 / (1 - 0.1)$$

$$n \geq 428$$

Inclusion criteria

The study included:

1. All medical laboratory professionals in all levels of healthcare delivery facilities
2. All medical laboratory professionals in academia and research institutions
3. All medical laboratory professionals in both public and private institutions

Exclusion criteria

The study excluded:

1. Retired medical laboratory professionals
2. Interns

Measured variables

The outcome variable, job satisfaction, was measured with a single question: "How satisfied are you with your job as a medical laboratory professional?" Responses were collected on a 4-point Likert scale, thus: very dissatisfied, dissatisfied, satisfied, and very satisfied. However, detailed questions on job satisfaction were asked to better understand the reasons behind participants' perceived job satisfaction rates.

Job retention, as an outcome variable, was measured by asking a general question: "Do you have intentions of leaving your job?"

The expected responses were binary (yes or no). However, further questions were asked to better understand the reasons for possible job attrition. This was ascertained by asking questions on the possibility of leaving the job due to geographic relocation, excessive workload, lack of appreciation or recognition, poor working conditions, and lack of benefits.

Predictor variables included socio-demographic information such as age, sex, professional grade, marital status, number of children, region of the workplace, location of the workplace, practice setting, and level of the facility.

Data Analysis

The data was cleaned to remove duplicate and incomplete responses. For analysis, data was exported to Stata statistical software version 16.0 (StataCorp, 2019, p. 16). Descriptive analysis was performed to demonstrate the general distribution of the data, including frequencies, means, and standard deviations. Bivariate analysis using a two-sample t-test with equal variances and a one-way analysis of variance (ANOVA) compared the means of independent variables, thus indicating the manpower and the mean salaries of the different cadres of medical laboratory professionals across the various levels of facilities. Multivariate analysis using adjusted and unadjusted multinomial logistic regression models was performed to predict the factors that influence job satisfaction and high job attrition rates among medical laboratory professionals. Statistical significance was considered at a P-value of less than 0.50. All statistical results were presented in tables.

Findings

Descriptive statistics on socio-demographic information

As displayed in Table 1, majority of the

respondents were between the ages of 30 and 45. This represented 54.6% of the study participants. Males formed the majority of respondents (80.6%). About 62.7% of the study respondents practiced with a Bachelor of Science degree, whereas

78.0% practiced with the professional grade of Medical Laboratory Scientist. This represented the majority of the study's respondents. The majority of the practitioners were single (50.9%). About 55.8% had no children.

Table 1. Descriptive statistics on socio-demographic information

Variable	Frequency (%) N= 432
Age (years)	
<30	184(42.6)
30-45	236(54.6)
46-60	12(2.8)
Sex	
Male	348(80.6)
Female	84(19.4)
Highest education level	
Certificate	22(5.1)
Diploma	55(12.7)
Bachelor of Science	271(62.7)
Doctor of Medical Laboratory Science	23(5.3)
Masters	59(13.7)
Ph.D.	2(0.5)
Current professional grade	
Medical Laboratory Assistant	27(6.3)
Medical Laboratory Technician	64(14.8)
Medical Laboratory Scientist	337(78.0)
*Other	4(0.9)
Marital status	
Single	220(50.9)
Married	207(47.9)
Divorced	4(1.0)
Widowed	1(0.2)
Number of children	
0	241(55.8)
1	57(13.2)
>1	134(31.0)

*Other: Medical laboratory professionals in academia and research institution

Descriptive statistics according to the work environment

Table 2 displays the descriptive statistics

according to the work environment of the respondents. Most of the study respondents came from the southern

regions of Ghana (63.3%). For this study, these regions included the Western, Western North, Central, Greater Accra, Volta, and Eastern regions of Ghana. However, 26.9% had their facility of practice located in rural communities. Only 16.7% of the respondents received accommodations from their employers. The Government of Ghana was the biggest

employer among the respondents (54.6%), followed by the Christian Health Association of Ghana (CHAG). They contributed 19.9% of their employment. District hospitals produced the highest number of respondents (42.6%). About 65.9% of the respondents practiced in an all-in-one laboratory with clinical and diagnostic services as the main routine task.

Table 2. Descriptive statistics according to the work environment

Variable	Frequency (%), N= 432
Region of workplace	
Northern Ghana	44(10.2)
Central Ghana	123(28.5)
Southern Ghana	265(61.3)
Location of workplace	
Rural	116(26.9)
Urban	316(73.1)
Accommodated in Employer's bungalow	
Yes	72(16.7)
No	360(83.3)
Practice setting	
Academic	7(1.6)
CHAG	86(19.9)
Government	236(54.6)
NGO	2(0.5)
Private	85(19.7)
Quasi-Government	16(3.7)
Level of facility	
District hospital	184(42.6)
Health Centre	89(20.6)
Polyclinic	6(1.4)
Regional hospital	41(9.5)
Teaching hospital	67(15.5)
Psychiatric hospital	2(0.5)
Not applicable	43(9.9)
Current department	
All-in-one laboratory	285(65.9)
Biochemistry	26(6.0)
Blood bank	16(3.7)
Hematology	39(9.0)
Immunology	5(1.2)
Microbiology	39(9.0)

Molecular	3(0.7)
Pathology	2(0.5)
Management and supervision	4(0.9)
Supporting Staff	7(1.6)
Not applicable	6(1.4)
Routine task areas*	
Academia	28(6.5)
Logistics/ supplies	35(8.1)
Research	21(4.9)
Clinical/ diagnostics	403(93.3)
Management	7(1.6)

*Multiple responses; individual within group percentages

Descriptive statistics according to the job requirement

Table 3 shows the descriptive statistics according to the job requirement. The majority of the practitioners had 1 to 3 years of work experience (35.4%). About 33.1% work more than the required 40 hours a week. Most facilities run a shift staff system (71.8%) with a staff strength of more than 3 in the morning (36.1%), 2 to 3

in the afternoon shift (37.0%), and 1 at night (44.2%). About 72.9% admitted they receive 1 to 2 rest days a week. Most of the respondents had permanent job appointments (80.3%). However, the current job was the first job appointment for a majority of the respondents (60.9%). Approximately 38.2% had been unemployed for more than 12 months after finishing school and completing the 12-month mandatory internship.

Table 3. Descriptive statistics according to the job requirement

Variable	Frequency (%), N= 432
Work experience (years)	
<1	47(10.9)
1-3	153(35.4)
4-9	112(25.9)
>9	120(27.8)
Working hours per week	
≤40 hours	289(66.9)
>40 hours	143(33.1)
Shift system	
Yes	310(71.8)
No	122(28.2)
Staff strength per morning shift	
1	31(7.2)
2-3	133(30.8)
>3	156(36.1)
Do not run shift	122(25.9)

Staff strength per afternoon shift	
1	130(30.1)
2-3	160(37.0)
>3	22(5.1)
Do not run shift	120(27.8)
Staff strength per night shift	
1	191(44.2)
2-3	32(7.4)
>3	3(0.7)
Do not run shift	206(47.7)
Number of off duties per week	
1-2 days	315(72.9)
3-4 days	22(5.1)
>4 days	14(3.2)
None	81(18.8)
Type of work appointment	
Permanent	347(80.3)
Casual	36(8.3)
Locum/Contract	25(5.8)
Intern	8(1.9)
NABCO	10(2.3)
Voluntary	6(1.4)
First job appointment	
Yes	263(60.9)
No	169(39.1)
Duration of unemployed status before first job appointment	
Less than 3 months	127(29.4)
3-6 months	79(18.3)
7-12 months	61(14.1)
>12 months	165(38.2)

Descriptive statistics according to job satisfaction

When asked the general perceived job satisfaction question, a total job dissatisfaction rate of 66.2% was established (Table 4). These were made up of 18.5% of very dissatisfied professionals and 47.7% of dissatisfied professionals. Most respondents had an imbalanced work and personal life (52.8%). About 72.9% of the respondents were assured of job security. The majority admitted to choosing

the profession out of passion and an interest in saving lives. Some practitioners had taken up side jobs (14.4%). About 48.6% were willing to change their profession, whereas 72.9% were not satisfied with their current facility and were willing to change facilities. Some respondents were not satisfied with their professions and jobs because they are not recognized (18.5%), not appreciated (42.8%), and not respected (36.4%). About 47.9% admitted they were not safe at their

workplace, 12.7% had a bad relationship with their managers, and 21.5% were not satisfied with their annual appraisal from their managers. The majority were not satisfied with their salaries (89.8%), the

autonomy of their profession (77.3%), the professional development opportunities (77.1%), or their current means of accommodation (75.5%).

Table 4. Descriptive statistics according to job satisfaction

Variable	Frequency (%), N= 432
General job satisfaction perception	
Very dissatisfied	80 (18.5)
Dissatisfied	206(47.7)
Satisfied	122(28.2)
Very Satisfied	24(5.6)
Good work-life balance	
Yes	204(47.2)
No	228(52.8)
Job security	
Yes	315(72.9)
No	77(17.8)
Maybe	40(9.3)
Reason for choosing medical laboratory science*	
Influence of friends and family	42(9.7)
Passion/ interest	313(72.5)
No other choice	26(6.0)
Readily available job	34(7.9)
To earn a good income	23(5.3)
Side jobs	
Yes	62(14.4)
No	370(85.6)
Willingness to change profession	
Yes	210(48.6)
No	222(51.4)
Willingness to change facility	
Yes	315(72.9)
No	117(27.1)
Profession recognition	
Yes	167(38.7)
No	80(18.5)
Sometimes	185(42.8)
Profession appreciation	

Yes	90(20.8)
No	185(42.8)
Sometimes	157(36.3)
Respect for the Profession	
Yes	93(21.5)
No	157(36.4)
Sometimes	182(42.1)
Workplace safety	
Yes	225(52.1)
No	207(47.9)
Good working relationship with managers	
Yes	377(87.3)
No	55(12.7)
Satisfaction with an annual appraisal from managers	
Yes	210(48.6)
No	93(21.5)
Not applicable	129(29.9)
Satisfaction with salary	
Yes	44(10.2)
No	388(89.8)
Satisfaction with the autonomy of the profession	
Yes	98(22.7)
No	334(77.3)
Satisfaction with professional development opportunities at the facilities	
Yes	99(22.9)
No	333(77.1)
Satisfaction with current means of accommodation	
Yes	106(24.5)
No	326(75.5)

*Multiple responses; individual within group percentages

Descriptive statistics according to job attrition

In general, 59.7% of the professionals have intentions of leaving their jobs (Table 5). Lack of appreciation (52.6%), poor working conditions (57.9%), and a lack of

benefits (68.8%) contributed to the attrition tendencies among the respondents according to their previous work experiences.

Table 5. Descriptive statistics according to job attrition

Variable	Frequency (%) N=432
Attrition possibility in general	
Yes	258(59.7)
No	174(40.3)
Relocation	
Yes	148(34.3)
No	284(65.7)
Excessive workload	
Yes	126(29.2)
No	306(70.8)
Lack of appreciation/ recognition	
Yes	227(52.6)
No	205(47.4)
Poor working condition	
Yes	250(57.9)
No	182(42.1)
Lack of benefits	
Yes	297(68.8)
No	135(31.2)

Table 6 gives the staff strengths at the respective facility levels. There was a statistically significant difference (P-value = 0.012) in the mean staff strength among the various laboratory staff cadres at the health

centers, namely medical laboratory assistants (1.2 ± 0.80), medical laboratory technicians (2.3 ± 3.62) and medical laboratory scientists (3.5 ± 2.69).

Staff strength at the respective facility-levels

Table 6. Staff strength at the respective facility-levels

Variable	Mean No. of staff \pmSD	P-value
District Hospital		0.836
Medical Laboratory Assistant	7.1 ± 4.53	
Medical Laboratory Technician	8.6 ± 4.52	
Medical Laboratory Scientist	8.0 ± 5.65	
Health Center		0.012
Medical Laboratory Assistant	1.2 ± 0.80	
Medical Laboratory Technician	2.3 ± 3.62	
Medical Laboratory Scientist	3.5 ± 2.69	

Polyclinic		0.417
Medical Laboratory Assistant		
Medical Laboratory Technician	1.7±2.08	
Medical Laboratory Scientist	3.7±3.21	
Regional Hospital		0.493
Medical Laboratory Technician	6.3±4.71	
Medical Laboratory Scientist	8.0±7.46	
Teaching Hospital		0.998
Medical Laboratory Technician	10.7±7.01	
Medical Laboratory Scientist	10.7±11.79	

Mean salary allocation for Medical Laboratory Professionals

Also, we recorded a statistically significant difference in the salary structure (in Ghana cedis) of the laboratory ranks in CHAG facilities [medical laboratory assistants (1250.0±70.71), medical laboratory technicians (1829.8±459.73), medical laboratory scientists (2395.7±882.09), P-value = 0.012]; government facilities

[medical laboratory assistants (1120.0±437.09), medical laboratory technicians (1815.4±703.15), medical laboratory scientists (2377.9±935.21), P-value<0.001]; and private facilities [medical laboratory assistants (532.0±297.43), medical laboratory technicians (750.0±70.71), medical laboratory scientists (1404.3±950.14), P-value<0.001] (**Error! Reference source not found.**).

Table 7. Mean salary allocation for Medical Laboratory Professionals

Variable	Mean salary (GHS) ±SD	P-value
CHAG		0.012
Medical Laboratory Assistant	1250.0±70.71	
Medical Laboratory Technician	1829.8±459.73	
Medical Laboratory Scientist	2395.7±882.09	
Government		<0.001
Medical Laboratory Assistant	1120.0±437.09	
Medical Laboratory Technician	1815.4±703.15	
Medical Laboratory Scientist	2377.9±935.21	
Private		<0.001
Medical Laboratory Assistant	532.0±297.43	
Medical Laboratory Technician	750.0±70.71	
Medical Laboratory Scientist	1404.3±950.14	
Quasi-Government		0.611
Medical Laboratory Assistant	1200.0±0.00	
Medical Laboratory Technician	2200.0±0.00	
Medical Laboratory Scientist	3348.5±2264.16	

We predicted the factors that influence job satisfaction among medical laboratory professionals (Table 8). The older respondents, between 46 and 60 years old, were approximately six times more likely to be satisfied with their jobs than the younger respondents, less than 30 years old [OR, 95%CI 5.93 (1.06–33.21), P value = 0.043]. Factors such as marriage, children, and rural settlement accounted for poor job satisfaction among the respondents. However, these were not statistically significant [AOR, 95% CI: 0.26 (0.02-3.82),

Predictors of Job satisfaction

P-value = 0.328], [1.28 (0.06-27.68), P-value = 0.874], and [0.78 (0.17-3.65), P-value = 0.751], respectively. Married respondents were 55% less likely to be satisfied with their jobs compared to those who were single; those with more than one child were 23% less likely to be satisfied; and rural dwellers were 15% less likely to be satisfied with their jobs. Government workers were 96% less likely to be satisfied with their jobs. This was statistically significant at a P-value less than 0.05 [AOR, 95%CI: 0.04 (0.01-0.89), P-value = 0.042].

Table 8. Predictors of Job satisfaction

Variable	Unadjusted model		Adjusted model*	
	OR (95%CI)	p-value	AOR (95%CI)	P-value
Age (years)				
<30	1		1	
30-45	0.25(0.05-1.27)	0.095	0.43(0.06-3.16)	0.406
46-60	5.93(1.06-33.21)	0.043	11.85(0.58-241.03)	0.108
Sex				
Male	1		1	
Female	2.85(0.79-10.34)	0.111	3.31(0.78-14.11)	0.105
Professional grade				
Medical Laboratory Assistant	1		1	
Medical Laboratory Technician	0.84(0.07-9.66)	0.888	1.18(0.09-15.50)	0.901
Medical Laboratory Scientist	0.47(0.05-4.06)	0.494	0.43(0.04-4.19)	0.465
Marital status				
Single	1		1	
Married	0.45(0.11-1.75)	0.249	0.26(0.02-3.82)	0.328
Number of children				
0	1		1	
>1	0.77(0.19-3.01)	0.742	1.28(0.06-27.68)	0.874
Region of workplace				
Northern Ghana	1		1	
Central Ghana	1.04(0.09-11.82)	0.975	2.84(0.14-57.73)	0.496

Location of workplace				
Urban	1		1	
Rural	0.85(0.22-3.36)	0.820	0.78(0.17-3.65)	0.751
Practice setting				
Academic	1		1	
CHAG	0.54(0.05-5.57)	0.606	0.68(0.04-10.21)	0.778
Government	0.06(0.01-1.07)	0.056	0.04(0.01-0.89)	0.042
Private	0.94(0.10-8.60)	0.954	-	
Level of facility				
District hospital	1		1	
Health Centre	3.59(0.84-15.38)	0.085	4.33(0.69-26.85)	0.115
Regional hospital	1.51(0.15-14.88)	0.725	-	

*model adjusted for Age, Sex, professional grade, marital status, and number of children

Predictors of Job attrition due to poor working conditions and lack of benefits

Likewise, Table 9 illustrates the predictors of job attrition due to poor working conditions and a lack of benefits. Due to

poor working conditions and a lack of benefits, medical laboratory technicians, medical laboratory scientists, CHAG and government facilities, and polyclinics all contributed to high attrition. However, these findings were not statistically significant at a P-value less than 0.05.

Table 9. Predictors of Job attrition due to poor working conditions and lack of benefits

Variable	Unadjusted model		Adjusted model*	
	OR (95%CI)	p-value	AOR (95%CI)	P-value
Age (years)				
<30	1		1	
30-45	0.83(0.56-1.23)	0.361	0.88(0.54-1.46)	0.633
46-60	0.70(0.22-2.27)	0.556	0.87(0.24-3.16)	0.828
Sex				
Male	1		1	
Female	0.66(0.41-1.06)	0.085	0.65(0.39-1.06)	0.085
Professional grade				
Medical Laboratory Assistant	1		1	
Medical Laboratory Technician	2.37(0.94-6.02)	0.069	2.08(0.79-5.43)	0.133
Medical Laboratory Scientist	1.08(0.49-2.36)	0.852	0.91(0.41-2.03)	0.818
Marital status				
Single	1		1	
Married	0.74(0.51-1.09)	0.126	0.81(0.42-1.56)	0.526
Divorced	0.68(0.09-4.91)	0.702	0.66(0.08-5.53)	0.704
Number of children				
0	1		1	
1	0.62(0.35-1.10)	0.102	0.75(0.35-1.59)	0.458
>1	0.79(0.52-1.22)	0.293	0.94(0.46-1.91)	0.866

Region of workplace				
Northern Ghana	1		1	
Central Ghana	2.00(0.58-6.92)	0.274	2.59(0.67-10.08)	0.169
Southern Ghana	0.93(0.29-2.89)	0.898	1.04(0.30-3.54)	0.954
Location of workplace				
Urban	1		1	
Rural	0.82(0.54-1.27)	0.380	0.94(0.59-1.49)	0.806
Practice setting				
Academic	1		1	
CHAG	4.44(0.81-24.23)	0.086	3.47(0.62-19.46)	0.158
Government	3.17(0.60-16.69)	0.173	2.56(0.47-13.84)	0.275
NGO	2.50(0.09-62.60)	0.577	1.95(0.08-50.42)	0.686
Private	2.95(0.54-16.05)	0.211	2.13(0.38-11.94)	0.391
Quasi-Government	1.50(0.22-10.30)	0.680	1.28(0.18-9.04)	0.808
Level of facility				
District hospital	1		1	
Health Centre	0.74(0.44-1.22)	0.237	0.62(0.36-1.07)	0.087
Polyclinic	1.44(0.26-8.06)	0.679	1.39(0.24-8.16)	0.712
Regional hospital	1.12(0.56-2.25)	0.740	1.21(0.59-2.44)	0.597
Teaching hospital	1.00(0.57-1.77)	0.994	1.02(0.57-1.83)	0.942
Psychiatric hospital	0.72(0.04-11.68)	0.817	0.85(0.05-13.92)	0.909

*Model adjusted for Age, Sex, professional grade, marital status, and number of children

Discussion

Job satisfaction has been expressed in diverse concepts in academia and corporate settings as a determinant of job efficiency and productivity (Ali, 2016; Zhu, 2012). An employee's job satisfaction level is evaluated in an organization to assess job contentment, affection, and motivational drive (Akuffo, Agyei-Manu, et al., 2021). The current cross-sectional study, therefore, highlights the factors affecting the job satisfaction and retention of medical laboratory professionals in Ghana. The majority of the medical laboratory professionals in this study demonstrated poor job satisfaction. An estimated 66.2% of the professionals were dissatisfied with their jobs. This estimated rate of job dissatisfaction may be novel and does not resonate with known similar studies among medical laboratory professionals globally. However, it agrees with several similar studies among nurses in Ghana (42–70%)

(Ayalew et al., 2019; Senek et al., 2020) and health workers in general (47–60%) (Abate & Mekonnen, 2021; Afulani et al., 2021; Deriba et al., 2017). Also, several factors influence the varying levels of job dissatisfaction. In a multinational health facility-based study in SSA, laboratorians in Ethiopia, Kenya, Nigeria, Rwanda, Tanzania, Uganda, and Zambia strongly declared a lack of professional development and a lack of a clear career path as disincentives to their job satisfaction (Marinucci et al., 2013). A qualitative study revealed the common factors that influenced poor job satisfaction among medical laboratory staff in Oman (Alrawahi et al., 2019). These include a large workload, poor promotion, and career progression policies and appraisals, sub-standard health and safety in the laboratory, poor leadership-staff relationships, and a lack of professional recognition and

appreciation. The main factors that influenced their job dissatisfaction in the current study were marriage life, large family size, rural settlement, and working in public or government-owned health facilities. In an SSA setting such as Ghana, large family size is a notable African value, hence putting stress on the little resources of the professionals (Onuoha, 2015). This resonates with the findings that medical laboratory professionals in government facilities earn less than their colleagues in quasi-government facilities (Table 7). In addition, age was a significant predictor of job dissatisfaction. This may be largely influenced by the incentives and privileges that accompany leadership roles assigned to older professionals. Younger professionals may be especially dissatisfied with their jobs as a result of this.

On the other hand, similar studies in the United States of America (USA) demonstrated high job satisfaction among the clinical laboratory professionals included in the study (81.6%) (Doig & Beck, 2004) and 62.7% (Garcia et al., 2020). These were significantly influenced by good salaries and job independence, and they felt appreciated for their commitment and contribution to healthcare, unlike the lack of professional recognition, lack of appreciation, and lack of respect demonstrated by the current study. However, these studies appreciated the not-so-best work-life balance, job stress, and burnout at the workplace. This marked discordance with the current study in an SSA setting may be attributed to the wide difference in socio-economic conditions. According to the World Bank, Ghana is a low-middle income country (The World Bank, 2022). Hence, there is a high tendency toward disproportionate and unmatched remunerations and incentives for medical laboratory professionals between the two economies. Though a

study in Nepal recorded high job satisfaction among medical laboratory professionals (67.4%), the COVID-19 pandemic further reduced their affection for the job (43.19%) (Basnet et al., 2022). This was significantly influenced by poor infrastructure, no continuous professional development, a poor supply chain system for laboratory consumables, and a high workload.

The current study established high attrition tendencies among medical laboratory professionals (59.7%). These were common among the Medical Laboratory Technician and Medical Laboratory Scientist cadres, as well as professionals who work in CHAG and government facilities. Poor remuneration played a major role in this decision since it was evident in the current study that CHAG and government-owned health facilities paid less than quasi-government institutions. This agrees with a similar study among laboratory professionals in seven (7) SSA countries that reported a more likely change of jobs by laboratory staff in the private sector compared with their counterparts in the public sector due to poor remuneration (Marinucci et al., 2013). Moreover, there are agitations over the comparably inequitable distribution of rewards, remunerations, motivation, or welfare packages among the various professions in the healthcare setting, especially among facility administrators and managers, laboratory professionals, nurses, and physicians (Doig & Beck, 2004). This confirms the varying factors that influenced the high attrition decisions in the current study, thus the lack of appreciation, poor working conditions, and lack of benefits.

This study employed a clear study design and reproductive methodologies in achieving its objectives. In addition, to the best of our knowledge, this is the first of such evaluations among the medical

laboratory professional fraternity in Ghana. This serves as a novel guide and blueprint for the Human Resource Department of the Ministry of Health and its agencies, including the health facilities and the Finance Ministry of Ghana, in their recruitment processes and budgetary allocations, respectively. However, the use of a self-administered online questionnaire may have inconvenienced most professionals, who may have agreed to respond to the survey due to internet challenges at their locations. Also, the cross-sectional study design restricts the establishment of a cause-effect relationship among job satisfaction, job retention, and all associated factors. This study did not intend to generalize, though the minimum required sample size was used. Future studies using mixed methods (quantitative and qualitative) should be explored to demonstrate the weighted lived experiences of medical laboratory professionals in routine practice and to assess their mental health and burnout tendencies.

Conclusion

In this study, we discovered that medical laboratory professionals have low job satisfaction, unbalanced work and personal lives, and high job attrition rates. These were largely influenced by the fear of job insecurity, lack of professional recognition, appreciation, and respect, lack of professional autonomy, lack of clear career progression, lack of professional development opportunities and policies, poor and unsafe working environments, poor management-staff relationships, and unsatisfactory appraisal. Above all, no condition of service, no rewards, motivation, or welfare packages, including no staff accommodation policies and poor salary and remuneration, resonated with the medical laboratory professionals. The Ministry of Health in Ghana and its

agencies, the professional body of the medical laboratory fraternity, and its labor union should engage in broader stakeholder consultation. This must be geared towards developing standard policies on the scope of practice, career progression, and conducive conditions of service for medical laboratory professionals. Maintaining high levels of job satisfaction and retention among medical laboratory professionals is a recipe for effective clinical diagnostics and healthcare delivery. Ultimately, this will contribute to meeting Sustainable Development Goal 3 in Ghana.

Ethics Approval

The study followed the data protection regulations governing the handling of online data in surveys, according to the Data Protection Commission (DTC, 2020). The Ghana Association of Medical Laboratory Scientists (GAMLS), the governing body of medical laboratory professionals in Ghana, approved this study. All laboratory professionals who responded to the online survey gave informed consent in a clear, common language that they understood. Consent language was provided on the front page of the study questionnaire with a button to move to the next page to respond to the study questionnaire. All the included professionals had the option of skipping questions.

Consent for publication

Not applicable

Competing interests

The authors declare no competing interest.

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Authors' contributions

ED was responsible for the conception and design, acquisition of data, data analysis, interpretation of data, drafting of the manuscript, and final approved version.

SA made contributions to the study conception and design, drafting of the manuscript, and final approved version

NAA made contributions to study conception and design, drafting of the manuscript, and the final approved version

RKDE was responsible for study supervision, study conception and design, interpretation of data, drafting of the

manuscript, and the final approved version. All authors reviewed the manuscript and agreed to the final draft for submission

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Availability of data and materials

The dataset for the study is available from the corresponding author upon request.

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Attraction and Retention of Newly Qualified Medical Doctors to Deprived Regions in Ghana: A Qualitative Case Study

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Abstract

Healthcare delivery is labour-intensive. Therefore, the health worker's role is indispensable in maintaining and improving individual and population health. In Ghana, the doctor-patient ratio is 1:10,450, with a disproportionate tilt in favour of the relatively resource-rich southern part of the country. The Upper West Region, located in Northern Ghana, is among the poorest regions in the country. The study uncovered why medical doctors are unwilling to accept postings to the Upper West Region, where their services are needed most, despite some efforts to attract, motivate and retain them. Current initiatives by the Ministry of Health and its partners to attract and retain doctors in the Region were also examined. Qualitative methodology was employed with an in-depth interview guide to collect data. Sixteen respondents comprising medical doctors, health managers and other health-related partners purposively selected took part in the study. Data were recorded, transcribed, coded, and categorized into themes in tandem with the objectives of the study. The study found that medical doctors are unwilling to take up appointments in the Upper West Region because of limited career and continuing professional development opportunities, poor financial inducement, weak leadership, and other important contextual social and cultural factors. Critical success factors to surmount these challenges include concessions and sponsorship for medical specialization training for doctors and clear, implementable national and local policies on postings.

Key words: Attraction and Retention, Deprived Regions, Ghana, Medical Doctors, Newly Qualified

Introduction

The health status of the citizenry of any nation determines its productive capacity, economic position, and the general welfare of its populace. Thus, the standard of healthcare delivery is crucial to

the development of nations around the globe. Healthcare delivery is labour-intensive, and the most critical element of functional health systems is human resources for health. Consequently, managers of healthcare systems, in considering their local priorities and resource availability, strain to find the most effective blend of health professionals and workers necessary to accomplish their objectives (Kolić et al., 2023; Poku et al., 2023). However, the determination and achievement of the right mix and distribution of health personnel remain major challenges for most healthcare organizations and health systems (WHO, 2000). This, makes it difficult for health systems to achieve their obvious goal of making quality healthcare available to all their citizens, especially those in rural areas.

Attracting and retaining newly qualified medical doctors in deprived regions is a critical challenge faced by many countries across the world. According to Kolić et al. (2023), financial incentives significantly attract and retain health workers in deprived regions. Other studies suggest that offering higher salaries, financial incentives, and additional benefits such as housing allowances, educational support, and loan repayment programmes can encourage doctors to work in underserved areas, which is not the case in many low-and-middle income countries (Behera et al., 2019; Brugha, 2022; Van Dormael et al., 2008). This makes the deprived regions unattractive and reduces the retention rate. It is important to note that professional growth and development opportunities are crucial for retaining doctors in deprived regions. Continuous medical education training programmes, mentorship, and career advancement

opportunities can enhance job satisfaction and retention rates (Amiresmaeli et al., 2022; Kolić et al., 2023). Also, availability of infrastructure, medical equipment, and essential resources in deprived regions are important for doctors to provide quality healthcare services. Thus, the presence of improved healthcare facilities, well-equipped hospitals and clinics, and access to diagnostic tools and essential medicines in deprived regions can attract doctors to these regions (Behera et al., 2019), and a supportive work environment is crucial for retaining doctors there (Kerketta & A.N., 2022). Factors such as positive relationships with colleagues, effective leadership, and recognition for their work can enhance job satisfaction. Availability of amenities and quality of life factors play a role in attracting doctors to deprived regions. Access to basic amenities like housing, schools, transportation, and recreational facilities for doctors and their families can positively impact retention rates. Involving doctors in community engagement activities can help them feel connected to the local population and develop a sense of purpose. Building relationships with the community and involving doctors in local health initiatives can increase job satisfaction and retention (Sirili et al., 2018). Government policies and initiatives on prioritizing healthcare infrastructure development, rural healthcare, and incentives for doctors working in deprived regions are pivotal (Brugha, 2022). Effective implementation of these policies, such as deploying doctors to underserved areas and supportive regulatory frameworks, can improve the attraction and retention rates worldwide (Amiresmaeli et al., 2022; Kerketta & A.N., 2022; Poku et al., 2023).

Ghana is no exception to this phenomenon. An assessment of the Ghana Health Sector Program of Work for 2013 revealed that out of the 2 615 doctors in the public sector, over 50% were in the Greater Accra Region. More than half of the remaining number were concentrated in the Ashanti Region, skewing the distribution to the detriment of the other eight regions of the country at the time (MoH, 2014). The government of Ghana is not oblivious to this problem; hence, several measures have been introduced to attract and retain health workers, particularly doctors, to deprived areas like the UWR.

Despite these interventions, anecdotal evidence shows that wide disparities exist between the deprived and underserved regions in the country and their relatively urban and resourceful counterparts in health worker distribution, particularly medical doctors (MoH, 2014). This study, therefore, sought to uncover, using qualitative methods, the initiatives taken by the Ministry of Health and other health-related partner organizations aimed at motivating, attracting, and retaining medical doctors in deprived regions and the factors militating against these initiatives with the Upper West Region as the case

Theoretical and Conceptual Framework

Human Resources has long been recognized as the catalyst for putting other factors of production to effective use because it provides the know-how or the skill, ideas, and manpower (Torrington et al., 2020). This study is underpinned by Adams' Equity Theory (Adams, 1963; Adams, 1965).

The equity theory proposed by John Stacy

Adams in 1963 in his work on "Wage inequities, productivity, and work quality" centred on exchange relationships where individuals gave something (inputs) and, in return, expected something (outcome) (Adams, 1965). The adoption of the Equity Theory for this study is informed by the fact that it helps situate the attraction and retention of medical doctors to deprived areas in the context of an exchange relationship where both employees and employers expect a mutually beneficial exchange of inputs and outcomes. This theory is again, appropriate in this study's context where newly graduated medical doctors often opt to work in urban areas of the country because of the disparities in the working conditions between the urban and rural communities. Anecdotal evidence indicate that these conditions significantly influence the choice of place of work of these doctors.

The Conceptual Framework posits that effective attraction and retention of medical doctors in deprived areas may involve an exchange relationship that may be affected by several equity variables. However, success in attracting and retaining newly qualified medical doctors in deprived regions would be dependent on the proper identification of the stakeholders in the attraction and retention exchange relationship, the correct definition of the inputs of the stakeholders in the attraction and retention relationship, the identification of available outcomes by stakeholders, the determination of equitable outcomes in deprived areas of work, and the determination of inequitable outcomes in deprived areas of work. These when appropriately aligned and fed into national and local policies aimed at attracting and retaining medical doctors in deprived regions may see desirable results.

(see Figure 1).

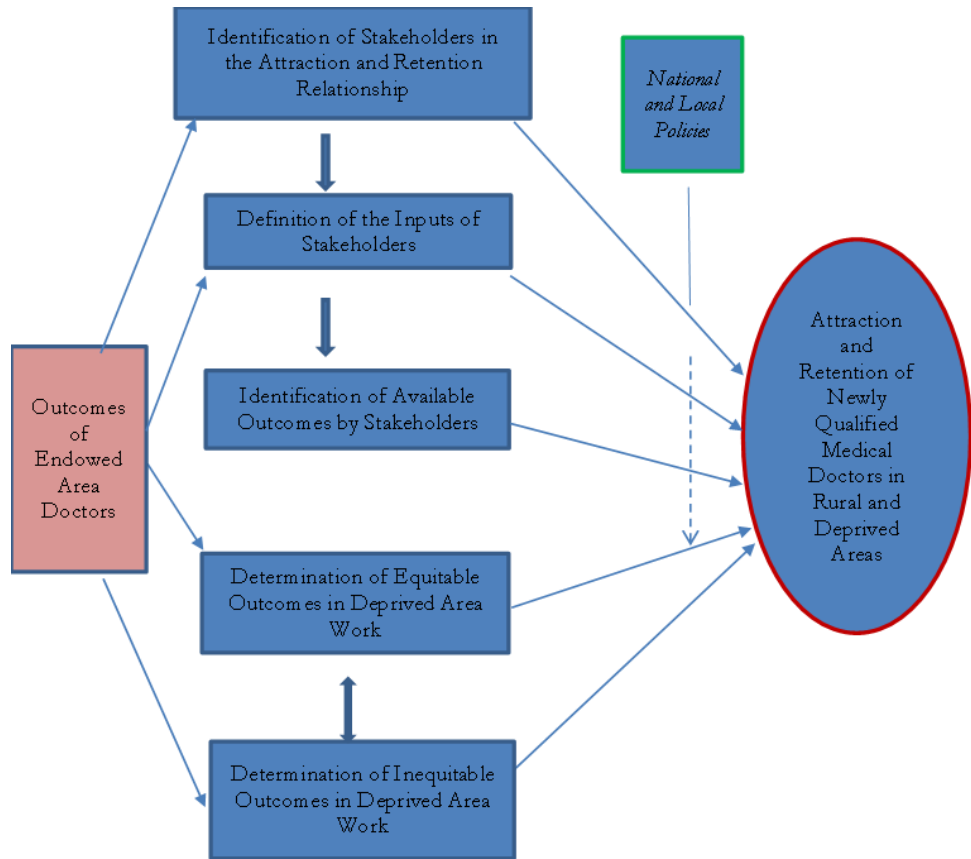


Figure 1: Conceptual Framework of Attraction and Retention of Newly Qualified Medical Doctors to Deprived Area

Source: Authors' Construct

Methodology

The study was a phenomenological single case study in design. The study area is the Upper West Region of Ghana. This Region was created in 1983 with Wa as its capital. The Region shares borders to the north with Burkina Faso, east with the Upper East Region, south with the Northern Region and Côte d'Ivoire to the west.

The study population was all present health workers in the Region, staff of the

Upper West Regional Coordinating Council, staff of all District Assemblies (DAs) in the Region, and the Ministry of Health (MoH) and Ghana Health Service Headquarters staff.

The sampling technique used for the study was purposive; this technique was used to select twenty participants from among practicing doctors in the Upper

West Region, former medical doctors of

the UWR, Regional Directors of Health Services, Representatives of the UWR Coordinating Council, and District Coordinating Directors (DCDs). These individuals were purposefully selected because they were directly involved the subject matter of the research, and could offer rich inputs in attaining the aims of the study. Data saturation was reached with sixteen (16) eligible participants comprising eight (8) practising doctors, three (3) former doctor employees of the UWR, one (1) Regional Director of Health Services, one (1) representative of the Upper West Regional Coordinating Council, and three (3) District Coordinating Directors (DCDs).

Data were collected with a semi-structured interview guide from participants through in-depth interviews. Thus, 16 in-depth interviews were conducted, and they covered multiple participants at the levels of policy formulation and implementation, community leadership, and doctors who had practised or worked in the Region previously, doctors who were newly posted to Region from school, and had worked there for a minimum of one year and managers who have the mandate and authority to implement policy. Secondary data from journal articles, internet sources, policy documents, and reports were also used.

Before the start of the study, approval with the research protocol was sought from the Ghana Health Service Ethics Review Committee (ERC). Informed Consent of all participants was granted before their inclusion in the study. Confidentiality of data collected was ensured by using identifiers rather than names and titles of participants, and data obtained were safely guarded on a personal computer with a password.

Participants were made to understand that participation in the study was voluntary, and thus, they reserved the right to either be part of the study or not, as well as having the freedom to withdraw from the study at any time without any untoward consequence. Permission was also sought from the participants to publish the findings of the study with anonymous quotes from them.

The digitally taped-recorded primary data obtained through interviews from the field were transcribed verbatim into a 91 paged document, and to draw inferences adequately, data were dismantled, split, and reconstructed (Boeijie, 2010). Using the data analysis approach of Miles and Hubberman (Miles & Huberman, 1994), the data were then coded and categorized into themes that reflected the respondents' views and were in tandem with the study's objectives. There was continuous coding and categorization throughout the process of data analysis to refine the major ideas. The study objectives and the theoretical framework informed the pattern of the analysis and discussion. As a guard against data loss, all recorded materials were backed up on other electronic devices, and the transcribed document was printed. Quotes were then generated to demonstrate the themes.

Findings

Ministry of Health Initiatives to Attract Doctors to Deprived Regions

The study identified specific initiatives the Ministry of Health and other health-related partners took to attract and retain doctors in the Upper West Region as Financial Incentive Packages and non-financial packages. The Financial Incentive Packages were financial

inducement policies meant to attract and retain medical doctors and other health workers in deprived areas of the country.

The Ghana Health Service issued directives for facilities to pay monthly allowances to their critical staff, known as Additional Duty Hours Allowance (ADHA) in 1999, to recognize the additional workload on the limited health staff, particularly doctors in the rural areas at the time. The Regional Coordinating Council (RCC) in 2007 gave a directive to all District Assemblies to pay a monthly salary to every Ghanaian doctor in the Upper West Region (Johnson et al., 2011; Ghana Ministry of Health, 2007). The study also found that there had been a national directive by the Ghana Health Service since September 2014 aimed at offering educational support to doctors in their postgraduate education in the three northern regions and. There was also a policy that required the Ghana Health Service to specifically declare vacancies in rural areas, and the appointment of medical doctors was going to be dependent on the doctors accepting postings and reporting to work in rural areas to merit the educational support (Ghana Health Service, 2015).

The Regional Coordinating Council (RCC) had issued directives to all assemblies and health institutions since 2007 for all public sector doctors in the UWR to be offered free accommodation and utilities for as long as they stayed in the Region (Daniels et al., 2007).

The Ministry of Health, in collaboration with the Medical and Dental Council, requires all medical doctors seeking any specialist training at the Ghana College of Physicians and Surgeons (GCPS) to serve at least one year in a district hospital post-housemanship (GCPS, 2015)

Reasons for the Unwillingness to Accept Postings to the UWR

The study found that newly qualified doctors were unwilling to accept postings to the UWR for various reasons:

Training of doctors: The training of doctors does not equip them for rural work, so they were not adequately prepared to perform their duties in a rural setting. Rural hospitals lack most of the equipment and human resources needed to deliver quality healthcare, hence, the doctors found it difficult and sometimes almost impossible to work in a rural setting. This is how a participant put it:

"I think most of the younger ones are not well equipped for work in a rural setting, where you must be able to treat every kind of condition. Imagine that you are taken to a district hospital, you are the only person. You must be the obstetrician-gynaecologist, paediatrician, the surgeon and so on, if you are not very talented, and your skills are not up there, it's going to be a huge problem for you" (A doctor)

The doctors who find themselves in the rural areas take up managerial duties which they find difficult because medical education does not include managerial training. One participant complained:

"You become the Medical Director in these hospitals while you are not prepared for it. Our training does not include management. We find it very difficult to combine managerial duties with medical practice." (A Doctor)

Time for private activities: Respondents complained that unlike their counterparts in the urban areas, who had excess time

for private activities, doctors in the Upper West Region do not have that privilege. Indeed, some respondents were of the opinion that this factor was the single most important reason doctors tend to stay in the relatively endowed cities. One of such respondents stated;

"Most people will want to hang around the Teaching Hospitals and the bigger facilities where their absence will not be felt when they escape to do their private business, because of the large numbers of professionals there. (A Doctor).

Career development: Doctors in the rural areas are disadvantaged to the extent that, they do not have the opportunity for career development. One of the respondents complained about this issue as follows:

"In the UWR here, there are no opportunities for career development. All the specialist, consultants and professors who will mentor us are concentrated in the urban areas. (A Doctor)

Access to complementary skills and services: Unlike their rural counterparts, doctors in urban areas had access to complementary skills and services from senior colleagues and the private sector, who offer them the needed mentoring and support. The availability of complimentary services such as medical laboratory, radiological studies and pharmaceuticals help them achieve the needed results, thus, boosting their morale and motivation. These make it difficult to work effectively and achieve results in a rural setting. A respondent presented this as follows;

"Sometimes you are saddened when you write a prescription for a patient and you

know that the patient cannot get the medicine. The person has to roam, one week, two weeks go to Kumasi, Tamale, Accra to look for a drug. By the time they get the medication the patient may have died. (A Doctor)

Ineffectiveness of the interventions by MoH and partners: The study revealed that efforts by the Ministry of Health and partners to attract and retain medical Doctors to the Upper West Region did not bear fruits as expected, because doctors were still not willing to accept postings to the region, and the region is still deprived of physician services. The interventions' ineffectiveness was attributed to financial constraints impacting greatly on the facilities' efforts at sponsorship for career development or salary top up for doctors because their main source of income, the District Assembly Common Fund, had been erratic. A participant expressed:

"Our District Assembly Common fund is erratic, and owing to competing demands for other developmental needs, the sponsorship of doctors may deplete our coffers and render us incapable of meeting the needs of other sectors like education, transport etc.". (A District Assembly Leader)

Lack of knowledge among leaders: There was also lack of knowledge exhibited by some leaders of the implementing institutions i.e., (the Regional Coordinating Council and District Assemblies) on the Assembly using some of their common fund to help retain doctors in the Region. This was identified when respondents were asked about the policies. One participant said:

"I was not here so I cannot remember" and I have not heard that we have to use some of the common fund for doctors. I'm hearing it for the first time, but I don't think

we do it" (A District Assembly Leader)

Lack of coordinated efforts: A major managerial weakness was lack of coordinated efforts in the drive to attract doctors to the UWR. There was no proper reception and orientation offered to new doctors. One respondent intimated the following about this phenomenon:

"I think there is a challenge with leadership in general in the Region. By this I mean no one cares about taking steps to attract medical doctors to the Region or taking steps to motivate them and keep them when they come" (A Regional Coordinating Council Member)

Dependency of friends and relations on doctors: Dependency of relations and friends on the doctors was another issue identified by the study. This dependency comes in three forms: demand for preferential treatment, free services, and assistance with resources like money. This is because in the rural environment there are relatives and friends, and everyone knows the doctor. Many of these rural dwellers think that they are entitled to preferential treatment and free services and medications, or the doctor must support them financially. A respondent painted a vivid picture:

"Sometimes some relatives, when they come and they see you working, they think that you are the head of the place so the facility must be yours, and their treatment should be free [i.e., free services]. If you tell them that they have to go and buy medications, some will even be expecting you to dip into your packet and give them the money, this is resource dependency". (A Doctor)

Finding suitable life partners: One unique finding of this study is difficulty in finding suitable life partners. Finding suitable life partners was the reason for female doctors in particular, not accepting

postings to the Region and particularly the districts. About 25% of respondents raised this issue and averred that, considering the social status of doctors, it will be difficult for female doctors to find husbands of their calibre or even above them in rural communities. A serving doctor respondent shared this view:

"Take females for instance during your prelab training you are learning hard thinking that when you come out you will take your time and choose the man you want to be with, then you land yourself in the village, there are no suitors, nobody is qualified to be your husband, perhaps the chief or the chief's son ... there are no marriage opportunities"

Quality education for wards: Among the older doctors who had worked in the region before, one of their concerns was finding good schools for their school-going age children in the Region. In the rural areas, schools are of poor quality and they preferred moving to the cities where they could find schools of high quality so they can give their children good and quality education. Thus:

"The main reason for my leaving the Region was to give my children better education, for most of the schools in the Upper West Region are of poor quality" (A Doctor)

Superstition and cultural beliefs: This study has found that one of the reasons that kept particularly indigenous medical doctors from accepting postings to the Region was superstition and cultural beliefs that 'threaten' their lives and fortunes. An adherent of this view posited that the reasons for indigenous medical doctors not coming to the Region were a combination of many socio-cultural and economic factors such as tradition, culture, superstition, financial, and amenities. A participant indicated:

"I think the issue has to do with cultural practices and tradition. Once you have become a medical doctor and you are a native, they think that you are all in all, you should be able to solve all their problems and so when you fail to do so you become a target and in this area, witchcraft and all the activities related to spiritualism are very high, so they start working you from all angles, fighting you from every angle, spiritually, physically and what have you". (A Doctor)

Though some practicing indigenous medical doctors in the study did not agree entirely with this view, they did not dismiss it either. They blamed it on childhood indoctrination about such beliefs. One of such participant stated:

"Whether it's true or not, before you even become a doctor these beliefs are put in your head, such that you are so much afraid of where you come from because either you are seeing examples of them or you are seeing the behaviour and practices of the people and therefore, you are scared. You don't know anything. It's just your book and medical knowledge. So why would you want to come and maybe die for serving your people?" (A Doctor)

Discussion

Universal Health Coverage (UHC), as the World Health Organization recommended for all countries across the globe, requires that healthcare services be made available to all communities, whether rural or urban (Jashni et al., 2023; Kodali, 2023). The attainment of UHC is difficult for low-to-middle income countries, including Ghana (Soors et al., 2015). The difficulty dwells mostly on establishing healthcare facilities and distributing healthcare professionals

equitably to people from all walks of life. The most disadvantaged groups are found in rural communities. Governments of affected countries have had some measures to tackle this problem by putting in place the right calibre of healthcare personnel in rural areas.

This study identified the financial packages to draw doctors to rural areas like the Upper West Region to include monthly incentives, Additional Duty Hours Allowance (ADHA) and Salary Top-up. To implement the attraction policies, the facilities were to use some of their internally generated funds to make the payments. Some facilities could not implement these policies due to lack of funds resulting from inconsistencies in the release of the District Assembly common fund (DACF). For many years now, the release of the DACF has not been regular, making it almost impossible to carry out business at the local level. This has rendered the healthcare partners at the local level unable to allocate funds to implement the policies meant to attract doctors to the Region. This is not different in Guinea where facilities are not able to support doctors and other health workers with agreed financial incentive packages (Witter et al., 2021).

The non-financial incentives included sponsorship for Postgraduate Training, declaration of vacancies in deprived areas for appointments of doctors, free accommodation and utilities, extended house-manship and post-house-manship to qualify for specialist training. These policies appear to be bold toward the distribution of doctors in the country. However, they were not successful because more doctors were attracted to the more endowed facilities leaving the less endowed facilities still deprived. This incentive is akin to the **profit-sharing**

scheme found in Vietnam (Witter et al., 2015), where more endowed facilities could end up pulling more doctors than the less endowed ones. It is, therefore, imperative that in deciding on what will help motivate and retain doctors in deprived areas, factors perceived and felt to be inequitable are clearly identified and appropriately dealt with in policy formulation and implementation mechanisms.

The findings of the study indicated that newly qualified doctors were unwilling to accept postings to rural regions, and some of the reasons the respondents gave were the difficulty of doctors to work in rural settings because they were mostly trained in schools in urban areas, lack of managerial training, lack of extra time for private activity, limited opportunities for professional development, lack of access to complementary skills and services, and lack of mentors like senior colleagues. The training received by Ghanaian doctors is urban-oriented because the curricula made doctors function only satisfactorily in the urban setting, where there are specialists and consultants and the necessary gadgets. Thus, when these doctors find themselves in a rural setting where there are no specialists and consultants to mentor them and have no relevant equipment to work with, they feel lost and are unable to function. This situation is not exceptional as career progression is one major priority that is keeping doctors in urban centers (Snow et al., 2011).

In the same rural areas, doctors became managers while receiving no managerial training according to the findings. They, therefore, had difficulty combining managerial and clinical activities. This calls for a rethink of the institutional, managerial arrangements and more value

placed on professional managerial training for doctors during their training.

The doctors in the rural areas further argued that the excess time available to doctors in the urban areas allowed them to do private practice to supplement their income and combine work with career development because most higher learning centres were in the bigger cities. These privileges were unavailable to their counterparts in the Region. Previous studies back this study's finding that being in a rural area provides limited opportunities for continuous professional development; for example, a study found that professionals who take up jobs in rural and remote areas risk slowed or no career development and growth (Hatcher et al., 2014; Kemei & Etowa, 2021). This is also a deprivation input because staff in such areas are isolated, neglected or forgotten and, therefore may suffer 'career death' or the loss of critical skills due to an overextended period of rural work without the opportunity for postgraduate training (Mohammed, 2013).

The study also indicated that, despite the efforts made through the interventions stated in the previous section by the stakeholders to attract doctors and sustain them in the Upper West Region, their efforts were ineffective because doctors were still unwilling to accept posting to the Region. The ineffectiveness of the interventions was attributed to financial constraints, lack of knowledge about intervention policies by some important officeholders in powerful positions, and general weakness in leadership at the regional level.

Financial constraints impacted greatly the facilities' efforts at sponsorship for career development or salary top-up for doctors

because their main source of income, the District Assembly Common Fund, from the government had not been regular. Financial constraint is also lost input which is a deprivation input as explained by Witter (Witter et al., 2015), as things that a party loses in seeking to find solutions to a problem, such as sacrificing health infrastructure adjustments for salary by health authorities or an assembly sacrificing the sponsorship of teachers to sponsoring only doctors for training. In this case, the District Assemblies had to sacrifice other developmental needs to sponsor doctors or top up their salaries. Also, lack of knowledge about this among some sensitive office holders in the Region, as found in our study, could account for the poor patronage of such schemes as in the sponsorship by the assemblies, just as earlier studies in Zambia also found (Agyepong et al. 2004). This may be a manifestation of weak leadership, both at the policy formulation and implementation levels (Ahmat et al., 2021; Collin et al., 2022). Hence, the need to develop a comprehensive policy document that will synthesize all the initiatives to be used for any recruitment drive. The essence of good leadership support by regional health departments and local government authorities in attracting and retaining health professionals in deprived areas has not been hidden by previous studies (Goma et al., 2014; Rao et al., 2013). Another unique finding of this study is the resource dependence on doctors posted to deprived regions in the country. Though being a native of rural origin has been found to positively impact the choice of rural practice (Amalba et al., 2018), this dependency finding appears to be contrary to previous conclusions about rural indigenes.

The difficulty finding appropriate suitors agrees with earlier studies where females were less likely to take up postings to deprived areas for the same reason (Hatcher et al., 2014; Ramani et al., 2013). It must be stated here that at the time of collecting data for the research, there was not a single female Ghanaian doctor in the Region, thus giving further credence to this finding. Therefore, any attempts to get female doctors to rural areas will likely fail.

Though it was found that superstition affected indigenous doctors, some respondents argued that using such reasons could also scare away non-indigenes. They added that some doctors could be overly exploiting this view as an excuse not to take on appointment to the Region, adding that traditional leaders could make such beliefs 'friendly'. It should, however, be pointed out that superstition is a matter of belief, and therefore, it is possible that those who might strongly share in this belief would not take up appointment back home. This is particularly so as some people in the Region are not discounting it completely.

This study is a case study of the Upper West Region of Ghana, and thus, findings may not be generalizable to the entire country or around the globe, however, in areas within Ghana and elsewhere where contextual issues are similar to those of the study area, the findings and recommendations of the study may be very useful.

Conclusion

Sponsorship and bonding, salary top-ups, and vacancy declaration as some of the initiatives taken by various stakeholders in Ghana to attract and retain doctors to

deprived areas are insufficient. Thus, in closing the gap in the huge doctor/population ratio in deprived regions, a holistic policy on medical training and administration reforms, concessions in postgraduate medical

specialization and aggressive sponsorship schemes, amidst other personal and socio-cultural factors would have to be considered to effectively attract and retain doctors in deprived regions of the country.

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Policy Design and Implementation Nexus in Africa: The Experience of National Health Insurance Scheme in Sawla-Tuna-Kalba District of Ghana

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Abstract

The paper focuses on policy design and implementation linkage in Africa. It specifically examines the linkage between policy design (National Health Insurance Scheme-NHIS) and its implementation with some experiences of policy implementers and the beneficiaries in the Sawla-Tuna-Kalba District in Ghana. The theoretical argument is that, policy design factors may facilitate or impede implementation. This study thereby seeks to find out what the situation is in a rural setting of an African state-Ghana. This is the reason for the choice of the qualitative comparative case analysis to solicit the views, opinions, and experiences of policy implementers and beneficiaries on the design and implementation process factors. The implementers are the public and private health providers, while the policy beneficiaries are NHIS subscribers. The implementers' understanding of the policy goals-intent and delivering them to subscribers in terms of access to healthcare services in the rural district and the quality of the services (to address their health needs). Data were obtained through in-depth interviews, review of documents, and on-site direct observations. The findings showed that policy beneficiaries/subscribers have more access to healthcare facilities (healthcare services) due to the involvement of public and private health providers in the district. Also, the findings revealed an improved revenue for both public and private health providers/facilities due to the increased attendance of NHIS subscribers/beneficiaries. It found that the behaviour of health providers was a key determinant of subscribers' choice of health facility. It, therefore, recommends that health providers should treat their clients with utmost care and kindness.

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Key words: Health facilities, quality services, NHIS, Sawla-Tuna-Kalba District, Ghana

Introduction

Public policy scholars in both developed and developing countries have debated and continue to debate on what happened at the various stages of the policy cycle (Hupe, 2009; Kipo-Sunyehzi, 2020, 2022; Truijens & Hanegraaff, 2023). Some argue that the early stages of the policy cycle (design) matter most. These early stages of the policy circle include agenda-setting, formulation, and decision-making. Thus, the emphasis is on the start of the journey-policy design factors (Schneider & Ingram, 1988). For other policy scholars, the most important stage is the action stage (policy implementation) or the actual execution of the policy. This is where the intent of the policy is realized- the emphasis is on the implementation process factors (Pressman & Wildavsky, 1984; O'Toole Jr 2000). Such a debate among policy scholars continues until a change of direction towards a group of policy scholars known as the synthesizers (a hybrid combination of the design and implementation factors) in the 1990s. These new scholars argue that both the design and the implementation stages matter in the policy cycle (Goggin, et al, 1990; Matland, 1995; Winter, 2012; Sætren, 2014).

Policy Design and Implementation Nexus in Africa

Policy Scholars in Africa, especially in the 1980s, consider two factors as what matters most, namely the policy content (wording) and context (environment). The elites' pressure may come from the political arena or the bureaucratic arena. These dominated the African policy discourse in the 1980s and 1990s (Grindle, 1980; Grindle & Thomas, 1991).

In the early 2000s, more policy scholars in Africa tend to look more closely at the nexus between the design and the

implementation of policies within and across African states. Ayee (2000) made a great contribution to the policy field in terms of why public policies succeed or fail in Africa in his "Saints Wizards Demons and Systems" work/model (Ayee, 2000, p. 14).

Makinde (2005) shares similar views with Ayee (2000) on policy design and implementation nexus. Makinde's main argument is that most public policies in Africa and Nigeria fail to achieve their goals due to inappropriate policy design and implementation factors (Makinde, 2005).

Other African policy scholars look at the design and implementation nexus from the lens of politics. An over-politicalized policy at the design stages has dire consequences for their execution especially when the masses (people) are not well informed about the intent of the public policy. This was the case with value-added tax (VAT) across Africa in the 1990s and 2000s (Osei, 2000, p.258; Kpessa 2011; Kipo-Sunyehzi, 2020b, p. 6; Korongo & Kilonzi, 2023). African policy scholars have also analyzed the nexus between policy design and its implementation in the health sectors of Africa from mental health, health insurance, pediatric and maternal healthcare policies among others (Ridde, 2009; Kipo-Sunyehzi, 2020; Getaneh et al, 2023).

Access to healthcare services/facilities is conceptualized in terms of affordability and availability of healthcare services (Gordon, Booysen & Mbonigaba, 2020). In this paper, it refers to the NHIS beneficiaries' ability to get to healthcare facilities and their ability to access healthcare services with their health insurance card(s) in Ghana. Quality healthcare services are seen as beneficiaries' access to effective and

efficient drugs/medicine in meeting the healthcare needs of the clients or the people (Ataguba & McIntyre, 2012; Atinga, 2012). Some studies in Ghana suggest urban dwellers have more access to quality services than their rural counterparts (Gobah & Liang, 2011; Alhassan & Nketiah-Amponsah, 2016).

The Design of the National Health Insurance Scheme (NHIS) in Ghana

Institutional and Financial Structure

The National Health Insurance Scheme (NHIS) was established in 2003 by an Act of Parliament (Act 650) to replace Cash and Carry System (CCS) in a way to address the inequity between the rich and the poor Ghanaians. The design of the funding structure of NHIS is that it has a fund (National Health Insurance Fund -NHIF). Money from the NHIF is used to subsidize the cost of the provision of healthcare services to members of district mutual health insurance schemes that are licensed by NHIA. The fund is used to reimburse healthcare facilities accredited by NHIA through district schemes. The largest source of funding is the 2.5% VAT, which constitutes 67% of NHIS revenue, followed by investment income (17%), and SSNIT contributions constituting the third source representing 15.6% (Government of Ghana-GoG, 2003, p. 19).

Scholars argue for the need to broaden the funding sources with an emphasis on tax-based financing to 'offer greater financial protection' and potentially achieve 'universal coverage' of NHIS (GoG, 2003; Jehu-Appiah et al., 2011). Two sources of funding exist at the local level. These are annual premiums and registration fees for new members joining the NHIS. But some people are exempted from paying the annual premium. Such persons include

children less than 18 years, pregnant women, core poor (indigents), the aged (70 years and above) and SSNIT pensioners. This is to ensure improved access to healthcare services for these groups of beneficiaries in Ghana. Thus, per the design of the NHIS, it protects the most vulnerable in Ghanaian society as they are insured against out-of-pocket payments (cash payments) at facilities (Kipo-Sunyehzi, 2021; Amporfu, Arthur & Novignon, 2023).

Theoretical Perspectives

This paper assessed policy design and implementation nexus and associated outputs of public policy (NHIS) at the local level in Ghana. It looks at policy design factors (policy goals/instruments among others) and implementation factors including structures of implementation, the allocation of resources for execution, and the actions of implementers and target groups' behaviors (beneficiaries). Effective policy implementation is conceptualized as 'keeping to the original intent' of the policymakers or public officials who 'ratified the policy' (Howlett et al., 2009). This perspective views implementation from a hierarchical path of policy execution (Van Meter & Van Horn, 1975; Pressman & Wildavsky, 1984; Aye, 2000). Other policy scholars view implementation from the perspectives of those whose problem the policy sought to resolve (target groups (Hill & Hupe, 2009; Kipo-Sunyehzi, 2020). Lipsky believes street-level bureaucrats are the real policymakers; as such their actions and behaviors are very crucial in implementation (Lipsky, 1980). The mixed approach to policy implementation seeks to end the debate between the top-down and the bottom-up perspectives as it attempts to synthesize the top-down and

bottom-up approaches (Sabatier, 1986; Matland, 1995; Winter, 2012). Winter's heuristic model identifies a cluster of factors or variables namely policy formulation/design, organizational and inter-organizational relations, street-level bureaucrats, and target groups' behaviors

towards achieving implementation results (policy performance/output). This study's explanatory factors are shown in an analytical model in Figure 1 (interplay of policy design and implementation).

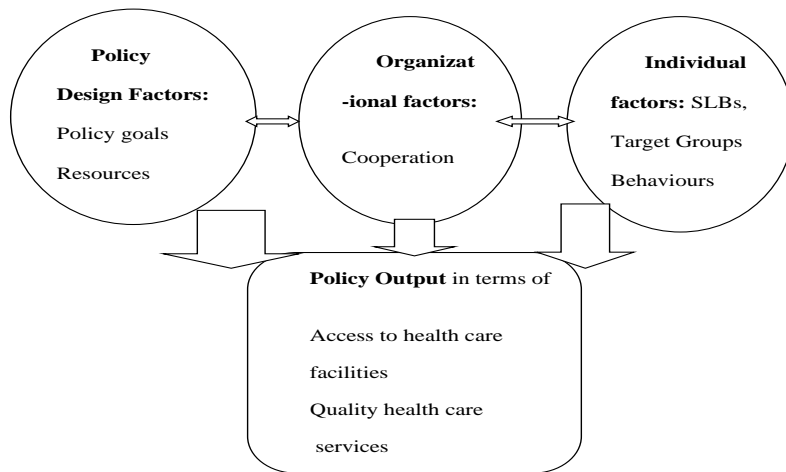


Figure 1: The Analytical Model

Source: Authors' adaptation from policy design and implementation literature

Research Methods

Research design

The methods used in the study are informed by the policy design and implementation merger model as advocated by Søren C. Winter in his heuristic model-*integrated implementation model* (Winter, 2012) and the *Saints Wizards Demons and Systems* model by Joseph Atsu Ayeé (2000).

The Study Setting and Healthcare Facilities

The study was conducted in a rural setting-Sawla-Tuna-Kalba District (STKD) which is currently part of the Savannah Region of Ghana. It is one of the 28 districts created

in 2004 and was among the 170 districts in Ghana (Bening, 2014). Currently, there are 261 metropolitan, municipal and districts in Ghana (Districts of Ghana, 2023).

There is a long history of deprivation of resources and facilities in rural areas of Ghana and healthcare provision is no exception (Asante & Zwi, 2007, 2009). This study, therefore, sought to investigate the implementation of the NHIS and its effect on the healthcare needs of rural dwellers. The district has 14 accredited healthcare facilities; nine owned by the government (public-non-profit), three by the non-profit-private Christian Health Association of Ghana (CHAG) and two private-for-

profit facilities owned by individuals (Sawla-Tuna-Kalba Mutual Health Insurance Scheme (STKMHIS) Accreditation Report, 2009). This study focuses on two healthcare facilities based public-non-profit (Sawla Health Centre-SHC) and private-for-profit (Friends Maternity Home Clinic-FMHC). The two clinics are the biggest healthcare facilities in the district. About 80% of the rural population engages in farming. The district has an estimated population of over 99,000 residents on a total landmass of 4,601 square kilometers representing 6.4% of the total land area of the Northern Region of Ghana (STKD Ghana Health Service (GHS) Annual Report, 2007). Currently, per the 2021 Population and Housing Census, the population of the Sawla-Tuna-Kalba district in Ghana stands at 112,664 (Ghana Statistical Service-GSS, 2021, p. 70).

The study adopts a qualitative research design and a case study approach for the comparative analysis of two cases to understand some of the facilitators or inhibitors/barriers. This is in the context of the implementation of NHIS in a rural setting/district (Yin, 2014; Fink et al, 2023). The study participants were 'purposely selected' based on relevant knowledge of the issue of investigation through a simple random sampling technique (Twumasi, 2001; Yin, 2014; Obilor, 2023). The interviews involved thirty-four (34) participants. The ethics of social science research were adhered to, including anonymity and privacy. Also, informed consent was sought from participants verbally and in writing before interviews. Audio recorder and field notes were used depending on the participants' preferred choice (notes writing/use of audio recorder). The 34 participants are illustrated in Table 1.

Research Design, Sampling Method, Sample Size and Ethical Issues

Table 1: Interview Participants

Categories of Persons	Public Clinic	Private Clinic	Total
Implementers			
Medical Assistants/Nurses	3	3	
Laboratory Technicians	1	1	
Facility NHIS Officials	1	1	
Record Keepers	1	1	
*STKMHIS Officials	2	2	
Beneficiaries			
Premium Payees	2	2	
SSNIT Contributors	2	2	
Children	1	1	
Aged/SSNIT Pensioners	1	1	
Pregnant Women	2	2	
Indigents	1	1	
Grand Total	17	17	34

Note: *STKMHIS Officials refers to national health insurance officials at the scheme office

Data Collection Instrument, Sources of Data and Data Analysis

The instrument used in the collection of data was an interview guide which was administered by the Lead/First Author. The instrument (interview guide) has open-ended or semi-structured questions that were administered to implementers (health insurance officials and healthcare workers-public-private) and beneficiaries (NHIS exempted groups and contributors). The Lead Researcher/First Author probed for comprehensive answers. Focus Group Discussions (FGDs) were used, which provided the opportunity to obtain information from groups' perspectives rather than relying solely on views from individuals. Each FGD involved six respondents for easy management. Two FGDs took place on market days to get respondents from villages (outside the district capital).

Direct observations revealed information that could not be obtained by interviews. Direct observations further availed the opportunity to get beyond participants' opinions and self-interpretations of their actions,

behaviors, and attitudes (Twumasi, 2001; Bryman, 2016; Schroers, Tell & O'Rourke, 2023). Some observations of queues, services and interactions between clients and workers.

Yin (2014) emphasizes the importance of obtaining data from document sources towards data triangulation. For this reason, some documentary sources of evidence were obtained which include annual reports, healthcare facilities' attendance records, acts, and claims reports among others.

For data analysis, the researchers used thematic and content analyses and

meanings and interpretations were made from the text or textual sources (Azungah, 2018). This method of data collection aimed to get a sense of the data and to compare what was obtained from interviews with textual sources of data in a triangulation fashion (Yin, 2014). Recorded audio tapes were transcribed and typed out as well as the use of field notes for analysis. Internal validity was addressed by creating case study data and other sources of data.

Results

Policy Design Factors

In the study analytical framework (see Figure 1), the first explanatory variable or factor is the design of the policy (NHIS) and how the design facilitated or inhibited the implementation of NHIS at the local level (Sawla-Tuna-Kalba District-STKD) in terms of NHIS beneficiaries' access to healthcare facilities (services) and the quality of the healthcare services the NHIS beneficiaries received.

One policy design factor analyzed is the accreditation of healthcare facilities. The study found that the public-private design of the policy (NHIS) helped beneficiaries in the rural district to access healthcare from diverse service providers such as Ghana Health Service (GHS), the Christian Health Association of Ghana (CHAG)-mission (GHS (public), CHAG (private-mission) and individual health providers.

Another policy (NHIS) design factor analyzed is the level of knowledge of the NHIS benefits package and medication list. This study found that the two healthcare facilities had adequate knowledge of the NHIS benefits package and medicines list. This was how a medical assistant in the private healthcare facility

commented on the benefits package and medicines list:

The benefits are enormous as health insurance covers 95% of common diseases in Ghana. This notwithstanding we still have problems with tariffs determination, which are mostly below open market prices. This makes it difficult to offer some drugs to subscribers when the tariffs are lower than in the open market. Remember we the service providers don't determine tariffs, rather those at national do so for us. Another problem is some expensive drugs are excluded like HIV retroviral drugs. I think some of these drugs must be added to health insurance to save more lives irrespective of the cost.

A medical assistant in the public health care facility also commented on the NHIS benefits package:

“Health insurance is good, it has a broad benefits package for subscribers. There is no doubt it covers most diseases in Ghana. But because prices of drugs and medicines are fixed for longer periods, they often fall below those sold in the open market. If we charge subscribers based on current prices, the insurance authority will deduct it from our monthly claims. Despite these price differences we still try to supply subscribers. Regarding excluded services, I agree some services need to be excluded due to the high cost of treatment”.

Moreover, another policy design factor that was analyzed was the consideration of resources. The financial and human resources of the healthcare facilities were examined as part of the implementation of NHIS. Documentary records have shown that NHIF was the main source of funding. More than 80% of hospitals and clinics in Ghana relied heavily on the NHIF for the purchase of drugs and supplies (STKD

GHS Annual Report, 2009). Interviews with staff of Sawla-Tuna-Kalba Mutual Health Insurance Scheme (STKMHIS) and staff of two health care facilities confirmed NHIF as their main source of funding. Several empirical findings support that the National Health Insurance Fund is the main funding source for the implementation of NHIS in Ghana (Alhassan & Nketiah-Amponsah, 2016; Kipo-Sunyehzi, 2021; Amporfu, Arthur & Novignon, 2023). This was what the district scheme (STKMHIS) official said:

The scheme office relied so much on the health insurance fund for payments of services rendered to subscribers. Meanwhile, our internally generated funds from payments of premiums are quite small.

This was what a senior nurse in the public health care facility (clinic) said on NHIF:

“I will say the health insurance scheme is doing well in terms of payment of claims. We often submit our monthly claims within a month or two and we get reimbursement on time. We are okay with the health insurance scheme”.

A participant in the private health care facility (clinic) made these comments on funding.

“We hail and praise health insurance. We use its funds to buy drugs and medical equipment and to do some repair work among others. Fast reimbursement of claims has helped us to provide quality services to health insurance members in this facility”.

The responses of the study participants suggest that the faster the reimbursement to healthcare facilities, the better the services that are rendered to NHIS beneficiaries (health insurance members) in Ghana.

On financial resource mobilization, the private healthcare facility received GH¢69,626.10 (\$46,155.85) from the health insurance scheme as reimbursement while the public healthcare facility received GH¢29,694.98 (\$19,685.10). Findings revealed that the private facility received more revenue from NHIF than the public facility in 2009 (STKDMHIS Claims Reports, 2009; 2010). Interestingly, the NHIF constituted over 85% of the revenue for public healthcare facilities and constituted 70% of the private health facility's internally generated funds.

The study found two problems with the management of NHIF. First, the healthcare facility claims are deducted monthly by the insurance authority. The second problem is corruption associated with healthcare facilities which took the form of over-invoicing. The Daily Graphic, a national newspaper reported fraudulent claims of some healthcare facilities in which the NHIA recovered over four million Cedis (\$4,640,371) from some health facilities between January 2009 and June 2010 (Daily Graphic, 2010). Similar reports of fraud and corruption or misapplication of funds against the implementation of NHIS in Ghana cost the country especially the National Health Insurance Authority millions of cedis (NHIA, 2017; Auditor-General Report, 2019; Ghana's Sick National Health Insurance Scheme, 2022). As a result of such reported acts of fraud and corruption, the NHIA adopted measures on "blocking all potential leakages" (NHIA 2018 Annual Report, p. 9) as well as "strengthening the internal policing (clinical and internal audit) to detect fraud against the scheme" (p. 35).

On human resources, the staff appears to be another challenge to the local healthcare facilities and NHIS management. The number of medical personnel (medical

assistants, nurses/midwives, laboratory technicians, pharmacists, and other health workers) at posts in public (government) healthcare facilities in STKD from 2007 to 2010 was 28, 37, 32 and 37 respectively (STKD GHS Annual Reports, 2007; 2008; 2009; 2010 (Half-Year)). The staff shortage is more pronounced when compared, for instance, with the total number of medical personnel as 37 and a district population of 99,863; thus, a ratio of about 1: 2699 using 2010 as the base year. The one medical officer-to-patient/population ratio depicts a human resource deficit. These health staff shortages are attributed to the refusal of health personnel to accept postings in rural Ghana (Okyere, Mwanri & Ward, 2017; Bellerose et al, 2022).

The health insurance office has seven permanent and six non-permanent staff to license, regulate and supervise healthcare facilities in the implementation of NHIS. The lack of vehicles to move across the district to monitor service providers was revealed as a key limitation or an inhibiting factor to NHIS especially moving to remote areas for registrations/renewals and this affected the membership drive.

For the staff of the two healthcare facilities, public healthcare has 10 staff while the private facility has 15. The public healthcare facility has more professionals (8) than the private (6). On professional training and supervision between the two healthcare facilities, a senior nurse in the public facility explained the issues as:

"This is the Government of Ghana facility, so we are paid by the government, we do not use our IGF (internally generated funds) to pay professional nurses and other health workers' salaries. The District Health Directorate of GHS is responsible for posting and supervising health professionals here"

For the private healthcare facility, this was how the senior nursing officer explained their situation:

“We recruit our workers. We have to offer competitive prices and better remuneration to attract health workers, especially professionals. We have accommodation for some workers, and this enables them to provide all day and night services to patients”.

The above responses show how the two facilities recruited their staff. While the public healthcare facility relied on the government for the supply of professional medical staff, the private healthcare facility must recruit staff by themselves by offering attractive salaries to workers as well as the provision of accommodation for some health workers towards staff retention (Adzei & Atinga, 2012; Sekyi, Asiedu, & Oppong, 2022).

Organizational Factors

The second explanatory variable in the analytical framework (Figure 1) is organizational factors. The researchers looked at how the public-private partnership (Asante & Zwi, 2007) or the cooperation between public and private facilities (Ampong-Ansah et al, 2021) has facilitated or inhibited the implementation of NHIS in the district in terms of whether the beneficiaries have access to a healthcare facility (services) and the quality of services they received in meeting their healthcare needs at the local level (Sawla-Tuna-Kalba District).

One organizational factor is the inter-organizational relations among organizations implementing the National Health Insurance Scheme (NHIS) in the Sawla-Tuna-Kalba District (STKD). Included in the assessment is the level of

cooperation, coordination, and collaboration. The Sawla-Tuna-Kalba Mutual Health Insurance Scheme (STKMHS) is the lead agency. It coordinates the activities of healthcare facilities in the delivery of healthcare services to NHIS beneficiaries. The healthcare facilities also cooperate with STKMHS by accepting ‘treatment notes’ from beneficiaries who do not have national Identification (ID) cards. Thus, the public-private healthcare facilities’ cooperation or partnerships were confirmed by staff of both healthcare facilities and scheme officials. Evidence to this effect is cited below per transcribed statements from a health insurance scheme (STKMHS) official:

We facilitate the implementation of NHIS as we liaise with facilities on issues of receiving, vetting and payment of claims as well as accreditation and renewals of facilities. We also help facilities in solving their daily operational problems. Moreover, we register, renew, and distribute subscribers’ ID cards to enable them to receive services from clinics, hospitals, and other facilities across the district.

Such a statement affirms inter-organizational cooperation/partnership in areas of claims, working together to resolve operational challenges through periodic visits and exchange of information from the scheme office using circulars or letters.

Despite the evidence of collaboration, some organizational implementation challenges still exist between STKMHS (scheme office) and healthcare facilities (clinics) regarding the implementation of NHIS in the Sawla-Tuna-Kalba District (STKD). The study found cases of STKMHS indebtedness to several

healthcare facilities for over three months. Also, healthcare facilities complained of monthly deductions from their reimbursement (claims). This was found to be a setback to the implementation of NHIS by the staff of healthcare facilities. As the healthcare facilities staff or workers or officials were unhappy with such monthly claims' deductions. These challenges have affected the timely delivery of healthcare services to NHIS beneficiaries in the rural district (STKD). While the private facility has a laboratory and a theatre, the public healthcare facility did not have any of these units at the time of the study. Consequently, beneficiaries were often referred to other healthcare facilities, particularly the Bole Government Hospital for diagnostic services and other services including surgical operations. Hence, the public-private partnership helped increased beneficiaries' access to healthcare services within and outside the rural district.

Individual Factors

In this third factor, the study focused on the views, feelings, experiences, or perspectives of individual actors in the Sawla-Tuna-Kalba District (STKD). The two individuals or actors identified are the bureaucrats and beneficiaries of NHIS. Street-level bureaucrats or frontline workers include managers of the district health scheme office (Sawla-Tuna-Kalba Mutual Health Insurance Scheme-STKMHIS). In-depth interviews and FGDs with medical personnel (staff of the two clinics) revealed they offered adequate drugs/medications, rendered more out-and-in-patient services, maternity, and oral health care services of good quality to beneficiaries. This resulted in the over-utilization of healthcare services at the two healthcare facilities. A participant from the

private healthcare facility expressed her opinion:

“Subscribers decide on the facilities to visit for health care when ill and we the service providers all do this to provide them with good services. We are no longer afraid of patients, especially subscribers running away for lack of money to pay their medical bills in our facility since we know that the health insurance scheme will reimburse us for the drugs and services rendered to subscribers”.

A staff of the public healthcare facility (clinic) commented on the same issues.

“Health insurance is a blessing to our people; without it, many will die of their illnesses for lack of cash to pay for the cost of health services. Also, many facilities in the district accept health insurance subscribers. This has helped to save them from the hands of untrained ones and poor services”.

The above responses from the implementers indicate the presence of more healthcare facilities and the quality healthcare services being offered to the NHIS beneficiaries. Also, health providers' fear of non-payment of services rendered to beneficiaries is no longer an issue. The fears that clients will run away after treatment for lack of money belong to the past because of health insurance coverage for clients.

Perspectives on NHIS beneficiaries, who are also termed target groups of NHIS were assessed. The target groups (NHIS beneficiaries) had a positive attitude towards NHIS as most of them cooperated with the healthcare facilities and the district scheme officials. This was what an adult beneficiary said on cooperation in the implementation of NHIS:

“We the patients need the help of doctors

and nurses; whatever they ask us to do we obey them. I tell you we the members of health insurance have also tried our best to work well with health workers”.

Beneficiaries' cooperation with healthcare service providers (facilities) in the implementation of NHIS was confirmed in FGDs with beneficiaries and implementers. On beneficiaries' trust in healthcare facilities for quality healthcare services,

findings revealed the majority of the target groups 13 (72%) out of 18 showed more trust for quality healthcare facilities, four indicated average trust representing (22%) and one showed less trust (6%) for quality services they received from health care facilities. There was no significant variation between the two healthcare facilities (clinics) as far as the target groups' perspective on trust for quality healthcare services was concerned as in Table 2.

Table 2 Health insurance scheme beneficiaries perceived trust for quality services from facilities

Beneficiaries perceived Trust in Quality Services from Health Facilities	%
13 participants out of the 18 participants show more trust for quality services	72
4 participants out of the 18 participants show average trust for quality services	22
1 participant out of the 18 participants show less trust in the quality of services	6
Total	100

On the choice of healthcare facilities, most of the target groups preferred the private healthcare facility (Friends Maternity Home Clinic-FMHC) to the public facility (Sawla Health Centre-SHC). The key factor in their preference for the private facility is the attitude of their staff. Many participants said the private healthcare facility staff were more caring and courteous than their public counterparts. Other reasons identified include the availability of drugs or medication, the distance travelled, the number of prescriptions forms issued, and the referrals made to clients. The outpatient

department (OPD) attendance records in 2009 show the public facility recorded 3,987 while the private facility recorded 8,952. Between January and July 2010, the attendance record for the public facility was 3,648 while the private facility recorded 6,838 attendees. These documents/records confirmed interview

evidence that the private healthcare facility was the most preferred for healthcare services to the public facility. The preferences of the NHIS beneficiaries for the two healthcare facilities are in Table 3 as well as the variations in terms of OPD attendance

Table 3 the main keys that determined beneficiaries' choice of health facilities.

Main or Key factors/determinants of beneficiaries' choice of health facilities	Ratios Pr v. Pu
The attitude of staff towards beneficiaries is better in the private than the public facility	5: 3
Private facility staff more caring and more courteous than their public counterparts	5: 3
More access to drugs in the private facility than the public facility	5: 4
More issuance of prescription forms and referrals to other health facilities for services	5: 4
Overall attendance of beneficiaries for healthcare services private 15,790, public 7,635	5: 3

Also assessed was the rate of enrollment among target groups (NHIS beneficiaries) in the district. It was found that the active NHIS membership in Sawla-Tuna-Kalba District (STKD) was 49,631 in 2010. This represented 49.7% of the total population of 99,863. Further, findings revealed children as most service recipients (56.7%) followed by pregnant women (22.2%), aged (3.3%), indigents (0.2%) and Social Security and National Insurance Trust

(SSNIT) pensioners (0.1%), representing the lowest. The main contributors were represented as premium payees (17.0%) while SSNIT contributors represent 0.3% (Sawla-Tuna-Kalba District Mutual Health Insurance Scheme-STKDMHIS Annual Report, 2010; STKD Ghana Health Service (GHS), 2009; Half- Year, 2010). A similar pattern was observed in 2011.

Discussion

Accreditation and access to healthcare facilities

The newly accredited Community-based Health Planning and Services (CHPS) compounds in villages like Sanyeri, Kunfusi and Saru 2010 helped increase access to remote parts of the district. (Ghana Health Service Half-Year, 2010). Thus, the public-private accreditation or partnership in healthcare service provision made a wide range of services available to beneficiaries in rural parts of the district. Several findings agree that the public-private partnership is a key facilitating factor as it helped increased beneficiaries' access to healthcare services coupled with referrals/prescriptions in Ghana (Asante & Zwi, 2007; Ampong-Ansah et al, 2021; Kipo-Sunyehzi, 2021).

While the northern regional active membership of NHIS is 31%, the national active membership was 34% in 2010

(Ghana Health Service, 2009). The STKD rate of 49.7% is higher than the national and regional average of active membership of NHIS in 2010. The regional and national records made the STKD records encouraging (Sawla-Tuna-Kalba Mutual Health Insurance Scheme (STKMHIS) Annual Report, 2010). The findings suggest that rural people have more interest in NHIS through registrations and renewals. The increased enrollment in the STKD contrasts with Chankova, Sulzbach and Diop's (2008) findings, which showed lower enrollment in mutual health organizations in rural areas of Ghana (Chankova, Sulzbach & Diop, 2008). However, the rate of enrollment for the core poor (indigents) in society is 0.2% in STKD. This revealed that only a few core poor have access to healthcare services in STKD. This finding on low enrollment of the core poor (indigents) and the most vulnerable is consistent with other studies findings (Kwarteng et al, 2020; Kipo-Sunyehzi, 2021). The low enrollment of the core poor (indigent persons) is partly attributed to the rigorous process involved in the selection of indigents and the problem of affordability of the annual premium.

Resource allocation towards effective implementation of NHIS

The study found exempt groups constituted the majority of beneficiaries (82.5%) in STKD (STKMHIS Annual Report, 2010). The positive findings seem to be short-lived as the study found delays in the reimbursement of healthcare facilities-monthly claims. The findings concurred with Witter and Adjei's work on the challenges of reimbursement of maternal delivery exemption fees due to inadequate funding for policy implementers in Ghana (Witter & Adjei, 2007; Akweongo et al, 2021).

Asante and Zwi identified the “health force shortage” as a big threat to the health system in Ghana and the effective implementation of policies. Coincidentally this human resource issue is more serious in northern Ghana where the numbers of medical doctors get “thinner and thinner”. Policymakers at the national level do not want to allocate resources to areas with inadequate personnel to turn those resources into services “for the benefit of the people” (Asante & Zwi, 2009; Okyere, Mwanri & Ward, 2017; Bellerose et al, 2022). These studies’ findings are consistent with this study finding in which inadequate human resource allocation to STKD was identified. The worst affected areas are remote villages with no medical personnel to utilize or operate the Community-based Health Planning and Services (CHPS) compounds to increase access to healthcare services. There are vast disparities in the allocation of medical personnel to cities and towns and between towns and villages in Ghana. This geographical inequity has resulted in the worsening plight of NHIS beneficiaries who reside in remote parts of Ghana as those residents do not have access to trained medical professionals to cater for their healthcare needs. Several studies confirmed that there is more access to healthcare services for urban dwellers than for their rural counterparts in Ghana (Gobah & Liang, 2011; Alhassan & Nketiah-Amponsah, 2016).

Organizational relations: cooperation, coordination

The study found effective cooperation and coordination between facilities and health insurance scheme offices which helped to implementation, particularly, NHIS in Ghana in areas of public-private healthcare provision or partnership and how such joint provision of healthcare services has helped

keep healthcare service providers on their toes to improve the quality of healthcare services they provide to NHIS beneficiaries. This inter-organizational cooperation was largely in terms of prescriptions and referrals in the rural district. This was due to a merger between the design-top-down and bottom-up approaches towards the implementation approach on which works better (Sabatier, 1986; Goggin et al, 1990; Matland, 1995; Winter, 2012; Kipo-Sunyehe, 2020; 2020b).

Behaviors of street-level bureaucrats and target groups on quality healthcare

The attitude of health workers was found to be more influential in determining beneficiaries’ choice of facility, followed by the availability of drugs/medicines. Hence, the positive attitude of implementers and target groups is crucial.

Conclusion

Despite the progress made in the implementation of NHIS in STKD in increasing beneficiaries’ access to healthcare facilities, there are still some inhibiting factors and conditions. Some of these include delays in the reimbursement of healthcare facilities after healthcare service provision to beneficiaries, some acts of fraud and corruption, and some health workers’ negative attitudes towards beneficiaries.

Contribution

This paper/study has contributed to the field of policy design and increase beneficiaries’ access to healthcare services as well as improved the quality of healthcare services in rural Ghana

Recommendations

There is a need to grant some accreditation to other diagnostic centers in remote areas (villages). Also, the central government should provide some incentives for health workers who accept postings to rural areas of Ghana. The study recommends some in-service training for some health workers on good attitudes towards their clients,

especially public workers (clinicians). Future research may adopt a quantitative approach with a larger sample size and more healthcare facilities across the rural district or elsewhere in Ghana or other countries with similar settings.

Conflicts of interest

The authors declare no conflict of interest.

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Competency-Based Training Implementation Constraints in Tanzania: Evidence of Trainers from Vocational Education and Training Centres, Morogoro Region

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Abstract:

The study where the article was originated examined on the constraints facing trainers' in implementing competency-based and training (CBT) at vocational education and training (VET) based on human capital theory assumptions. CBT demand trainers to have pre-requisite competencies, industrial exposure, adequate training resources and continuous updating of their competencies for its effective implementation. Nevertheless, these demands are claimed to lack among trainers and led to CBT implementation challenges and have resulted to have the outcome of trainees who have acquired training certificates with inadequate competencies demanded for employability. A qualitative research design was used where semi-structured interviews were used to collect data from 22 trainers who were purposively selected out of 87 trainers from four selected vocational training institutions. Data were analysed through thematic and content analysis. The findings revealed that trainers were facing challenges in implementing CBT due to their knowledge-based training orientation, inadequate opportunities to industrial exposure and further competence updating. Therefore, it is suggested that there is a need for VETIs and trainers to increase opportunities for further training and industrial exposure to update trainers' competencies to meet CBT requirements. Also, industrial visits and collaboration in training are suggested to enhance trainers' ability in implementing the CBT approach.

Key words: Trainers; competency-based training; vocational education and training institutions.

1.0 Introduction

In today's global economic sense, the productivity of skilled workers is becoming ever higher than ever, due to inadequate employability competencies of the

workforce in several sectors including the civil construction industry. To rescue the situation competency-based training (CBT) was adopted by vocational education and training (VET) in developed and developing countries including Tanzania as one of the strategies to solve the challenge of the low productivity workforce which was caused by inadequate employability competencies. CBT was recognized as an effective way of ensuring training imparts employability competencies relevant to the labour market and giving expectations to employers that the low quality of work will be reduced (ILO, 2020; Biemans, et al., 2004). In this case graduates under CBT were expected to perform better in jobs than those with traditional qualifications (Pavlova, 2019). Despite, CBT being adopted in VET for almost 60 years worldwide (Deißinger, 2005) and more than 20 years in Tanzania (Tambwe, 2017) still, it is claimed that the implementation of CBT is challenging due to several factors including trainers' competencies (Hakielimu, 2021; REPOA, 2020). Therefore the current study examines constrains of CBT implementation based on trainers' required competencies.

1.1 CBT implementation requirements

International Confederation of Midwives (2012) describes competency-based training as a way of structuring training activities so that the learner can meet a predetermined set of competencies required by the labour market. It focuses on what learners can do rather than on the courses they have done. It is based on the philosophy that "given appropriate instruction, time and conditions, almost all learners will learn most of what they are

supposed to learn including what they are trained and what they achieve from self-learning" (NACTE, 2010, p.7). Based on this assumption, ILO (2020) indicates that CBT approach to VET has been recognized as a highly effective way of ensuring that training programmes remain relevant to the labour market.

In this case, studies have indicated that effective CBT implementation depends on human resource development policy frameworks; appropriate institutional arrangements; support services; methodology; adequate and relevant learning material and qualified and committed trainers (ILO, 2019). Additionally, due to continuous changes in the labour market needs revisions of the curriculum are ought to be done on 3-years basis or throughout learning period (Mulder, et al., 2017). For that case trainer to become a CBT implementer requires studying various teaching and learning theories that focus on learning outcomes with specific, measurable definitions of knowledge, skill and learner behaviour (Tambwe; 2017). Furthermore, trainers with pedagogical and technical skills, adequate in knowledge and understanding in applying multiple training methods, organization and class management, trained in vocational education, teacher education institutions/ technical university and gained experience in the labour market are highly demanded in CBT implementation (ILO, 2020; European Union, 2017; Makunja, 2015, VETA Curriculum, 2013).

This accounts for trainers to possess commercialization of knowledge-skills and technologies, flexibility in working culture, social, attitude, pedagogical competencies, professionalism and commitment-related competencies (Mojtaba, et al., 2018;

Habtamu, 2016; Thakur and Shekhawat, 2014). Thus, Akinseinde (2006) indicated that trainers' competencies may either enhance or hinder the implementation of CBT approach for meeting learners acquisition of employability competencies. This implies that if trainers are competent and managed effectively are likely to lead to effective implementation of CBT for imparting employability competencies to learners as required by employers.

Other studies have shown that, CBT implementation demands industrial experience and the ability or willingness of trainers on updating and refinement in knowledge, skill, and positive attitude (Nair, 2017). This was evidenced in Ngure (2013), who opined that trainers should have practiced their vocation for some years to gain industrial experience before becoming CBT implementers to strengthen their knowledge base. Zinn, et al., (2019), postulated that there is a need for trainer to attend further training in the methodological usage and the construction of appropriate and suitable learning materials in the field of pedagogical and content knowledge. In China for instance it was indicated that, in every three years of teaching, teachers of VET are supposed to be exposed to work in the related subject in an industry (Dobbo, 2018). This calls for training institution managers to update trainers' competencies through training, seminars or workshops for effective implementation of CBT. Therefore, updating knowledge and skills to trainers is not just important, it is necessary to generate competent trainers for CBT implementation.

Despite CBT requirements, UNESCO (2021), found that globally, majority of

trainers implement CBT without the benefit of industrial background and have often lacked the opportunity to experience the world of work. Wongnaa and Boachie (2018), explained that given the CBT approach being time demanding than content-training approaches, trainers were reluctant at adopting CBT techniques in their training and learning activities, Schnitzler and Heise (2021) in Jordan found that trainers applied traditional methods of training. Aderonmu et al. (2014), in Nigeria revealed that, there were inadequate competencies among trainers in implementing the CBT approach while Ngure (2013) and Njati (2013), in Kenya found that trainers lacked pedagogical competencies which affected negatively implementation of CBT.

In the Tanzanian context, Tambwe (2017), studied on challenges facing the implementation of the CBT system in technical institutions revealed that, trainers applied the traditional way of training and learners learnt through memorization. As it was shown that seventy per cent of trainers were not able to plan and even deliver lessons using CBT. Hakielimu (2021), indicated that there is a deficiency in the initial training of trainers. Kafyulilo et al. (2013) found that trainers had limited knowledge of the CBT approaches. This indicates the difficulties in implementing the CBT approach. It is likely to be concluded that there is ample evidence of challenges facing trainers in implementing the CBT approach. However, there is scant literature on trainers' requirements for CBT implementation at VET in the Tanzanian context where the current article focused.

1.2 Initiatives done by Government of Tanzania in meeting CBT requirements

In the Tanzanian context, CBT was adopted at VET in the early 2000s to generate equipped graduates with appropriate sets of employability competencies towards the realization of Tanzania Development Vision (TDV)_2025 of becoming a middle-income economy by 2025 which shall be achieved through creativity, innovativeness and a high level of quality skills (Rutayuga, 2014; URT, 1999; Technical Education and Training Policy, 1996). Aiming at producing competitive and high-quality products, increasing efficiency, and reducing production costs (Nkebukwa, 2018). To realize vision achievement sectors including agriculture, trade, mining, manufacturing, and construction were prioritized, where the civil construction sector was a paramount (VETA, 2020; COSTECH, 2016; URT, 2014). The priorities identified as the essential catalyst for the attainment of the Vision 2025 objective include the development of infrastructure as an important ingredient towards the attainment of faster economic growth (National Construction Council (NCC), 2003). These initiatives required competent civil artisan graduates in welding, plumbing, installation, carpentry, masonry and architectural activities (URT, 2019).

Despite, CBT adoption other efforts had been taken to ensure effective implementation of CBT including the Technical and Vocational Education Development Program (TVETDP) (URT, 2013), civil engineering curriculum adding soft competencies including communication, entrepreneurship skills, and information communication technology (VETA Civil engineering curriculum, 2013), Technical Education

and Training Policy of 1996; National Skills Development Strategy (NSDS 2016-2021). On the other hand Education Sector Development Plan (ESDP) (2016/17-2020/21) introduced fee-free education at basic education to encourage the acquisition of basic competencies including self-confidence, tolerance, and respect for all people, building a culture of human development through hard work, professionalism, creativity, innovation, critical thinking and problem-solving skills for entering higher education (URT, 2016, 2018). National Five Year Development Plan Phase III (NFYDP III) 2021/22-2025/26 indicated that the government budget for 2019/2020, allocated funds for the construction of 25 District Vocational Training Centres to impart employability competencies to the youth (Ministry of Finance and Planning, 2021). All these efforts were expected to meet the demand of generating a competent and skilled labour force to meet labour market demand and insisted the development of employability competencies in the teaching and learning process. However, despite the existence of CBT for almost more than 20 years now since its introduction in Tanzania these efforts had been focusing on institutional frameworks, learners development, adequate and relevant learning infrastructures and materials but still trainers requirements is challenging where the current study focuses. Therefore this article mainly focused to examine how trainers' requirements of implementing CBT approach are attained at VET and the constraints facing them in CBT implementation. This main objective is further dived into specific objectives including,

- i) To identify trainers pre-requisite level of education for

- ii) implementing CBT
- ii) To examine the work experience of trainers in implementing CBT
- iii) To examine trainers industrial exposure for effective implementation of CBT
- iv) To identify trainers opinions on CBT understanding
- v) To examine strategies for updating trainers competencies for CBT implementation

1.3 Significance of the study

First, there have been insufficient studies on investigating trainers' requirements towards CBT implementation at VET where the impact of CBT can be felt realistically. For instance, Tambwe (2017) focused on challenges facing implementation of CBT at higher learning institutions. Kafyulilo, et al. (2013) observed pre-trainers from Morogoro teachers training college who were prepared for teaching. Therefore the current study will bridge the knowledge gap by investigating the trainer's requirements towards implementation of CBT at VET. Second, studies by Mufuruki, et al (2017), Wangwe, et al (2014), and Haji (2015) recognized that studies on the VET training system are scarce in Tanzania. Therefore, this study is likely to be an input in future studies for making informed decisions about trainers requirements for CBT implementation at VET.

Third, conducting the study at VET instead of primary, secondary, or higher learning education institutions is due to the main objective of VET to prepare learners for employment under CBT approach in different industries including the civil construction sector which is prioritized by the nation's vision of 2025 (URT, 1999; Technical Education Policy,

1996). Therefore to investigate trainers' requirements for CBT implementation at VET at this level is best. By investigating trainers' requirements for CBT implementation at VET the study is likely to add knowledge in the existing literature on the trainers requirements and challenges facing implementation of CBT for imparting employability competencies to learners. Fourth, the findings of the study might stimulate more studies in the area trainers' requirements towards implementation of CBT for human resource development in the knowledge economy which demands skilled human resources who are equipped with communication skills, teamwork, honesty, and flexibility in the working environment both in Tanzania and elsewhere in developed and developing world.

2.0 Theoretical foundations

The article is grounded on human capital theory. Founders of human capital theory are Theodore Schultz (1902-98) and Gary Becker (1930) and developed by Becker seminar work in 1964 (Paadi, 2014). Human capital believes that education incorporates knowledge development, acquisition of skills and reflection of feelings. The theory emphasizes on increasing number of persons who have skills, education and experience as are critical for economic growth and development of any country. The theory further suggests that core employee competencies are central to firm's competitiveness should be developed and maintained continuously (lifelong learning). Therefore it emphasizes on employees to have education, skills, and

experience as critical for improved work performance (Wuttaphan, 2017). In this case implementation of CBT at VET

which demands trainers with pedagogical and technical skills, adequate in knowledge and understanding in applying multiple training methods, trained in vocational education, teacher education institutions/technical university and gained experience in the labour market (ILO, 2020; European Union, 2017; Makunja, 2015, VETA Curriculum, 2013). Human capital theory is effective in explaining constructs demanded in implementing CBT at VET including prerequisite competencies, training experience, industrial exposure, understanding of CBT approach and strategies for continuous updating of competencies as summarized in Figure 1 below.

Prerequisite competencies help to explain what competencies VET trainers were having to meet the requirement of CBT being measured in terms of education as insisted in human capital theory as Schultz (1961) opined that well-educated labour force are likely to have a number of skills which will make them more productive than workers with low education. Also Noe, et al. (2013) underscored that, education is a major determinant to the workforce. Sweetland (1996) opined that training experience is effective in understanding work challenges. Industrial exposure explains how VET trainers are up to date with the changes which are taking place in the labour market including technology, policies and procedures. Training methods requires the instructor to master instructional techniques, practice and experience therefore understanding of CBT approach explains how VET trainers were aware with CBT requirements and strategies for continuous training indicate the activeness of the institute/organization in updating trainers' competencies to meet the current labour

market which demands skilled and competent workforce (Armstrong and Taylor, 2016; Judge, et al., 1995). Generally, when these concepts harmonized with other factors being constant are likely to enhance an effective way of implementing CBT approach for the realization of imparting employability competencies to learners. Finally rescue the challenge of inadequate employability competencies to graduates as claimed by employers. The theory was applied by other studies including Tittenbrun (2017), Squicciarini & Voigtländer (2014) and Down (1994) in other fields. Thus the current study focused on trainers' competencies towards implementing CBT approach.

2.1 Study framework

In order to enrich understanding of requirements for trainers in implementing CBT, the study framework was founded human capital theory assumptions. The study framework integrated the ideas of human capital theory where pre-entry qualification were explained in terms of education attained by the trainer before being employed by VET and was conceptualized as a construct consisting of human capital which insisted on the benefits of education in human capabilities for improving job performance. Also had shown the benefits of industrial exposure, work experience and the benefits of continuous updating of employee competencies to meet the rapid changes of the labour market needs in improving human capital capabilities. Therefore the current article hypothesises that human capital theory indices including pre-requisite entry qualification, working experience, industrial exposure and updating competencies through trainings have a process relationship with the

implementation of CBT. And it is likely to be concluded that if trainers lack one or both indices as described by human capital theory may hinder implementation of CBT for imparting employability competencies to learners. The interrelationship forming the bases of study framework is presented in Figure 1 below.

H1: Human capital theory assumptions has an effect on CBT implementation

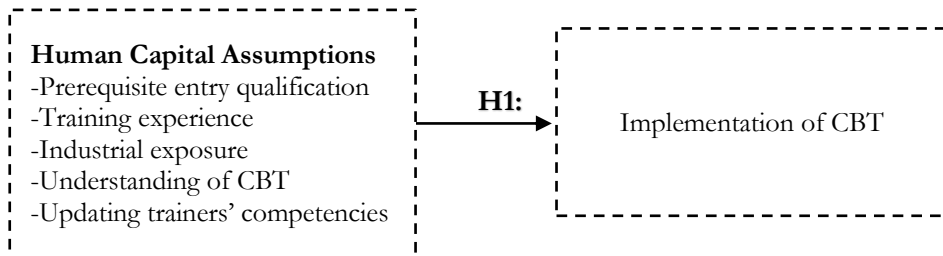


Figure 1: Study Framework

Source: Developed by the Researchers from Human Capital Theory Assumptions

3.0 Methodology

The study where the article originated employed a qualitative exploratory research design to capture information from trainers at four VET institutions who were purposively selected. This method was applied because understanding trainers' requirements for implementing CBT was effective through human observation, interpretations and reflections on what people said and what they were doing in a specific work context (Creswell, 2014). The major assumption was that collecting data from relevant people's real-life experience necessitated getting real and rich data that facilitated to effectively address the constraints of trainers on CBT implementation (Neuman, 2014). Semi-structured interviews were applied to collect data from 22 VET trainers. Also documentary review particularly the VETA curriculum was reviewed for compiling pre-entry

qualification for trainers at VET and training policy of 2006 was reviewed to understand if updating competencies to trainers was given paramount.

3.1 Study context

The study was conducted in Morogoro region in Tanzanian. Morogoro was chosen due to its uniqueness of having four public VETs including the Kihonda regional vocational training centre (RVTSC), Dakawa vocational training centre (VTC), Mikumi vocational training centre (VTC), and VETA Morogoro Teachers College. All of these provide civil engineering courses and one being a VET teachers college in the country which is managed and governed by the government through its agency (VETA). In addition, one private VET (St. Joseph VTC-Ifakara) was included in the study because it was the first VET to be introduced in the region and admitted students in masonry and carpentry courses. The distribution of VET in Tanzania's Mainland, included Arusha 3, Dar es Salaam 2, Dodoma 1, Geita 1, Iringa 1, Katavi 1, Kigoma 2, Kilimanjaro 1, Lindi 1, Manyara 3, Mara 1,

Mbeya 2, Morogoro 4, Mtwara 2, Mwanza 1, Njombe 1, Pwani 1, Rukwa 1, Ruvuma 2, Shinyanga 1, Simiyu 1, Singida 1, Songwe 1, Tabora 3, Tanga 2. However the nearest regions including Coaat region has no VET under VETA that trains learners on masonry and carpentry and in Dar es Salaam, only Chang'ombe RVTSC has masonry and carpentry courses (URT, 2021 p.6). During the data collection process, the participants were assigned numbers in place of their names to maintain anonymity. Despite that Morogoro region has several VETs; the VETs chosen were based on the availability of masonry and carpentry courses. Data were collected from September to November 2021

3.2 Sampling procedures

There were 87 trainers from four selected VETIs who potential for the study. However, only 22 trainers who were teaching masonry and carpentry courses were selected purposively. Sampling involved two stages; firstly, selecting the study area and secondly selecting the study respondents. Purposive sampling was used in stage one in selecting the study areas and in stage two for selecting respondents trainers from VET. The method was used based on knowledge and experience of trainers upon CBT approach, and teaching masonry and carpentry courses, therefore the sample size included 22 trainers from four vocational training centres (VTCs). In reporting findings, respondents were coded into numbers as (Trainer, 1-22).

3.3 Data collection tool

Data were collected by using semi-structured interview and documentary review.

3.3.1 *Semi-structured Interviews*

Semi-structured interviews were used by

formulating a few leading questions leaving room for follow-up (probing) questions to emerge in the course of the discussion during the study. Interview questions were prepared by the researcher and requested experienced experts in the subject matter to check them to ensure that there were no wording questions that might lead to predetermined answers including supervisors, reviewers and pilot study to six trainers from one VTC which is not included in the article was done at Mbeya region. The probing questions were used to obtain extra information and explanations for respondents who did not disclose the targeted information. Semi-structured interviews aimed to elicit understanding from the participants, not to tell them what to say, but rather to offer pathways to conceptualize issues and to make connections that combine into emerging responses (Neuman, 2014). In this case, 22 trainers including 3 females and 19 males who were purposively selected were interviewed. Responses were audio recorded by using voice recorder and recorded in writing and directly transcribed. The respondents were coded as trainer 1-22 for reporting purposes.

3.3.2 *Documentary Review*

The researcher reviewed the VETA training policy 2006 to examine how it states about trainers continuous training in updating their competencies for improving their capabilities in implementing CBT. The obtained information helped to answer the question on how employees are supposed to be upgraded to meet CBT requirement which is dynamic by nature (ILO, 2020).

3.4. Data analysis

Thematic and content analysis was used to analyse semi-structured interviews where

data were transcribed and recorded into summaries and categorized into themes while demographic information of trainers were explained descriptively as indicated in Table 1 below. for reporting purpose. Codes were created deductively and inductively in analysing data. The deductive involved creating codes based on research objectives and reviewed literature and the inductive approach was based on the transcripts from respondents.

4.0 Findings and Discussions

4.1 Trainer's competencies

Trainers' competencies are an important factor to the implementation of CBT approach because trainers play a central role in the implementation process. To examine competencies required for trainers in implementing CBT approach the researcher reviewed documents including VETA curriculum of 2013 to identify pre-requisite competencies required from trainers and semi-structured interviews were conducted with trainers to identify the pre-requisite competencies possessed for CBT implementation.

4.1.1 Prerequisite competencies required from trainers

From the documentary review, it was indicated that entry qualification of trainers at VET included holders of CBT level III, Diploma and Bachelor Degree from Universities and passed through teaching methodology from Morogoro Vocational Teachers Training College for teachers who were required to teach core subjects. On the other hand, related skills included engineering and supporting subjects from recognized universities. VETA curriculum (2013 p.17) identifies that the minimum qualifications of a vocational trainer under CBT approach to

implement the approach include: a holder of CBT Level III or equivalent with a teaching certificate plus 3 years work experience is eligible to train CBT level I–II and can assist in practical sessions for CBT Level III programme. Second, a holder of a Diploma in Civil Engineering with a Teaching Certificate and 3 years of work experience is eligible to train CBT level I–III. Availability of requisite competencies among staff will also constitute a mechanism for enhancing staff eligibility and competitiveness for higher positions in future as the need arises. This implies that trainers at VET must have acquired CBT level 3 which is the highest level at VET and above as a prerequisite for teaching whereas work experience is an added advantage. The finding corresponded with Educational International (2009), explaining that CBT requires trainers with pedagogical and technical skills, training in teacher education institutions and experience in the labour market.

4.1.2 Trainers responses on pre-requisite competencies attained before working at VET

Trainers were asked to inform on their education level attained as a pre-requisite to be recruited as CBT implementers. The findings from an interview with trainers indicated that two trainers pursued certificate level, eight trainers pursued diploma level, two trainers pursued advanced diploma level, seven trainers pursued bachelor's degree level, and three trainers pursued Master's Degree. This implies that trainers were competent in terms of theoretical requirement on CBT implementation. The findings were similar to the VETA curriculum (2013) which means basing on education attainment they were having prerequisite

competencies to be CBT implementers. Despite, the theory being silent with the level of education required for improved performance the results from VET trainers are likely to be concluded that VET trainers were having education and knowledge for understanding on how to implement CBT to trainees for improved performance.

4.2 Trainers training experience

Experience provides a platform for problem-solving and leads to growth and change thus it helps trainers in developing and delivering CBT through the application of various training and learning methods (Wesselink, 2010; Williams, 2009). The findings indicate that trainers have a work experience ranging from two to forty years' in training. This implies that interviewed trainers are likely to have a good number of years' experience in CBT implementation. The findings corresponded with the theory which assume that work experience helps and employee to improve work performance in the labour market. Interview responses are summarised at Table 1 below.

4.3 Trainers work exposure

According to European Union (2017), implementation of CBT need a trainer to have practical and pedagogical

competencies; which can be acquired through training and work exposure. However, the findings revealed that majority (fourteen) trainers had no industrial exposure they were directly employed after completing university studies and minority (eight) trainers had industrial experience. This implies that majority of VET trainers had no industrial exposure so they were training on what they experienced during their learning process. Therefore is likely to be said that the situation hindered implementation of CBT which require work experience. As from the human capital theory insists that work experience increases efficiency in the workplaces but at VET it was found that trainers were lacking industrial exposure. The findings were similar to UNESCO (2021), which found that the majority of CBT implementers at VET enter the classroom without the benefit of industrial background, and have often lacked the opportunity to experience the world of work. Also, ILO (2019) found that in Tanzania there is a challenge in getting VET trainers from the world of work; hence graduates from learning institution are hired as trainers. This affected negatively the implementation of CBT. Responses from an interview with trainers is indicated at Table 1 below,

Table 1: Trainers' responses on education level attained, training experience and work

Trainers	Education attained	Training experience	Industrial Experience
Trainer 1	Diploma	4 years	For twenty (20) years I worked as a technician at the Sokoine University of Agriculture (SUA) workshop.
Trainer 2	Diploma	3years	Employed direct after graduating from University

Trainer 3	Advanced diploma	9 years	For four years I worked with HT-general enterprises performing activities of building infrastructures, roads, dams and irrigation systems
Trainer 4	Master's degree	18years	Employed direct after graduating from University
Trainer 5	Certificate	11years	For fifteen (15) years I worked as a technician in workshops in various public organizations
Trainer 6	Bachelor degree	2years	I worked as a teacher in a secondary school for 2 years teaching mathematics and in 1 year in Business Institute teaching ICT subject.
Trainer 7	Master's degree	6years	I worked as a teacher in secondary school for 3 years and 3 years training at VET
Trainer 8	Bachelor degree	14years	Employed direct after graduating from University
Trainer 9	Bachelor degree	4years	Employed direct after graduating from University
Trainer 10	Bachelor degree	10 years	Employed direct after graduating from University
Trainer 11	Master's degree	20years	Employed direct after graduating from University
Trainer 12	Bachelor degree	7years	Employed direct after graduating from University
Trainer 13	Bachelor degree	2years	Employed direct after graduating from University
Trainer 14	Bachelor degree	10years	I worked at TANESCO for four years and SAYE power lines for seven years performing survey activities
Trainer 15	Certificate	2years	Employed direct after graduating from University
Trainer 16	Diploma	6years	I worked at TANESCO for seven years in the telecommunication engineering department.
Trainer 17	Diploma	40years	Education level Employed direct after graduating from University
Trainer 18	Diploma	2years	Employed direct after graduating from University
Trainer 19	Advanced Diploma	11years	Employed direct after graduating from University
Trainer 20	Diploma	2 years	Employed direct after graduating from University

Trainer 21	Diploma	14 years	I worked at secondary school for three years teaching mathematics and physics and for one year worked at TANESCO as an operation manager
Trainer 22	Diploma	14years	Employed direct after graduating from University

Source: Field Data, 2021

4.4. Understanding of CBT

To impart competencies to learners' trainers must be able to understand and deliver the content under the CBT approach. Apart from trainers' competencies acquired as a pre-requisite entry qualification, the researcher asked trainers how they were aware of the CBT approach in their working experience. The question demanded trainers to tick on yes or no. The findings revealed that out of twenty two trainers twenty one trainers were familiar with CBT while one trainer was not familiar with CBT. This implies that trainers were familiar with and have an understanding of the requirements of CBT.

4.4.1 Reasons for introduction of CBT

Apart from short responses on an understanding of CBT trainers were asked to explain why CBT was introduced at VET. The question supplemented the closed question above to get details on trainers' understanding of CBT. Trainers' explanations were based on three themes including government-imposed CBT due to external influence, progress with further studies and labour market demand.

4.4.1.1 Government imposed CBT due to external influence

Some trainers explained CBT approach was introduced due to external influences of donors and VET sponsors. They insisted that CBT were not a government

priority to improve the quality of training at VET as the idea did not originate from local practitioners but was imposed from outside the country, even though the purpose was good. They asserted that, contrary to what initiators would expect, internally the emphasis on CBT is weak. This perspective was extensively quotations from among trainers as,

“CBT approach was copied from developed countries to replace the trade test training approach which was dominated by a traditional way of testing learners based on a single event (final examination). But the CBT approach assesses various incidences including practical testing, assignments, tests and final examination (Competency-Based Assessment). Despite the emphasis on the CBT approach at VET in Tanzania, it is not implemented as expected due to challenges of inadequate training and learning resources, the mind-set of trainers to practice CBT, and some VET institutions particularly private institutions are not ready to shift from a traditional approach (Trainer 7 on 6/10/2021)”.

Another trainer had this to say,

“CBT approach was adopted from other developed countries without comparing with the reality in our country on how it can be implemented, the capability of implementers, learners and training and learning resources. In reality, it is not implemented effectively due orientation of trainers who in most cases are knowledge-oriented (KBET). Also, inadequate

training and learning resources facilities affect negatively the implementation of CBT at VET” (Trainer 4 on 5/10/ 2021).

Despite the understanding of the CBT approach as being copied from developed countries and Tanzania was influenced to implement it without preparation of its trainers and institutions frameworks. Other trainers had a different perspective on the introduction of CBT as they explained that it was introduced for academic growth purposes.

4.4.1.2 Progress with further studies

Trainers indicated that CBT was introduced to help learners continue with further studies as the previous VET testing system was not helping learners to continue with further studies in higher learning institutions. This was facilitated by the grading system under the trade test where trade test grade I was the highest qualification at VET. Now it has changed from trade test to CBT levels which are identified as national vocational award (NVA) 1-3 and if the learner passes all modules in these levels may opt to continue with National Technical Award (NTA) level 4 in tertiary education under the CBT approach and reach upper academic achievement. This had facilitated VET learners to continue up to NTA level 10 (PhD) as the highest level for acquiring problem-solving skills, innovation, critical thinking and creativity for business management and economic development this was indicated as,

“Before saying anything about CBT, I start with the main objective of establishing VETA in Tanzania, which was to impart competencies to youth for self-employment. But due to changes in the labour market CBT training was introduced

to impart competencies which will help learners to meet the labour market for self-employment and wage employment. Also before CBT, the traditional model of training did not give opportunities to learners to grow academically (for further studies). Hence CBT training allows learners to prosper academically” (Trainer 8 on 10/10/2021).

“CBT training replaced the trade test qualification system which was based on manual skills (hard competencies) and hindered graduates of VET to continue with further studies in higher learning institutions/universities. The introduction of CBT training added soft competencies which are compatible with the requirement of higher institutions/ universities this allows VET graduates to progress with studies in other courses. So to me, I can say CBT was introduced to replace the traditional testing system which hindered VET graduates to attain academic growth” (Trainer, 02 on 2/10/2021)

“...in preparing and reviewing the curriculum VETA involved stakeholders from Universities, employers and other tertiary institutions who advised VETA to embed soft skills to help VET graduates to excel for further studies in higher learning institutions either in similar courses or related courses. This is because VETA awards are connected with national awards certification of technical education from NVA to NTA levels” (Trainer 04 on 4/10/2021).

4.4.1.3. Meeting labour market

Trainers indicated that CBT was introduced to meet labour market demand as previously graduates from VET were employed by the government which demanded specialized skills it was easier for content-based training to feature the needs of the government. Failure of the government to employ all graduates had

influenced VET training to include hard and soft competencies to enhance learners to acquire generic competencies which can help them for employability in government, private companies and self-employment to meet labour market dynamics. Trainers had this say,

“CBT was introduced at VET to impart labour market demanded competencies because VET is an industry of skilled labour production” (Trainer 16 on 10/11/2021)

“CBT was introduced to meet labour market demands because it insists on competencies which are demanded by employers for instance in our training content we have a mixture of skills you may find a masonry learner is required to learn on communication skills, computer skills and life skills which were not taught before CBT approach. The addition of soft competencies in the CBT curriculum widens our learners to compete in the labour market” (Trainer, 05 on 5/10/2021)

“The requirement of CBT on involving stakeholders in the training content development process had influence employers to identify what competencies should be taught at VET and these competencies are identified according to labour market need (Trainer 4 on 4/10/2021)”.

“CBT approach is applied to assess learners in terms of practical and theory to reach industrial development in operating machines as theory helps learners to get awareness about knowledge and practical helps to acquire skills and attributes which in combination we call as labour market demanded skills” (Trainer 15 on 18/10/2021).

Impliedly is that trainers had multiple understanding of the CBT approach. Therefore, this is likely to be effective in

training practices and CBT implementation. However, majority indicated as CBT was introduced to meet the labour market demand. This finding were in vein with empirical studies including ILO (2020); Pavolva (2019) and Biemans, et al. (2004) which indicated that CBT was introduced to meet labour market which changed from manual demanded skills to knowledge economy which demanded individuals with adequate competencies. And few indicated as it was introduced to meet students' academic and profession progression that previous grading system of trade test hindered VET graduates to progress with further studies in higher learning institutions. This was evidenced by Hakielimu, (2021) the trading had no flexibility for entry qualification into technical and vocational education and training colleges as progression pathways. Thus, is likely to be concluded that trainers understanding of CBT was clear. However qualitatively it does not mean that this may have direct relationship with effective implementation of CBT due to other process and interactive relationship in implementing CBT.

4.5 Upgrading competencies

The implementation of CBT approach is complex therefore pre-requisite competencies of trainers might not guarantee effective implementation of it. Due to its complexity training and exposure to update trainers' competencies is not just important but inevitable. According to the National framework for continuous professional development for practicing training, trainers are a key factor in achieving the goals of enhancing the quality of training and developing the human capital of Tanzania and this can be realized by opportunities for trainers to have a continuing professional

development through training, workshops, seminars and work-based experiences (URT, 2017). To capture the information on how VET trainers upgraded their competencies the researcher reviewed documents including the VETA training policy 2006 and then asked trainers if they had attended training and the kind of training which they attended.

Through the documentary review, it was indicated that,

VETA believes that continuous development of appropriate competencies is the key to employees' high performance in the organization as well as career and professional development. Therefore formal training should be provided in the form of long or short courses associated with certification and informal training including work attachments, study tours, attendance to seminars, workshops and conferences as well as on-the-job coaching and mentoring should be done to enhance employees' competencies (VETA, 2006: 2).

Policy Statement,

VETA shall train and develop all staff to enable them to acquire the necessary knowledge, skills and attitudes required to effectively perform their duties. VETA believes in competence-based staff development as a means of achieving effective and efficient performance in terms of services delivery in line with its mandate as provided for by the Vocational Education and Training Authority Act of 1994 (VETA, 2006:3)"

This implies that VETA considers trainer training as a crucial factor for effective implementation of CBT. An interview

with VET human resources officers

(HROs) revealed that upgrading competencies for trainers was important and were supposed to be done each year. However sometimes it is difficult to implement due to budget and training need analysis. As when the need occurred and there was the availability of funds an institute facilitated upgrading competencies to workers by 100% for long courses and short courses. Also, labour analysts stated that due to fast changes in technology and labour market demands VETs were required to empower competencies from time to time through the provision of training and seminars. Moreover, training coordinators revealed that training trainers to upgrade competencies was important in their institutions. The findings corresponded with the human capital theory which assumes that upgrading employees' skills improves workplace performance.

In addition to that, the researcher interviewed 22 trainers on what training they have attained after being employed by VETIs, duration and facilitators of training. Trainers responded that training was provided to them within and outside the country on entrepreneurship skills, teaching methods, application of the CBT approach and assessment methods being facilitated by VETA, Ministry of Science and Vocation Education, donor countries, regulatory authorities, NGOs and other government and international programmes. How some indicated that they did not attend any training in their work experience. Among the interviewed trainers revealed that,

"... I attended pedagogical training (A long course at Morogoro VETA Teachers Training College), in 2014 attended training on risk management in the civil construction sector

facilitated by the Engineers Registration Board

(ERB) for 3 days and in 2012 August three weeks of training on CBT and CBA conducted by NACTE and VETA (Morogoro)” (Trainer 02 on 2/10/2021)

“Training attended includes curriculum development for two days and labour market analysis for 2 days in 2021 November, at Morogoro teachers training college (MTTC) facilitated by National Council of Technical Education (NACTE) to empower trainers on understanding curriculum requirements” (Trainer 09 on 19/11/2021)

“In 2013 attended a long course through eLearning on road construction at the institute of works Morogoro certified as Trade test 1” (Trainer 04 on 5/10/ 2021)

“In 2021 June attended training on teaching and instruction methodology at Morogoro vocational teachers training college (MVTTC) Morogoro for two weeks facilitated by VETA” (Trainer 05 on 5/10/ 2021)

“Training attended includes teaching CBT methodology attained in 2012, assessment techniques, and knowledge on teaching materials attained in Canada 2018 for one month (Trainer 08 on 18/11/2021).

Trainings attended include curriculum development for two days and labour market analysis for 2 days in 2021 November, at MTTC facilitated by NACTE to empower trainers on understanding curriculum requirements” (Trainer 21 on 19/11/2021).

“I have been working here for two years now but no any training I have been attended. I am just teaching through experience I gained at my college learning. In in order to upgrade my competencies I learn myself through an internet and ask experienced trainers whenever face

challenges in training my module” (Trainer 13

on 18/10/2021). Similar response was given by Trainer 20 on 18/11/2021 in other VTC

This implies is that updating trainers were more focused on methodological and content knowledge than work experience including civil engineering technological changes, project management and market situational analysis which are effective for implementing CBT for meeting labour market demands. The findings were similar with Zinn, et al., (2019), who postulates that there is a need for trainer to attend further training in the methodological usage content knowledge. But contradicts with ILO (2020) and European Union (2017) which indicated that gained experience in the labour market are demanded higher than those for content-based training. Thus updating competencies to trainers should focus on both teaching methodology and labour market demands.

5.0 Conclusion and Recommendations.

The findings indicate that trainers were having pre-requisite competencies for CBT implementation and understanding on CBT training approach and its requirements. Despite this awareness trainers on CBT approach it was claimed that they failed to implement it due to inadequate training resources. Also, technological changes influenced trainers to fail in meeting CBT requirement. In addition to that CBT implementation requires trainers who have been exposed to the world of work. This is contrary to the finding which indicates that majority of trainers were implementing CBT without work exposure. Meaning that they were implementing CBT basing on previous learning and literatures while CBT implementation demand implementers to relate with the world of

work. Furthermore, updating trainers' competencies was found as a challenge in the implemented of CBT as more training which was given focused on methodological and content knowledge while CBT focuses on competencies particular psychomotor skills. Thus is likely to be concluded that trainings which focused on methodological and content without relating to labour market requirements are likely to affect negatively implementation of CBT.

Generally, is likely to be concluded that despite trainers having pre requisite competencies it is difficult to implement CBT which is flexible in nature. In this case prerequisite competencies affects the ability and knowledge on the subject matter, work experience helps to trainers to understand what is being demanded in the labour market to be imparted to learners while understanding of CBET help trainers to implement it easily and updating of competencies help trainers to be flexible in the training and be trusted by trainees and the community at large.

Therefore, it was suggested that in order for the CBT approach to be implemented effectively, the government and VET institutions need to ensure trainers have work experience and increase opportunities of trainers to update their competencies to meet technological and labour market demand when implementing CBT approach. In addition to that collaboration in training with employers is suggested to be important for effective implementation of CBT. Furthermore, trainers are advised to take personal initiatives for updating their competencies towards CBT implementation.

5.1 Contribution of the study

Despite the challenges facing

implementation of CBT in imparting employability competencies, little is known about trainers requirements under human capital theory when it comes to CBT implementation at VET. Our main contribution is to propose that the requirement of trainers for CBT implementation captured in human capital theory creates value for trainers in the context of VET, thus advancing more studies in the field. The second contribution provides training practitioners an important of updating competencies to trainers who are crucial in CBT implementation for improvement on imparting employability competencies to learners. Finally the work presents a social contribution by evidencing the importance of meeting trainers' requirements for best implementation of CBT towards managing training and learning process through social interactions and team works which may help trainees to acquire team work skills for work interactions and hence social networking.

Applying exploratory approach the authors offers insights into this problem. Discussing the findings in the light of human capital theory it is concluded that trainers requirements based on education attained complied with ILO (2020) and government standards under its agency (VETA Curriculum 2013). However, updating competencies and industrial exposure was challenging thus it is suggested that trainers and VET institutions need to ensure continuous updating of competencies based on specialised competencies to meet CBT requirements. This might help trainers to be aware with current demanded competencies.

6.0 Limitations of the study

The study concentrated on two courses at

VET, including masonry and carpentry where 22 trainers were interviewed out of 87 trainers. Even though the findings are relevant to a wide range of situations, it would be dangerous to generalize it to other trainers on requirements and challenges they are facing in CBT implementation. Therefore, further

studies may be conducted on the same study in other courses or widen the scope in other fields. Also other study may opt on motivation and commitment of trainers towards CBT implementation for imparting employability competencies among learners.

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Does Financial Inclusion Impact Tax Revenue in Sub-Saharan African Countries? A Panel Data Analysis

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Abstract:

The issue of increasing domestic revenue mobilization remains problematic for many governments, especially in low-income countries. Leveraging systems theory and collaborative intervention theory of financial inclusion, this study examines how financial inclusion impacts tax revenues in selected sub-Saharan African countries (SSA) from 2011-2017 using data collected from sub-Saharan Africa. Based on the dynamic panel estimation results of the system GLS and random effect estimations, mobile money account, as well as financial inclusion, play a significant impact the tax revenue drive of SSA countries. The study concludes that financial inclusion contributes significantly to tax revenue in SSA counties. It is offered that the monetary authorities should drive towards enhancing the financial institutions to accommodate more inclusive services and as well put up strict adherence to the requirements and documentation in order to reduce perpetration of fraud and maintain sustainable tax revenue.

Key words: Tax Revenue, Financial Inclusion, SSA, Random-Effect

Introduction

The problem of low tax revenue and the institutional challenges are well known among many developing countries, particularly the sub-Saharan Africa countries (Bertinelli & Bourgain, 2016). In recent years, the poorer countries as well as the international financial institutions supporting their economies have become preoccupied with tax systems. In addition to relieving them of the need to bail out cash-strapped governments, expanding government revenue also benefits international financial institutions. The prospect of expanded revenue offers these countries greater autonomy in the future and the possibility of breaking away from restrictive aid and loan

conditions. These countries are showing symptoms of undue reliance on oil earnings due to the lack of tax revenue components in their revenue profiles. Tax revenue in Burkina Faso as a percentage of GDP was 15.50 percent as of 2019, 12.03 percent in Cote d'Ivoire, 12.4% in Ghana, 9.46 percent in Guinea Bissau, 14.50 percent in Mali, 6.0% in Nigeria, 16.38 percent in Senegal, and 13.16 percent in Togo. Further, the study shows that most resource-rich countries on the Sub-Saharan Africa's had tax-to-GDP ratios less than 15% in 2019 versus most non-resource-rich countries (OECD, 2021).

In a number of prior studies, different factors have been considered in determining tax revenue (Ajide & Bankefa, 2017; Bertinelli & Bourgain, 2016; Bird, Martinez-Vazquez, & Torgler, 2014; Castro & Camarillo, 2014; Chaudhry & Munir, 2010; Clist & Morrissey, 2011; Maherali, 2017; Mahdavi, 2008; Park & Mercado, 2015). Institutional quality and structural variables, as well as macroeconomic factors such as quality of government, government effectiveness, inflation, and population density, are all considered. However, studies like Schumpeter (1911) have demonstrated the importance of financial development in facilitating and enhancing the economic growth. Similarly, Schumpeter and Opie (1934) have suggested that a functioning financial system contribute to economic growth because financial institutions help fund productive investments and facilitate innovation, which are both conducive to economic growth. These viewpoints have led to recent studies exploring the nexus between financial development and tax revenue (see Ahamed, 2016; Capasso & Jappelli, 2013; Ilievski, 2015; Maherali, 2017; Petrescu, 2013; Taha, Colombage, Maslyuk, et al., 2013; Oz-Yalaman, 2019).

These studies argued that financial system impacts tax revenues positively. Despite this, the connection between financial development and tax revenue has received little research attention.

Unlike previous research on the subject, the current paper explores whether changes in tax revenue sources are linked to changes in financial inclusion for selected sub-Saharan Africa nations. The few studies focused largely on developed countries and financial development as determinant of tax revenue, thereby overlooking the role of financial inclusion in the tax revenue generation process of SSA countries. We demonstrate that access to financial services does not imply utilization of the services. Access to financial infrastructure often not signify growth in the economy. Rather, it entails a state in which a growing proportion of a country's excluded populations can access and use formal financial services. Financial inclusion is a critical component of social inclusion, particularly in terms of making economic services available to everybody by having a functional financial system. Financial inclusion is predicted as a crucial tool of achieving multidimensional macroeconomic stability and sustainable development goals (Omar, & Inaba, 2020). This study attempts to examine the extent at which SSA countries could grow their tax revenues as well as economic growth? Or whether the success of financial inclusion through mobile money, will serve as a direct source of taxation revenue, which has potentially been ignored by the stakeholders to date. In view of the foregoing, this present paper is a novel attempt to assess how financial inclusion has driven tax revenue particularly in an economic grouping like sub-Saharan Africa countries. The study considers it crucial to examine how policy makers and

government can achieve more financial inclusion to enhance their tax revenue. It is expected that when people are more financially included in the financial system, they may have more financial access that can empower them to pay more taxes. We extend the frontier knowledge with insightful contributions in three ways. First, most theoretical and empirical works in SSA focused the impact of financial inclusion on the distribution of income, poverty, entrepreneurship and social mobility, the current study analyses the impact of financial inclusion on tax revenue, focusing on the selected 15 developing countries in SSA. Second, our theoretical framework is built on a marriage systems theory of and collaborative intervention theory of financial inclusion to provide logical explanations for how financial inclusion impacts tax revenue within the financial systems of developing countries. Third, it investigates the conditional relationships between financial inclusion and other macroeconomic indicators in the selected SSA economies, as well as the impact of financial inclusion on tax revenue. To the best of our knowledge, no empirical research on the indirect effects of financial inclusion on tax revenue in Africa has been undertaken. Furthermore, most previous empirical studies are longitudinal single-country studies on financial inclusion with data collected from financial regulators, but the current study analyses every key nexus between variables using a panel data, fixed effect, and random effect models to properly handle endogeneity related to financial inclusion.

This study shows that there is a remarkably direct relationship between financial inclusion and tax revenue when utilizing a mobile money account and withdrawing money from an ATM at various times. The

relationship is particularly significant in random-effect models. The remainder of the paper is laid out as follows: Section 2 examines related literature. The third section describes the dataset and explains the methodology. The fourth section explains the parameter estimates, and the final section concludes.

Review of Related Literature

Theoretical framework

Mainstream economic theory identifies the demerits of financial exclusion and the merits of financial inclusion (Malik, Maheshwari, & Singh, 2019; Kling, et al., 2022). Most recent studies affirm that financial exclusion perpetuates income inequality and hinders social mobility in developing countries with imperfect financial systems, but financial inclusion reduces income inequality and improves social mobility through investments in education and entrepreneurship (Ozili, 2020; Kling, et al., 2022). From the extant literature, a number of theories explicate financial inclusion and its impact on poverty and inequality (Oz-Yalaman, 2019; Al-Own & Bani-Khalid, 2021). In the current study, two theories provide logical explanations for the plausibility of financial inclusion impacting tax revenue, namely, systems theory of financial inclusion and collaborative intervention theory of financial inclusion.

The systems theory of financial inclusion simply explicates that financial inclusion outcomes and benefits are more effectively and efficiently actualised when policymakers and stakeholders leverage existing socio-economic and political sub-systems on which financial inclusion is built (Ozili, 2020). The economic and financial systems of any country may include monetary authorities, banks and payment industry players, households, companies

and others in the payment landscape (Srouji, 2020). When applied to the current study, the theory posits that tax revenue improvement can be more effectively and efficiently actualised when policymakers and stakeholders leverage existing socio-economic and political sub-systems on which financial inclusion is built because the tax system (tax authority) and financial system (banks as suppliers of financial services) are both sub-systems within the national economy. To improve tax revenue, therefore, policymakers must leverage the financial inclusion mechanisms of banks, such as ATM and bank account access.

The collaborative intervention theory of financial inclusion, on the other hand, states that financial inclusion outcomes and benefits are more effectively and efficiently actualised through collaborative intervention from multiple stakeholders (Veillard et al., 2017; Ozili, 2020). The emphasis here is the joint action of multiple stakeholders, such as tax authorities, banks, firms, households and others, within the tax system value chain. When applied to tax revenue improvement, the theory explains that financial inclusion can effectively increase tax revenue when there exist collaborative joint efforts among the multiple stakeholders within the tax system and financial system. This thought is consistent with previous thoughts. Tan & Pan (2003) have long established that tax arrears can be reduced and new tax revenue can be better augmented through collaborative communication with stakeholders. In raising tax revenue for improving the conservation of tropical forests in the Pacific, Keppel et al. (2012) noted that the revenue capacity of government was enhanced through improved collaboration between the various stakeholders. From the stakeholder collaboration perspective, the collaborative

intervention theory of financial inclusion presupposes that joint efforts among the multiple stakeholders within the tax value chain improve tax revenue, ease collection and bring the excluded population into the formal financial services of banks (Ozili, 2018; Ozili, 2020). In Argentina, the government augments overall tax revenue through collaborative financial inclusion that integrates middle-class Argentines into the formal banking system. Consequently, tax payers use less cash and switch to credit and debit cards that are easily taxed in the formal market (Mitchell & Scott, 2019). Similarly, the governments of United Arab Emirates and Gulf Cooperation Council (GCC) countries leveraged collaborative intervention from multiple stakeholders (monetary authorities, banks and payment industry players) to promote cashless payments by encouraging digital payments by citizens purposely to improve tax revenue collection and ensure greater transparency and security in the payment landscape (Srouji, 2020). Collaborative efforts among stakeholders in Europe's financial systems have also shown that improved financial inclusion leads to higher tax revenue. Particularly, well-coordinated and implemented financial inclusion through access to bank accounts and credit card ownership have increased tax revenues (Al-Own & Bani-Khalid, 2021).

From foregoing, the plausibility of financial inclusion impacting the tax revenue of a country is largely shaped by two imperatives, namely, national systems interconnectedness and the extent of collaborative intervention among multiple stakeholders within the tax system and financial system.

Theoretical framework

Empirical research on financial development and economic growth and/or

development has emerged, with a focus on access issues, specifically the presence of banking branches. These empirical investigation on the subject appears to have focused largely on developed countries and financial development as determinant of tax revenue, thereby overlooking the role of financial inclusion in the tax revenue generation process. The review of literature demonstrates that access to financial services does not imply utilization of the services. Access to financial infrastructure often does not signify growth in the economy. Rather, it entails a state in which a growing proportion of a country's excluded populations can access and use formal financial services. Likewise, literature have emerged on the impact of financial inclusion, growth, and poverty reduction. These studies proved that financial inclusion either increases or decreases poverty or economic growth.

Park and Mercado (2015), for instance, explored the factors that determine financial inclusion, as well as the significance of financial inclusion in lessening poverty and income inequality in a number of developing Asian countries. An increase in per capita income and institutions will improve financial inclusion, but a larger age-dependency ratio dramatically reduces it. Oboh, Chinonyelum, and Edeme (2018) applied the Seemingly Unrelated Regression (SUR) technique to five ECOWAS countries from 2000 to 2015. According to the findings, total tax income has a positive and significant impact on economic growth. Sethi and Sethy (2019) examined the impact of financial services on India's economic growth from both the supply and demand sides. According to the data, there is a positive correlation between financial inclusion and economic growth.

Similarly, Onakoya, Afintinni, and

Ogundajo (2017) investigated the impact of tax revenue on African economic growth from 2004 to 2013. In addition to the Hausman tests, the authors used fixed and random effect tests. According to the study, tax income is positively associated with GDP and promotes African economic growth. Some other body of empirical research examined the impact of government fiscal policies such as taxation on financial performance and the inclusion of business operators (see Ojeka, 2011; Ahikawodzi & Adade, 2012; Eniola & Entebang, 2016; and Riwayati, Salim, Maskie & Indrawati, 2020). For example, Ojeka (2011) asserted that SMEs' perceptions of government tax policies that benefit small businesses, such as increased access to taxes and simplified tax procedures, had a significant positive impact on SME performance. Ahiawodzi and Adade (2012) also looked at the impact of tax rates and banking policies on the success of small and medium-sized businesses (SMEs). The findings revealed that tax rates and banking regulations affecting loan rates have a beneficial impact on SME success. Eniola and Entebang (2016) investigated the effect of SMEs' performance on SMEs' actors' financial inclusion. SMEs can improve their financial understanding by improving their performance, and as a result, SMEs will be more competitive in the economy.

Riwayati, Salim, Maskie, and Indrawati (2020) investigated the role of taxation in mediating the impact of financial performance and business actor inclusion on the success of 76 batik business actors in Indonesia. The findings revealed that enacting tax regulations for small and medium-sized business actors has a number of positive effects on the success of the companies involved. The authors argued that tax regulation, as determined by the tax

rate, ease of tax access, and simplification of tax procedures, all of which are aided by financial inclusion, is a determining factor in expanding capital, business scale, profit, and management. Dieter and Anna (2020) employ the national income dynamics data to assess the impact of financial inclusion on wealth disparity in South Africa. The findings confirmed the existence of a negative cross-country linkage between financial inclusion and income inequality. Likewise, Omar and Inaba (2020) also carry out an investigation on the impact of financial inclusion in lowering poverty and income inequality in developing countries. The authors employ a panel data analysis of 116 selected developing countries for the period spanning over 2004 to 2016. Similarly, in developing nations, a robust gauge of financial inclusion index was created using a varied set of financial sectors spread data. According to the findings, financial inclusion significantly reduces poverty and income inequality in the selected developing countries. Furthermore, it believes that improving access to formal financial services for socially excluded groups will demand an increase in overall societal welfare. Rekha, Rajamani, and Resmi (2021) conducted a study in 22 emerging economies to examine the relationship between digital financial inclusion, economic freedom, financial development, and economic growth. The authors concluded from panel data analysis that digital financial inclusion is a growing phenomenon that has increased the accessibility and availability of formal financial services. The study's findings also suggested that the nexus of ICT diffusion–economic freedom–financial development has a long-term direct impact on financial inclusion, emphasizing the importance of fostering an economic climate that

encourages long-term growth. Despite the fact that the majority of existing research shows a link between financial inclusion, economic growth, and income inequality, research on financial inclusion and tax revenue is scarce. Previous studies lack a systematic insight due to a lack of a dynamic panel investigation and a narrow set of inputs for attempting to build a financial inclusion index, and possibly an impact analysis of financial inclusion on tax revenue with a broad range of parameters for financial inclusion measure and a panel data set composed of a large number of developing countries in Africa.

Model specification and Data description

Following the empirical work of Ajide and Bankefa (2017), Zhang and Posso (2019), and Bassam and Tareq (2021), the baseline model is structured to test whether the changes in tax revenue is associated with the changes in financial inclusion for various SSA countries.

$$\begin{aligned} Rev_{i,t} = & \beta_0 + \beta_1 mma_{i,t} + \\ & \beta_2 fia_{i,t} + \beta_3 dco_{i,t} + \beta_4 wipy_{i,t} + \\ & \beta_5 wwa_{i,t} + e_{i,t} \end{aligned} \quad (1)$$

where total tax revenue (rev) represents the dependent variable following extant studies (see Oz-Yalaman, 2019). Re-presenting the notations of equation (1) in a log-linear format as equation (2);

$$\begin{aligned} \ln Rev_{i,t} = & \beta_0 + \beta_1 \ln mma_{i,t} + \\ & \beta_2 \ln fia_{i,t} + \beta_3 \ln dco_{i,t} + \\ & \beta_4 \ln wipy_{i,t} + \beta_5 \ln wwa_{i,t} + e_{i,t} \end{aligned} \quad (2)$$

The Generalized Least Squares (GLS) method, on the other hand, is employed to test our study hypothesis. The nature and kind of variable in the study account for the rationale for using panel data. The study's specific goal is to evaluate if variations in tax income are connected with variations in financial inclusion in SSA countries by incorporating all available data for estimation and inference. As a result, in the presence of autocorrelation and heteroskedasticity, least squares, nonlinear least squares, and instrumental variables are still unbiased, consistent, and asymptotically normal, but they are no longer efficient estimators, rendering traditional inference approaches inapplicable (Ogede, 2014). To keep the least squares efficiency property in panel data, the model must be changed. The generalised least squares method (GLS) in its converted form provides a mechanism of ensuring that autocorrelation and heteroskedasticity are taken into consideration and that the appropriate methodology is used. Consequently, the empirical model is estimated using fixed effects that account for cross-section seemingly unrelated regression (SUR) weights, as well as random effects from the Swamy and Arora estimators, after the GLS transformation. The Hausman test is used to assess which strategy is more accurate between fixed effects and random effects estimation. The a priori expectations for the parameters' estimates as specified in the baseline regression model equation (2): β_1 , β_2 , β_3 and $\beta_4 > 0$. This demonstrates that an increase in mobile money account, financial institution account, debit card ownership, and withdrawal with ATM is expected to induce a linear impact in tax revenue. Furthermore, the study employed time series dataset of 15 sub-Saharan Africa countries over the years between 2011 and

2017 owing to the data availability. These countries include Benin, Burkina Faso, Cabo Verde, Cote d'voire, The Gambia, Ghana, Guinea, Guinea Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, and Togo. Table 1 has a complete overview of the variables and their sources. However, the choices of variables employed to gauge financial inclusion are consistent with previous empirical literature (Ahamed & Mallick, 2019; Park & Mercado, 2021; Sarma & Pais, 2011; Zachosova et al., 2018; Ozili, 2020). In this study, financial inclusion is gauged with mobile money account (MMA), financial institution account (FIA), withdrawal in the past year (WIPY), and withdrawal with ATM (WWA). These variables were sourced from Global finindex database, World development indicators (WDI) as well as Central Bank of Nigeria (CBN). Financial institution account (% of age +15) is employed as a percentage of respondents who report having an account at a bank or another type of financial institution or report personally using a mobile money service (Sarma & Pais, 2011; Shankar, 2013; and Ozili, 2020). Another financial inclusion index explored is debit card ownership (DCO), (% age 15+), which is defined as the percentage of respondents who report having a credit card (Zhang & Posso, 2019).

Results and discussion

This section presents and discuss the findings on the impact of financial inclusion on tax revenue in the selected SSA countries. It focusses on the summary statistics, correlation analysis and the panel regression result for the period examined. Table 2 indicates the summary statistics for the variable of interest for the dataset of sub-Saharan Africa (SSA) countries from 2011 to 2017. The average of tax revenue

Table 1: Description of Data

Variables	Definition	Studies with similar definition	Source (s)
REV	Tax revenue (LCU)	Oz-Yalaman (2019)	CBN, WDI
MMA	Mobile money account (% age 15+)	Sarma & Pais, 2011	Global Findex, WDI
DCP	Debit card ownership (% age 15+)	Zhang & Posso, 2019	Global Findex, WDI
FIA	Financial institution account (% age 15+)	Shankar, 2013; Ozili, 2020	Global Findex, WDI
WIPY	Withdrawal (Past years;% age 15+)	Ahamed & Mallick, 2019	Global Findex, WDI
WWA	Withdrawal with ATM	Ahamed & Mallick, 2019	Global Findex, WDI

(REV), mobile money account (MMA), financial institution account (FIA), debit card ownership, withdrawal in the past year (WIPY), and withdrawal with ATM (WWA) are 3.6400, 0.0910, 0.1743, 0.0749, 0.3704, and 0.0937 respectively, from the sample of SSA. The lowest value of tax revenue is 0.00 while the maximum value is 3.58 for the period examined. Mobile money account has the mean value of 0.0910 with standard deviation of 0.1152. The lowest value of mobile money account is 0.00 while the maximum value is 0.3894 for the period examined. The descriptive statistics reveal that financial institution account has the mean value of 0.1743 with standard deviation of 0.1144. The lowest value of financial institution account is 0.00 while the maximum value is 0.4417 for the period examined. Debit card ownership has the mean value of 0.0749 with a standard

deviation of 0.0785. The lowest value of debit card ownership is 0.00 while the maximum value is 0.356 for the period examined. Withdrawal in the past years has the mean value of 0.3704 with standard deviation of 0.3344. The lowest value of withdrawal in the past years is 0.00 while the maximum value is 0.8798 for the period examined. Withdrawal with Automated Teller Machine has the mean value of 0.0937 with standard deviation of 0.1552. The lowest value of withdrawal with automated teller machine is 0.00 while the maximum value is 0.7054 for the period examined. However, the significant variation between all lowest and maximum values indicates that the series has fluctuated over time. At the same time, the standard deviation figure provides information on the series' modest level of variance.

Table 2: Descriptive Statistics

Variable	Mean	Median	Maximum	Minimum	Std. Dev.
REV	3.6400	0.0000	3.5800	0.0000	7.6800
MMA	0.0910	0.0393	0.3894	0.0000	0.1152
FIA	0.1743	0.152350	0.4417	0.0000	0.1144
DCO	0.0749	0.051075	0.3560	0.0000	0.0785
WIPY	0.3704	0.4887	0.8798	0.0000	0.3344
WWA	0.0937	0.000000	0.7054	0.0000	0.1552

Author's compilation, 2021

Table 3 contains the correlation matrix's results, illustrating the relationship between the regressors and the outcome variables. Our findings indicate a positive correlation between tax revenue and both mobile money account and withdrawal in the past years. In contrast, findings show a negative correlation between tax revenue and financial institution account, debit card ownership and withdrawal with automated teller machine. Mobile money account is positively correlated with financial

institution account, debit card ownership and withdrawal in the past years but negatively correlated with withdrawal with automated teller machine. Financial institution account is positively correlated with debit card ownership, withdrawal in the past years and withdrawal with automated teller machine. Debit card ownership is positively related withdrawal in the past years and withdrawal with automated teller machine.

Table 3: Correlation Matrix

Variable	REV	MMA	FIA	DCO	WIPY	WWA
REV	1					
MMA	0.476	1				
FIA	-0.116	0.394	1			
DCO	-0.085	0.236	0.858	1		
WIPY	0.226	0.473	0.487	0.444	1	
WWA	-0.159	-0.282	0.407	0.490	0.283	1

Author's compilation, 2021.

The results of the estimated panel regression model that capture the impact of financial inclusion on tax revenue in Sub-Saharan Africa (SSA) using the fixed and random effects estimation techniques are presented in table 4 and the interpretation in respect to estimation methods and diagnostic test follows subsequently. Table 4 displays that all proxies of financial inclusion exert a positive significant impact on tax revenue (REV) except the coefficient of financial institution account (FIA) that exert a negative significant impact on tax revenue (REV). The findings show that a percentage increase in FIA will lead to 4.76 decrease in tax revenue in SSA countries. The coefficient of mobile money account (MMA) has a positive significant impact on tax revenue (REV), implying that a percentage increase in MMA will lead to 4.85 increase in tax revenue (REV).

Besides, the coefficient of debit card ownership (DCO), withdrawal in the past years (WIPY) and withdrawal with ATM (WWA) exert a positive insignificant effect on tax revenue. For the findings of coefficient of debit card ownership (DCO) and tax revenue, a unit increase in debit card ownership, one of the proxy of financial inclusion will lead to 2.14 increase in tax revenue (REV). While a percentage increase in WIPY will lead to a 1.64 increase in tax revenue in SSA. The weighted diagnostic tests results reveal that the adjusted R-squared is 29.88% and this indicates that 29.88 of the total variation in SSA tax revenue is accounted for by financial inclusion between 2011 and 2017. The F-statistic explains the simultaneous significance of all considered factors and the result reveals that financial inclusion has simultaneous significant effects on tax

revenue growth level in SSA between 2011 and 2017 at 5% critical level.

Table 4: Pooled Regression. Dependent Variable: Tax Revenue

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4.350	2.111	2.05526	0.048
MMA	4.851	1.341	3.61061	0.001
FIA	-4.761	1.981	-2.40685	0.022
DCO	2.141	2.761	0.77610	0.443
WIPY	1.641	4.161	0.39476	0.696
WWA	1.031	9.591	1.07193	0.292
R-squared	0.394			
Adjusted R-squared	0.299			
F-statistic (Prob.)	4.154 (0.005)			

Author's compilation, 2021.

The findings show that the Hausman chi-square 7.88 at 5% is insignificant, implying that there is no correlation between the error term and one or more independent

variable. Hence, in view of the findings, the study considered the random effect model to be capable of generating more consistent estimate as against fixed effect model.

Table 5: Hausman Test

Correlated Random Effects - Hausman Test			
Equation: Untitled			
Test cross-section random effects			
Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	7.858541	5	0.1642

Author's compilation, 2021.

The findings show that the Hausman chi-square 7.88 at 5% is insignificant, implying that there is no correlation between the error term and one or more independent variable. Hence, in view of the findings, the study considered the random effect model to be capable of generating more consistent estimate as against fixed effect model.

Table 6 displays the findings of the random effect model. The findings show that mobile money account (MMA) has a positive significant impact on tax revenue

(REV), suggesting that a percentage increase in MMA will lead to 2.75 increase in REV. The result shows that mobile money account has a positive significant impact on tax revenue which is in line with the study of (Oz-Yalaman, 2020) but contrary with the work of (Maherali, 2017). More so, the result is also in line the theoretical postulation and a priori expectation of positive impact. The findings differ when withdrawal with ATM is explored to gauge inclusive financial access. The coefficient of financial

Table 6: Random Effect Model Dependent Variable: Tax Revenue

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4.1411	2.1611	1.918748	0.0440
MMA	2.7512	8.6611	3.174674	0.0033
FIA	-2.1612	1.6512	-1.303663	0.2016
DCO	2.1611	2.3712	0.091305	0.9278
WIPY	6.6410	2.3211	0.286671	0.7762
WWA	4.8111	5.0111	0.960908	0.3438
Effects Specification				
			S.D.	Rho
Cross-section random			5.2611	0.7286
Idiosyncratic random			3.2111	0.2714
Weighted Statistics				
R-squared	0.2878	Mean dependent var	1.2511	
Adjusted R-squared	0.1765	S.D. dependent var	3.7011	
S.E. of regression	3.3511	Sum squared resid	3.5824	
F-statistic (Prob.)	2.5866 (0.045)	Durbin-Watson stat	1.0168	
Unweighted Statistics				
R-squared	0.3150	Mean dependent var	3.6411	
Sum squared resid	1.5025	Durbin-Watson stat	0.2437	

Author's compilation, 2021.

inclusion proxy with withdrawal with ATM (WWA) exerts a positive insignificant effect on tax revenue in SSA, implying that a unit increase in WWA will lead to 4.811 increase in tax revenue. However, the finding is consistent with the study of Oz-Yalaman (2020) but contrary with the work of (Maherali, 2017). More so, the result is also in line with the theoretical postulation and a priori expectation of positive impact. Also, financial institution account (FIA) has a negative insignificant impact on REV, demonstrating that a unit increase in FIA will lead to 2.16 per cent decrease in tax revenue (REV). The findings are consistent with Oz-Yalaman (2020) but contrary with the work of (Maherali, 2017). More so, the result is also in line with the theoretical postulation and a priori expectation of positive impact. Furthermore, Table 6 displays that debit card ownership (DCO)

has a positive insignificant effect on REV suggesting that a unit increase in debit card ownership will lead to 2.16 increase in tax revenue in SSA. Similarly, the coefficient of withdrawal in the past years (WIPY) has a positive insignificant impact on tax revenue in SSA over the period of review. This finding suggests that a percentage increase in withdrawal in the past years (WIPY) will translate to 6.64 increase in tax revenue in SSA. The weighted diagnostic tests results reveal that the adjusted R-squared is 17.65% and this indicates that 17.65% of the total variation in SSA tax revenue is accounted for by financial inclusion between 2011 and 2017. The F-statistic 2.5866 (0.045) explains the simultaneous significance of all considered factors and the result reveals that financial inclusion has simultaneous significant effects on tax revenue growth level in SSA between 2011

and 2017 at 5% critical level.

Conclusion and policy implications

The issue of increasing domestic revenue mobilization remains problematic for many governments, especially in low-income countries. Leveraging systems theory and collaborative intervention theory of financial inclusion, this study examines how financial inclusion impacts tax revenues in selected sub-Saharan African countries (SSA) from 2011-2017 using data collected from sub-Saharan Africa. Based on the dynamic panel estimation results of the system GLS and random effect estimations, the mobile money account has a positive significant impact on tax revenue which means increase in the number of mobile money account users leads to an increase in the tax generated by the government which will be beneficial to the economy. Likewise, withdrawal with ATM has a positive insignificant effect on tax revenue suggesting that higher withdrawals made through the ATM, the higher the revenue generated by the government. Financial institution account has a negative insignificant impact on tax revenue which means the higher account opening carried out by banks, the lower the tax generated by the government. The study argues that the insignificance of the coefficient of withdrawal with ATM could be due to the skeletal function of the most ATM which reduces the number of transactions carried out via the ATM machine. More so, the negative impact of financial institution account could be due to the fraud perpetrated by account holder e.g., having multiples of account for perpetration of fraud. Most of these fraudulent transactions executed evade tax. The study concludes that mobile money account is the major variable contributing significantly to

tax revenue in SSA countries, and there is significant relationship between financial inclusion and tax revenue in SSA.

Our empirical studies validate the two theories of financial inclusion, namely, systems theory of financial inclusion and collaborative intervention theory of financial inclusion. The first theory confirms that tax revenue improvement as one of the financial inclusion outcomes can be more effectively and efficiently actualised when policymakers and stakeholders leverage existing socioeconomic and political subsystems on which financial inclusion is built because the tax system (tax authority) and financial system (banks as suppliers of financial services) are both subsystems within the national economy. To improve tax revenue, therefore, policymakers must leverage the financial inclusion mechanisms of banks, such as ATM and bank account access. The second theory affirms that financial inclusion can effectively increase tax revenue when collaborative joint efforts exist among the multiple stakeholders within the tax system and financial system. Three policy implications have clearly emerged. The first policy implication is that the monetary authorities of selected SSA countries should ensure that the pace of attaining the targeted level of financial inclusion is maintained to increase tax revenues in these countries because the higher the level of income of citizens, the higher the financial services they would require as customers, and consequently and the more tax to be generated by the governments. This is consistent with the recent findings in Argentina, UAE, and the GCC. Second, it is imperative for SSA countries to encourage bank customers to increase the usage of the mobile money account due ease of collection of tax revenue. Three, revenue-generating drive

of the tax authorities of SSA countries should be strengthening through strong collaborative efforts with financial institutions so that more bank accounts would be opened by the excluded people and businesses, while existing customers

should be encouraged to use debit cards, credit cards, and withdrawal through the automated Teller machine, which are effective means of maintaining of tax collection by the government.

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Reality of Post-MDRI: Fiscal Sustainability and Development Trajectory of the Nigerian Economy

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Abstract:

Nigeria is trapped in fiscal unsustainability crises over a few decades, due to excessive debt accumulation and inability to strategically utilise borrowed funds on the projects that could allow self-liquidation. Available data support the arguments that deficit financing in most cases is utilised on recurrent expenditures. Consequently, accumulation of debt increases debt service obligations, which further aggravate the amount expended on recurrent expenditure. Viciously, more borrowing is usually required to meet debt servicing obligations. Meanwhile, the fiscal problem aggravates the excessive dependence on revenues from crude oil with little attention to non-oil revenue mobilisation; in this case, the crude oil price volatility creates incessant shocks on the expenditure plans vis-à-vis revenues shortage whenever the oil price crashes. This paper however, reviews the development trajectory of the country within the framework of relevant data up to 2021. It is however, observed that in the past six years, there are evidences that the country is reversing the poor trends on some macroeconomic parameters. For instance, the federal government attention is currently being shifted from oil revenues dependency to non-oil revenues mobilisation, such that in 2021, the percentage of non-oil revenues to total revenues is more than those from oil revenues. The same is observed on the non-oil export promotion which is sharing higher proportions compared to what had been obtainable in the past few decades. This paper therefore showcases that consistency in revenue diversification to non-oil sources and also the invigoration of non-oil export promotion will provide strong foundation for Nigeria fiscal liberation in the near future.

Key words: Fiscal Sustainability, Economic Diversification, Nigeria Economy

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Introduction

Nigerian economy is confronted with myriad of development challenges over the last four decades partly as a result of financial crises which could be traced to early '80s when the price of primary products crashed in the global commodity market, culminating to the inability of the country to meet her financial obligations appropriately. In order to salvage the economy from the financial quagmire, the country had to opt for borrowing, some of which was premised on strict conditionality, especially from multilateral organisation, majorly IMF. The crises consequently became multifaceted. On one hand, the foreign exchange was dwindling due to the poor condition in the global commodity market which drastically reduced the revenue to the government. At the same time, the strict conditionality of creditors culminated into devaluation of the Nigeria currency which led to imported inflation via exchange rate. So also, the rising price was aggravated by removal of subsidies and increase tax on the products which is known as austerity measure. The rising prices and Naira devaluation increased domestic value of dollar denominated loans. In a short period, Nigeria had become huge, indebted country.

The debt management problem became paramount when loan repayment defaults accumulated into external debt crisis. In the country, the accumulation of debt was unprecedented, grappling with the issue of economic development problem which followed the crash of prices of primary products in the world market; savings became low and imported capital were required to augment local resources (Todaró, 1997). The debt levels were aggravated, as the crashed prices were followed with a rise in interest rate on

loans (Wu et al, 2022). The interest and debt service payment became a problem. In an attempt to forcefully meet with the debt obligation, the huge debt servicing payment took away significant portion of domestic savings, thus creating serious balance of payment problems in Nigeria. Economic growth remained unresponsive, with external reserves drawn down, while borrowing continued on upward trend. It should be noted that debt servicing and loan repayment are not only burden to the immediate generation, but also to the future generations, due to excessive decline in foreign exchange and stagnation in the private sector. The gravity of the burden of debt in any context is assessed through fiscal sustainability frameworks. This is necessary given that it is not in all cases huge debt is evil, rather, debt becomes evil and burdensome when the countries involved are unable to sustain it within the limit of resources available to them.

Fiscal sustainability is therefore dominant in the discourse of developing and underdeveloped economies like Nigeria, due to unique nature of their debt crises. Conceptually, fiscal position is sustainable if the ratio of debt to income is constant or declines in the long term. However, when this is not the case, the economy is said to be fiscally unsustainable, (Adedokun & Babatunde, 2017). Meanwhile, many developing countries habitually engage in debt accumulation and uncontrolled fiscal deficit. In a study, (Chew & Clement, 2022) expresses that fiscal sustainability would become a problem when there is gap between targeted debt level and the debt that would ensue if tax and spending policies were continued without change. It simply implies, fiscal sustainability of a country is

premised around the size of public debt of the country. In other words, fiscal sustainability is not an issue when there is no problem of debt management.

The debt management problem in Nigeria became paramount when loan repayment defaults accumulated into external debt crisis. It is somehow pathetic that with \$95.56 million debt service payment in 1970, it rose sharply to \$1.79 billion in 1980 and \$2.94 billion in 1990. The high incidences of debt crisis drew the attention of Non-Governmental Organisations, development agencies and civil society on the need to proffer decisive solution to the debt problem of Nigeria and other developing countries in the same high incidence of debt condition.

The initial step to alleviate the effects of the debt crisis was the introduction of Structural Adjustment Programme (SAP) in the mid '80s, with a view to liberalizing some aspects of the economy in order to correct the negative imbalances in the economy including balance of payment. This gave rise to the austerity measure. It was expected that the borrowing problem would be solved and thus help in turning the negative growth to positive as a way to position the country on the path of sustainable development. But the impact of SAP on the poor was very tense, as they were no longer able to afford basic commodities due to removal of subsidies (Sahn & Sarris, 1991; Rich, Winter-Nelson & Nelson, 1997). The SAP ended up failing to correct the debt crises.

The efforts of Nigeria to exit the burden of debt alongside other African countries in the same shoe took different dimension at different time. A significant one was the introduced of Heavily Indebted Poor Countries (HIPC-1) initiative by IMF/World Bank in the mid-1990s which aimed at alleviating the burden of debt in

the heavily indebted countries. The selected countries were made on the bases of high poverty prevalence and debt incidence that is higher than 200-250% of present value of external debt to export ratio or the present value of external debt to government revenue that is in excess of 280%, (Martin & Johnson 2001; Ferry, Raffinot & Venet, 2021). IMF/World Bank premised the qualification for the relief on the readiness of the countries to utilize any benefit from the debt relief on the poverty reduction program. It was therefore a key condition that all qualified countries must develop a blueprint within the frameworks of the Poverty Reduction Strategic Paper (PRSP) which should be an indigenous based development strategy expected to be promoted by all the identified countries. The variant of the blueprint of PRSP that was developed in Nigeria was the National Economic Empowerment and Development Strategy (NEEDS). The policy was given a wide implementation strategy in which all States and Local government partnered with the federal government to implement the program under the State Economic Empowerment and Development Strategy (SEEDS) and Local Economic Empowerment and Development Strategy (LEEDS) respectively.

However, HIPC-1 was widely criticised for tight conditionality which made it difficult for many countries to qualify for debt relief over the following three years in 1999. The HIPC-1 document was modified in the eve of new millennium, which culminated into the ratification of the enhanced Heavily Indebted Poor Countries initiative (HIPC-II), with more relaxed conditionalities. Unfortunate, the condition for qualification for debt relief under the HIPC-II did not allow Nigeria to be named among the 39 countries

identified given that the country passed most of the threshold for classifying a country as indebted. More specifically, the present value of external debt to export ratio was reduced from 200-250% to 150% and external debt to government revenue reduced to 250%, (Ferry, Raffinot, & Venet 2021). The reality of the first five years promoted and intensified new advocacy among civil society, Non-Governmental Organisation and development institutions, asking the donor agencies especially the Breton Wood institutions for outright cancellation of all the multilateral debt owe to its institutions. Consequently, the Multilateral Debt Relief Initiative (MDRI) of HIPC-II was agreed upon in 2005. This window paved the way for Nigeria to renegotiate her debt, despite that Nigeria was not among the HIPC countries. Consequently, Nigeria external debt to Breton wood institutions was renegotiated and paid off \$30 Billion using \$12 Billion, in which case \$18 Billion was cancelled.

The realities of the post MDRI in Nigeria shows some degree of rapid rising in the debt stock. Fifteen years down the debt relief, Nigeria is seriously engulfed in another debt profile which is prompting another research question of why is the debt rising when at the level of initial debt relief, the country fully satisfied the conditions for debt sustainability with a sharp fall of debt ratio to GDP from 66.13% in 2002 to 12.29% in 2006?

Meanwhile, debt crises or debt unsustainability has serious implication for economic development, starting with its crowd-out effects on foreign exchange and on other resources in the country, which could have otherwise been used to embark on development projects. So also, a country fragility is partly measured by the degree of its debt sustainability. The

implication is that a country with unsustainable debt profile would be limited in its ability to mobilise foreign direct and portfolio investments into the economy. In Nigeria, the debt profile over the past four decades has raised several questions on how sustainable it is, given the rising debt service payment, high rates of poverty, poor infrastructure and high inequality in the income distribution.

Major questions from the background review of the debt history in Nigeria are; first, are there any reasonable debt trend reversal after the debt cancellation that was accorded Nigeria in 2006? Secondly, are there substantial reversal in the heavily dependent of government on oil revenues as against non-oil revenue sources? Finally, are there any positive changes in the non-oil export earning relative to the oil exports? The three key elements raised in the questions; debt trend reversal, non-oil revenue and non-oil export are fundamental to the long-run fiscal sustainability of any oil dependent economy like Nigeria.

This paper therefore examines the fiscal performance of Nigerian economy over the years, with specific attention to the periods after the multilateral debt relief initiatives of 2006. The trend analysis of debt profile, export pattern and revenue distribution among non-oil and oil sources and other relevant development variables are expected to give some perspectives on Nigeria debt structure and its possible effect on the development prospect of the country in the future.

Theoretical Perspectives and Method of Analysis

Theoretical perspectives to fiscal sustainability and development

Assessment of fiscal sustainability is premised around debt and its management

ability. Debt is not bad in itself, especially when it is invested in self-liquidating economic activities. In most cases, such liquidating economic activities would create positive multiplier effects in the economy, thus the issue of unsustainability as a whole would be underplayed. Unfortunately, deficit financing is habitual to many countries especially developing and less developed economies, in which case, the debt financing are expended on recurrent expenditure which are deadweight. In the economic discourse, Keynes made strong argument in favour of debt financing of government spending, such that debt financing aims at stimulating an economy and end economic depression. However, in contrast to common understanding, Keynes did not advocate the kind of consumption pattern or counter-cyclical fiscal policy often regarded as one of the characteristics of 'Keynesian'. More also, Keynes did not support the deliberate creation of government budget deficits. To this effect, Keynes appears to have been somewhat more conservative towards the issue of public debt than how it is commonly propagated. This is reflected in his proposal for a formal distinction between the government's current and capital budgetary items (Dwyer, 2011). Keynes opposed discretionary budget deficits of current expenditures over current revenues. However, Keynes did maintain that public capital expenditures should be at least partly debt financed. As such, Keynes's concern was with the accumulation of public debt issued to finance current expenditure, or so-called 'dead-weight debt'. Keynesian position does not preclude debt as a source of financing current expenditure or capital accumulation. However, prudence is the basis for his various arguments.

The aim of this article is the examination of debt trend and corresponding public spending that could enhance fiscal sustainability in Nigeria. Theoretically, the positive theory of foreign currency states that, foreign borrowing impact positively on investment and growth up to a point or a threshold beyond which its effects turn negative which result in 'Laffer Curve' relationship with the external debt and per capita income or investment (Semmler & Sieveking 2000; Cleasen, 1990). Meanwhile, excessive debt has negative effect as it leads to debt overhang, retards growth by increasing investors' uncertainty about government policy towards the meeting of its high debt-servicing obligations. Therefore, as the stock of public sector debt rises, investors are likely to be worried that the government might want to finance debt-service obligations through unappealing measures, like increase in the money supply which may result in inflation. When this exists, investors are skeptical on investment and even when they do invest, they are likely to be comfortable with portfolio investment which brings quick returns than investment in real projects which could enhance sustainable long-run growth, (Clement et al, 2005) Meanwhile, external finance which culminated into debt has different implications depending on the environment and policy frameworks and economic environment surrounding the decision to borrow in the debtor's country. Theoretically, debt may be acquired to finance short fall in the current consumption account, and it may be used for capital investment. The implication of each differs both in the short-run and long run. As shown in (Flemming & Stein, 2004), borrowing either to finance government consumption or promote

investment and growth entails two different risks. The first is through the fluctuations in the return on domestic investments, while the other is the randomness of the interest rate paid to international institutions on debt. Issue is how to determine the level of debt at which the total utility from consumption will be maximized, given the constraints and uncertainties in the country or society under consideration. In the developing countries, such as Nigeria, where external borrowings have been argued to lack the inbuilt mechanism for repayment, foreign loan would have different implication compared to countries that invest in the long-term investment project with inbuilt mechanism for repayment. In other words, the foreign borrowings are largely spent on consumption in some countries rather than on investment. The optimal solution in such economy therefore is to smooth the time path of real consumption by controlling the size of debt to be accumulated according to its implicit solutions.

However, in mitigating or correcting for high debt profile, time preference is critical in deficit balance and fiscal stance of an economy. An increase in foreign aid decreases deficit if the discount rate is endogenous and decreasing in savings, (Cui & Gong, 2008). If foreign aid increases income and savings, people are more patient and hence they save more, which decreases the deficit. The timing in the tax-smoothing model support that increase in current foreign income specifically foreign aid, decreases optimal deficit (Barro 1979; Kimbrough, 1986). In the same way, debt relief improves incentive of the recipient countries, thus leads to a decrease in budget deficit.

Method of Analysis

The paper examines the trends of key

macro-economic variables which are relevant to studying fiscal sustainability in Nigeria, thus, a mix of quantitative and qualitative analyses are adopted. On one side, critical desk review of literature over the past few decades are carried out for historical development of debt and fiscal sustainability in Nigeria. So also, secondary data from Statistical Bulletin of Central Bank of Nigeria and Africa Development Indicator database of World Bank are collected over the period of 1981 to 2022 and presented in statistical chart, to examine trend pattern. The pattern observable through the trends analyses of the data are critically reviewed through the lens of relevant literature to form a new opinion about the debt trend, revenue and export distribution and pattern and then reach conclusion about future expected direction of the variables and development prospects.

Nigeria Fiscal Challenges

There are several challenges that have confronted Nigerian economy over the past decades since independent in 1960. But the challenges were not so much pronounced in the earlier periods of the independence as much as the country experienced in the past four decades. The challenges could be discussed under some specific macroeconomic parameters.

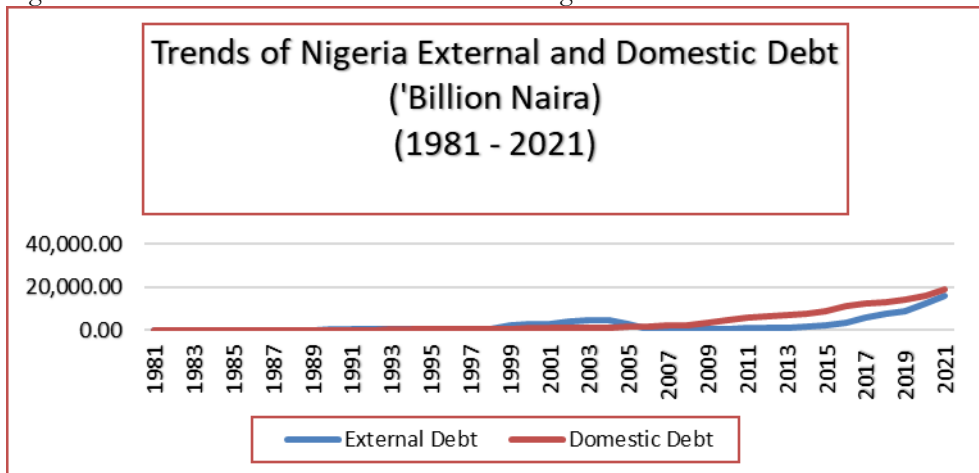
Rising Debt, Fiscal imbalance and Growth pattern

Nigeria is claimed to be one of the countries with excessive budget deficit in the world, (Tule, Onipede & Ebu, 2020; Sala-i-Martin & Subramanian, 2003) for frequent extra budgetary allocation and the allegation of high incidence of corruption. It is expressed in a study that 'the analysis of Nigeria fiscal expenditure profile shows gross violation of laid down procedures in

accumulation and expenditure of public funds to the detriment of not only the development of the Nigerian State in particular but also against the principle of natural justices (Orluwene, 2013). Trailing on the argument that spending above the level absorbable by the economic reality of a country, triggers debt crisis, it is clear that fiscal sustainability problem and debt management challenge might naturally be inevitable in Nigeria. However, in (Adedokun, 2015), it is argued that the trend of expenditure in the country is higher than what the optimal spending should be from early 1980s. It gradually widening, but sharply closed up in 1986. The sharp convergence was attributed to emergence of Structural Adjustment Program (SAP) introduced as measure to curb financial crisis that followed oil price collapse in the international market in the 80s. Prior to the introduction of SAP, a cut in government revenues following the crashed oil price in the international market gave rise to debt management problem. It was so, because the huge debt servicing payment took away a significant

portion of government revenue, thereby creating serious balance of payment problems for the country. Consequently, economic growth became negative, with external reserves drawn down. In a short time, debt servicing became a serious burden with unprecedented decline in foreign exchange earnings and stagnation in the private sector. All these combined to arouse international attention, consequently, the introduction of SAP. In the aftermath of the introduction of SAP, expenditure still continue to rise steadily till 1995 (ibid). This widened gap was due to a response to the high criticism of SAP program and its austerity measures, in which various subsidies were removed on basic items with consequential negative impacts on the welfare of people. The government expansionary fiscal policies to relax the effects of SAP program further triggered the government spending. The widening gap between the government revenue and expenditure aggravated deficit financing that were perpetually funded through borrowing thus, upshot debt stocks as shown in Figure 1.

Figure 1: External and Domestic Debt Trend in Nigeria

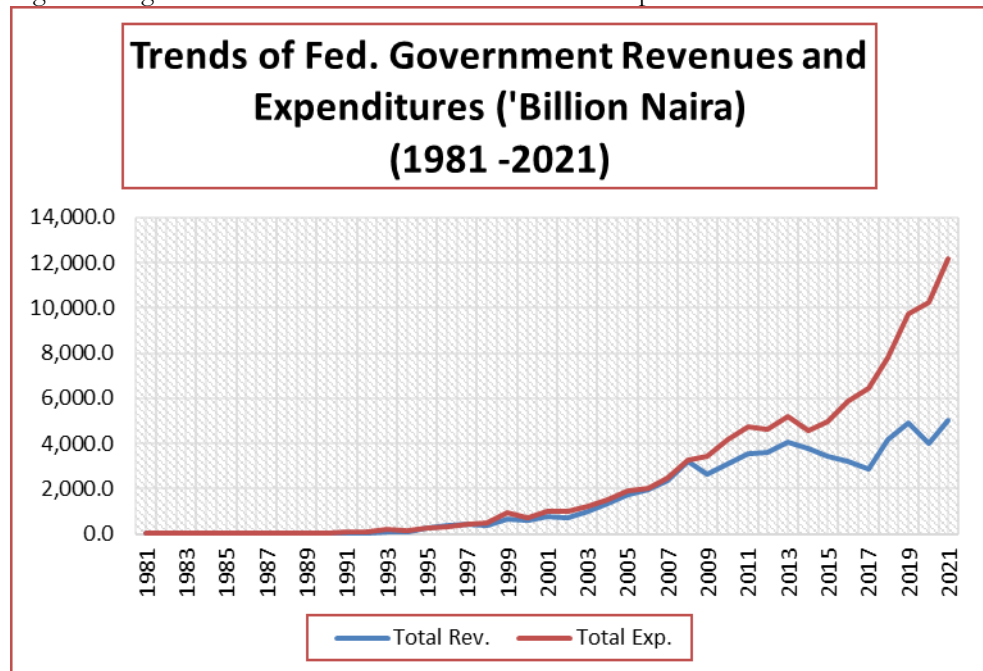


Source: Author's computation using data from 2021 CBN Statistical Bulletin

However, figure 2 examines the historical trends of government revenues and expenditures over the years. It is observed that around 1997, shortly after the death of the military head of State, General Sanni Abacha and the inception of Gen. Abdul Salam Abubakar, a level of fiscal discipline returns which narrowed the gap between the revenues and expenditures. The administration ushered in civilian government headed by President Olusegun Obasanjo. The inception of the administration further invigorated fiscal discipline sustainably till 2007, the end of Olusegun Obasanjo's administration. It

could be concluded that financial probity is associated with political will and desire of a leader to be accountable. It is worth of note that, the Obasanjo regime actually negotiated the debt owe to the Parish Club which gave birth to elimination of \$18 billion dollar debt owe to the institution after the payment of \$12 Billion of the total \$30 billion outstanding. It was very obvious that after Nigeria was relieved of her debt burden in 2006, the issue of fiscal sustainability was not a problem in Nigeria as shown through a sharp decline in the trend of external debt around 2006 in Figure 1.

Figure 2: Nigeria Federal Government's Revenues and Expenditures

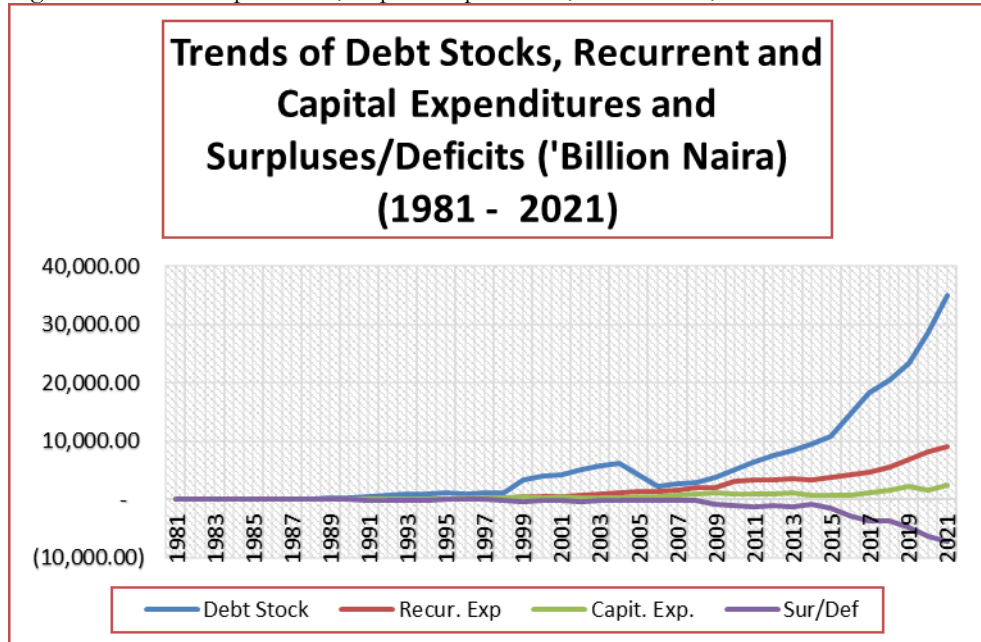


Source: Author's computation using data from 2021 CBN Statistical Bulletin

Unfortunately, after the end of Obasanjo's regime and following the debt relief of 2006, government spending responded negatively and sharply as the expenditure trend could not justify the expected effects of the removal of debt servicing

obligations. Instead, the government expenditures were on upward trend with wide divergence from revenue trend path. The divergent trend pattern has since then continued till 2021 without any sign of possible convergence in the nearest future.

Figure 3: Current Expenditure, Capital Expenditure, fiscal deficit, Debt Stock



Source: Author's computation using data from 2021 CBN Statistical Bulletin

In order to probe further the composition of what constitute the rising expenditure alongside deficit and increasing debt stocks, the expenditure data is disaggregated into recurrent and capital expenditure. In figure 3, deficit financing increases expenditures, but spike recurrent expenditure more than it shows in capital expenditure. This has serious negative implications on the quality of debt stock the country is accumulating in terms of its ability to be self-liquidated. When deficits

that accumulate into debt are expended as recurrent expenditures, there are tendencies for deadweight implications on the economy. It is equally observed that deficits and debt trends worsened from 2008 till 2021. The fiscal pattern in figure 3 is awkward, knowing that Nigeria had oil revenue boom between 2010 and 2013, but the impact seems counterproductive as debt stock worsened. This is in quantum with 'Dutch Disease'.

Dutch Disease in Nigeria

The argument of Dutch disease starts with 'resource curse', in which the resource-poor countries have outperformed the resource-rich countries considerably. The curse becomes an impediment to development as it leads to Dutch disease. Resource curse makes a country slump in other sectors of the economy after the influx of revenues from oil exports. The dependence on oil (or other natural resources) revenues makes the national economy vulnerable to market prices. The volatility of oil prices in international markets lead to significant problems in fiscal planning, reduces the quality of public spending, and lead to financial disaster when oil prices collapse. When oil prices fall, however, fiscal budgets go into deficit, countries start taking loans leveraged against their reserves, and march unimpeded into debt (Otaha, 2012). Indeed, according to Schubert (2006), oil states such as Nigeria, Angola and Cameroon have tended to borrow faster and deeper than non-oil states to cover unexpected shortfalls in income. The uncontrolled appetite of resource rich countries to borrow endlessly is referred as Dutch Disease.

Nigeria first discovered oil in 1956. A joint operation between Royal Dutch Shell and British Petroleum begun production in 1958 and more foreign companies joined in the production after the independence in 1960. Currently, Nigeria is the twelfth largest producer of oil in the world and major supplier of Liquefied Natural Gas (LNG). Upon the discovery of huge deposit of crude oil in the country, income from oil and gas became the lifeblood of the nation's revenues and the economy's mainstay. It accounts for about 40% of the Gross Domestic Product and 70% of government revenues. In 2003, oil and gas

accounted for 80.6% of total federal government revenue receipts (Ikelegbe, 2005). Meanwhile, the proceed from the rapidly expanding oil industry is strewed in criticism of exportation into private accounts of few political class and related corruption rather than usage in development activities and poverty reduction.

Prior to 1970, agriculture was the mainstay of the Nigerian economy. Between 1960 and 1970, on the average, the sector accounted for about 50 percent of the GDP and employed 72 percent of the labor force, (World Bank, 2006). Perhaps more significant was the sector's foreign exchange earning capacity. In the 60s, Nigeria was the world's largest exporter of groundnut, the second largest exporter of cocoa and palm produce and an important exporter of rubber, cotton, and hides and skin (World Bank, 2006). In real terms, in 1970, the country produced 305,000 tons of cocoa, 800,000 tons of palm oil and Kernel and over one million tons of groundnut (Udeaja & Onyebuchi, 2015). Well over 50 percent of the country's total export earnings came from the agricultural sector prior to the 70s, (Ogunbiyi, 2022). The state apparatus was consolidated, much infrastructure was created.

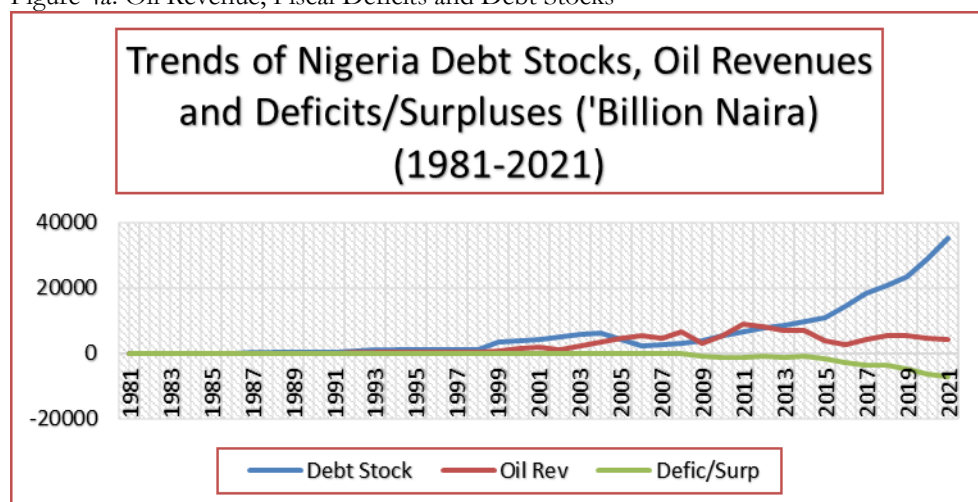
However, in 1970s, on discovery of crude oil in large quantities, other exports of the country like agriculture were seen as nonprofitable due to increased oil revenues. Industrialization was not encouraged due to the ease in access to imported consumer goods. The few industrialized projects that were developed using the import substitution model failed (Bevan, Collier & Gunning, 1999). According to (Collier, 2007), resource wealth sometimes contributes to a conflict trap and the surplus from natural resource exports reduces growth. He explains how

the Dutch disease can damage the growth process by closing out on the exports in other promising sectors of the economy. In support of Collier argument, oil boom in Nigeria is simultaneously giving way to excessive government borrowing and investment on wasteful projects that made the corruption in the country more apparent. Unfortunately, as the world price of crude oil crashed in 1980s, Nigeria's oil

revenues reduced drastically and external debt increased unprecedentedly, giving way to debt crises.

As presented in figure 4a and 4b, the crude oil prices and resulting rise in oil revenues has no positive influence on fiscal deficits. Instead, the rising prices of crude oil and increase in oil revenues trigger steady rise in both the debt stocks and fiscal deficits. This is symptom of 'resource curse'.

Figure 4a: Oil Revenue, Fiscal Deficits and Debt Stocks



Source: Author's computation using data from 2021 CBN Statistical Bulletin

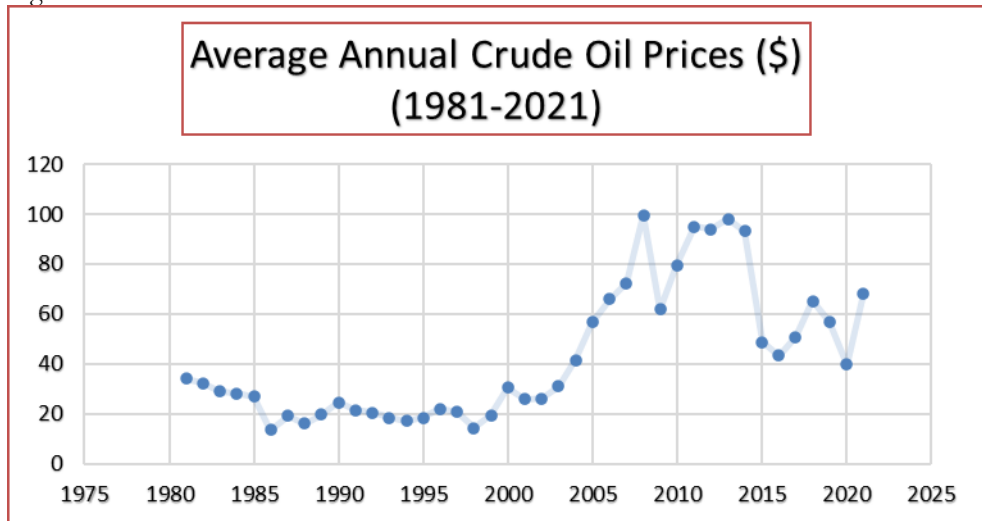
A major Nigeria economic challenge is 'resource curse'. In a normal case, the rising price of oil in the global economy is expected to have positive impacts on the economic growth and development and the immediate impact on the welfare of the citizen. Unfortunately, the rising prices of the crude oil which increase the foreign exchange into the economy is counterproductive because as an import dependent economy, the dividend of increasing oil revenues is eroded through several channels. For instance, the refined oil is reimported into the economy with its

consequential increases in import price, culminating into rising values of government oil subsidy. In other words, the increased cost of refined oil translates into rising prices of basic domestic items. More also, Naira exchange rate consistently depreciate as a result of low domestic non-oil productivity. The huge dependence on the importation further aggravates the Naira depreciation. In order to discourage import and encourage exports, deliberate action of the government also aggravate the Naira value falls. Consequently, all the importation in

the country turns out to have high domestic price as a result of imported inflation or exchange rate induced inflation. Summarily, the rising price of crude oil which should be a huge blessing to the country ended up aggravating the problem of inflation with little or no

significant improvement on the foreign reserve. This is due to repatriation of benefits on the increased bills of importation of finished products especially the refined oil.

Figure 4b: Crude Oil Prices



Source: Author's computation using data from 2021 CBN Statistical Bulletin

The evidence in support of the above could be traced to the Russian-Ukrainians war which enhances the quantity of quotas of OPEC to Nigeria coupled with the increase in the global price of oil. However, the positive effect of this is still in oblivion.

Recent Fiscal Reforms in Nigeria and Development Prospect

The economic crises of 2014 to 2016 and the covid-19 induced financial and economic crisis of 2020-2023 served as the bases for more realistic assurance that oil dependency is not sustainable due to high volatility of the prices which in most cases are highly unpredictable. This was

observed during the Covid-19 crises when the global economy experienced complete lockdown and the price of crude oil practically turned to zero in the global market. It thus, points to the weakness of monocultural economy in which a country substantially depends on the revenues from Oil. The events of the past eight years in Nigeria made the government to take critical and deliberate step towards economic and revenue diversification. Consequently, several initiatives were carried out in line with non-oil promotion and strategic expansion and intensification of efforts in line with non-oil tax mobilisation. Some of these are briefly discussed.

Non-Oil Revenue Mobilisation

In the process of non-oil revenue mobilisation, government foreclosed increase in tax rate, but focused on how to expand the tax base. In order to achieve this, the administration introduced a number of tax reforms to diversify Nigeria's income base as well as improve tax administration, with ministry of finance and Federal Inland Revenue Service (FIRS) on the forefront. One of the initiatives is the Voluntary Assets and Income Declaration Scheme (VAIDS). In June 2017, the federal government signed an executive order to commence the Voluntary Assets and Income Declaration Scheme (VAIDS). It was a tax amnesty program offered 12 months of opportunity for taxpayers; individual and corporate within and abroad to voluntarily disclose previously hidden assets and income for the purpose of payment of all outstanding tax arrears between 2010 and 2015, with incentives which exclude them paying the interest and penalties as well as enjoying the immunity from prosecution. VAIDS was geared towards raising the percentage of non-oil tax revenue from the six percent it was at the time to the 15 percent by 2020 while broadening the federal and state tax brackets.

Another initiative was the introduction of Voluntary Offshore Asset Regularisation Scheme (VOARS), which became effective in October 2018 after the expiration of VAIDS. VOARS initiative mandated Nigerian taxpayers to declare and pay tax on their offshore assets. The scheme provided a platform for taxpayers, who have defaulted in the payment of taxes, to voluntarily declare their offshore assets in exchange for a one-time levy of 35% on all offshore assets. Just like it was under VAIDS, it also granted them immunity from prosecution.

Federal government, in 2018, as part of her efforts at expanding non-oil tax took an unusual step by directing banks to freeze the accounts of over six thousand defaulting taxpayers. Within months of its introduction, the FIRS generated over N23 billion from suspended corporate bank accounts of tax defaulters, particularly on 3,000 companies who had deducted Value Added Tax (VAT) and Withholding Tax (WHT) on behalf of the federal government but had not remitted them in due course. The initiative was later suspended upon discovery of loophole in the process.

There was also an introduction of special Companies Income Tax process (Road Infrastructure Development and Refurbishment Investment Tax Credit Scheme) Order, which was signed in January 2019, enabling private companies to fund the construction of major road projects in the country while they get tax credit and reductions in return. Apart from enabling the government to leverage private sector funding in a manner that creates value for money through private sector discipline, the executive order was meant to be in force for ten years and enable participants utilize the road infrastructure tax credit certificate as the corporate income tax (CIT) in and for the relevant fiscal years, in which the project cost is incurred, until it is fully utilized.

In June, 2018, federal government also approved two executive orders and five amendment bills to remove value-added tax on residential properties and amend the company income tax law. The orders included Value Added Tax Act (Modification) Order and Review of Goods Liable to Excise Duties and Applicable Rate Order, while the five Amendment Bills were the Companies Income Tax Act (Amendment) Bill; Value

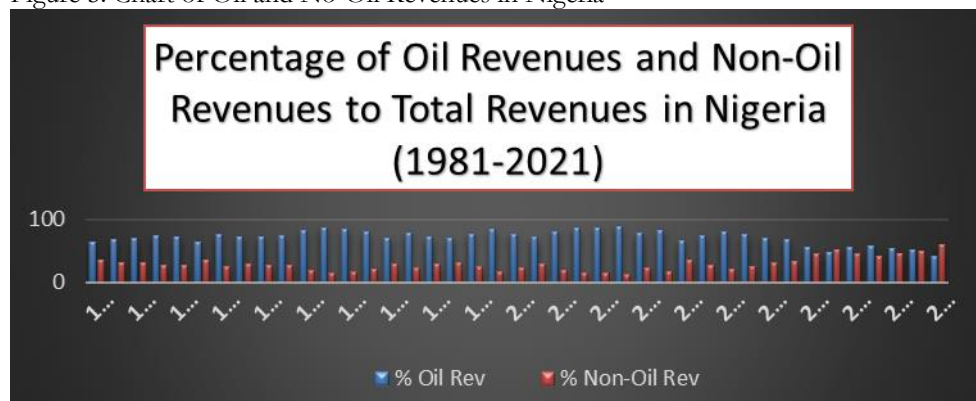
Added Tax Act (Amendment) Bill; Customs, Excise, Tariff (Consolidation) Act (Amendment) Bill; Personal Income Tax Act (Amendment) Bill and Industrial Development (Income Tax Relief) Act (Amendment) Bill. The essence of the modifications as argued by Federal Government were to reduce the tax burden on Nigerians and boost ease of doing business. More also, apart from simplifying the process of paying taxes, the policies were also geared towards removing obsolete, ambiguous and contradictory provisions in the laws while also increasing government revenue.

In order to evaluate the impacts of the various initiatives, Asadu (2019) argued that the records of Federal Inland Revenue Service (FIRS) show that in the area of revenue generation, tax revenue has continued to increase, with decline recorded only in 2016; from the N3.74

trillion recorded as revenue in 2015 to the N3.3 trillion in 2016 and N4 trillion in 2017. However, 2018 saw Nigeria earning a record-breaking tax revenue of N5.3 trillion, a 30 percent increase above the figure in 2015 when the new administration took over the government affairs. There has also been a sharp increase in the number of taxpayers registered over the four years. Data from the Joint Tax Board shows that from the 10 million registered taxpayers in 2015, at least 30 million more Nigerians have been captured in the tax net, with the figure about to hit 45 million in 2019.

The historical data provides evidence that there is improvement in non-oil tax revenues, as the redistribution of percentage share of oil and non-oil revenues improves in favour of non-oil revenues in the past seven years from 2015.

Figure 5: Chart of Oil and No-Oil Revenues in Nigeria



Source: Author's computation using data from 2021 CBN Statistical Bulletin

As shown in figure 5, precisely from 2015, the percentage growth of non-oil revenue has been rising and steady. More significantly, the percentage of non-oil revenue surpassed that of oil revenues in 2021. This is a great improvement and unprecedented since 1981.

Economic Diversification and Export Promotion

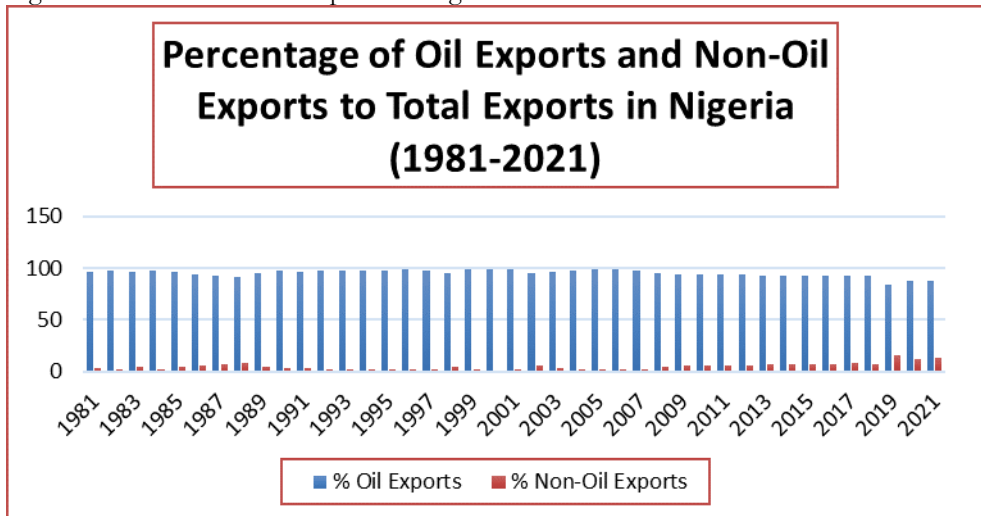
Nigeria introduced Economic Recovery and Growth Programme (ERGP) as economic diversification blueprints to drive industrialization, with emphasis on

small and medium scale enterprises to increase non-oil exports. Principally, the focus is on the development of agriculture, solid minerals, science and technology, manufacturing industries and ICT. The initiative involves joint efforts of federal government and central bank of Nigeria through the deployment of various programs focussing on diverse groups of people in the country.

However, there is evidence to support positive outcome of the initiative. In 2021, oil sector contributed 7.24 per cent to the economy, while the non-oil sector contributed 92.76 per cent. In the non-oil sector, agricultural sector remains the largest sector in the economy, contributing 25.9 per cent to the real GDP, with an

estimated value of N18.74 trillion in 2021. The sector grew by 2.1 per cent year-on-year from N18.35 trillion recorded in the previous year. The manufacturing sector contributed 9 per cent to the country's real GDP with a value of N6.5 trillion, increasing by 3.35 per cent year-on-year from N6.29 trillion recorded in the previous year. Trade sector expanded by 8.62 per cent year-on-year in real terms in 2021, contributing 15.7 per cent to the nation's economy with a value of N11.36 trillion. The same applied to non-oil export promotion in which cocoa and sesame seeds revenues grew by 79.4 million dollars and 153 million dollars respectively.

Figure 6: Oil and Non-Oil Exports in Nigeria



Source: Author's computation using data from 2021 CBN Statistical Bulletin

The export promotion of non-oil sector reflects this improvement as shown in historical data presented in figure 6. Specifically, the non-oil export improvement is noticeable since 2019. If the trend is maintained, there is hope that

in the coming years, there will be significant improvement in the export diversification towards non-oil in Nigeria.

Conclusion

Nigeria fiscal system over the year is trapped in fiscal unsustainability crises, due to excessive debt accumulation and inability to strategically utilise borrowed funds on the projects that could be self-liquidating. The available data trends support the arguments that deficit financing in most cases is utilised on recurrent expenditures. In returns, the accumulation of debt increases debt service obligations which further aggravate the amount expended on recurrent expenditure. Consequently, more borrowing is usually required to meet debt servicing obligations with little or no attention to commensurate development projects.

The Nigeria fiscal problem is also compounded with excessive dependence on revenues from crude oil with little attention to non-oil revenue mobilisation; in this case, the crude oil price volatility creates incessant shocks on the expenditure plans vis-à-vis revenues shortage due to price crash. The same problem is observed on the export patterns, in which the country depends excessively on the foreign exchange from Oil, while non-oil exports are neglected. The monocultural economy put heavy pressure on the import bills, given that Nigeria is heavy importer of raw materials and finished goods. In the time of crude oil price crash, the negative impacts are quickly felt on the foreign reserves and Naira exchange rates. These and many other factors are responsible for the fiscal crises in the country.

However, in the past six years, there are evidences that the country is reversing the poor trends on some macroeconomic parameters. For instance, the federal government attention is currently being shifted from oil revenues dependency to

non-oil revenues mobilisation, such that in 2021, the percentage of non-oil revenues to total revenues is more than those from oil revenues. The same is observed on the non-oil export promotion which is sharing higher proportions compared to past few decades. This is a right move in the right direction, if the pattern is not derailed going forward. In other words, government should intensify effort to expansive non-oil revenue sources, non-oil export promotion and utilisation of borrowing on capital projects which could be self-liquidating over the coming years. Finally, the sub-national governments have key roles to play in the process of repositioning the country on the roads to financial prudence and fiscal sustainability path. It is observed that sub-national government should follow the recent policy pattern of the federal government ensuring that much development activities is achieved with little resources. Holistic efforts of government at all levels in Nigeria in line with recent pattern could ensure fiscal sustainability and positive development trend for the country.

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Road Transportation Service and Passengers' Satisfaction: A Study of Public Transport Passengers in Ogun and Oyo States, Nigeria

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Abstract

The main objective of the study is to verify the effect of road transportation service on passengers' satisfaction among public transport passengers in Ogun and Oyo States, Nigeria. Survey research design was used for the study. Data was collected through the use of questionnaire. Convenience sampling technique was used for the study. Descriptive statistics was used to analyze the respondents' biodata while multiple regression analysis was used to test the hypotheses formulated. Findings of the study affirmed that road transportation service (passengers' comfort, passengers' safety, and drivers' reliability) had combined significant effect on passengers' satisfaction in Ogun State (Adj. $R^2 = 0.29$, $F = 14.393$, $p < 0.05$). In addition, passengers' comfort, passengers' safety, and drivers' reliability had combined significant effect on passengers' satisfaction in Oyo State (Adj. $R^2 = 0.36$, $F = 28.293$, $p < 0.05$). The study concluded that passengers of public road transportation service in Ogun and Oyo States will be satisfied when public transport service providers make them comfortable while in transit, protect them from harm, injuries, and all kinds of risks associated with travelling, and enhance the efficiency and effectiveness of transport drivers.

Key words: Road Transportation Service, Passengers' Comfort, Passengers' Safety, Drivers' Reliability, Passengers' Satisfaction

Introduction

Transportation is a vital component of human activity, and it serves as the foundation for all socio-economic exchanges in many ways. To enable economic growth and development, a good transportation system is required.

Transportation is an important component of any country's social and economic life; it facilitates trade and serves the country's manufacturing, industrial, tourism, and distribution needs. As a result, Nigeria's economic development and critical responsibilities in the global economy will benefit from a lively, responsive, effective, and efficient transportation infrastructure. During the colonial time, Nigerians began to develop a modern transportation infrastructure. The rail, river, and road networks that were established at the time were designed to facilitate the exportation of cash crops and the importation of mass-produced consumer items. They were designed to be as cost-effective as possible, but they later proved insufficient (Oyeobu, Oyebisi, Olateju & Sesede, 2014).

In today's Nigerian economy, the road transport sector is one of the largest employers of labor. The influence of road transporters may be felt across Nigerian society. Nigeria's primary form of transportation is the road. Inland waterways and rail travel are two more modes of intra-urban and inter-urban transportation in Nigeria, however they are limited to a few urban centers with unique terrain (water) (Oyeobu *et al.*, 2014).

As stated by Ologunagbe (2022), the transportation sector is a key engine for economic growth, with infrastructure upgrades enhancing trade and accelerating chances for international investments to grow the economy. The sector is referred to as essential to national growth since it involves the process of gathering, assembling, transferring, and distributing goods, services, and people from one location to another in a timely, safe, and secure manner. During the 1973 oil boom, there was a huge demand for products needed to get to places, which led to a

boom in the transportation industry, which made it possible for the sector to explore all of its choices. It is impossible to carry people and goods to their final destinations without transportation, making it essential to Nigeria's economic success. The transportation industry encompasses a variety of modes of transportation, including air, road, rail, and pipeline.

According to Onokala (2015), the aim of transportation is to move people, commodities, information, and services through place shaped by cultural and physical limits like distance, time, political boundaries, and geography. Without transportation, the basic essentials of existence, such as food, clothing, and shelter, are impossible to get in any civilization; thus without transportation, life as we know it today would be unimaginable. Transportation is especially important for the survival of human settlements, and the presence of such settlements increases demand for transportation. Transportation routes are built to move resources from regions where they are plentiful to places where they are scarce. It is an essential component of every society's social, political, and economic existence since it plays a significant part in the spatial relationships between different locales on a global, national, and regional scale. The importance of transportation may thus be seen in daily human activity on the earth's surface in rural, urban, and regional settings. This helps to explain why transportation is regarded as one of the most vital human activity in the world.

Individual commuters, as well as producers, suppliers, and industrial users, benefit from transportation. The most frequent mode of transportation is land

transport, which comprises moving goods and people from one location to another by road and rail. The use of a vehicle, motorcycle, or bicycle to transport products and passengers from one location to another is referred to as road transport (Chama & Ejem, 2021).

The efficient use of present traffic infrastructure is critical for people and goods movement; modernization and development of mobility infrastructure to meet future demand for efficient transport services must be considered for sustainable spatial interaction. This assertion is critical for road travel because it accounts for more than 90% of all passenger transit and more than 80% of all freight transport in most nations throughout the world, in terms of passengers and tonnes transported (Olorunfemi, 2021).

Adequate transportation infrastructure are generally the rule rather than the exception in many developing countries. As a result, a good transportation infrastructure is critical for economic growth and development. Nigerian transportation challenges have included substandard roads, insufficient bus or truck fleets, irregular, inadequate, and overcrowded railroads and airlines, and congested ports since the country's independence in 1960. These are typical characteristics of developing countries. Physical concerns such as a shortage of appropriately skilled transport managers and planners, capital restructuring bottlenecks, major issues with institutional reforms, and inadequate traffic rules are also prevalent in the Nigerian road transport system ([www.nigerianstat.gov.ng/pdfuploads/TR ANSPORT.pdf](http://www.nigerianstat.gov.ng/pdfuploads/TR%20ANSPORT.pdf)).

As noted by Etim (2019), since transportation connects people with places, it is one of the most important

aspects of a country's economic development and growth. As a result, road transportation in major cities around the world is made simple and accessible to everyone, regardless of culture, race, religion, or language differences. Lagos State is confronted with lots of problems in meeting public transportation demand of the people of the state. Some of the problems that hinders the delivery of effective road transport services in Nigeria include poor road maintenance, road congestion due to urbanization and increase in population, environmental pollution, and non-challant attitude of drivers and conductors when dealing with commuters.

Road maintenance remains a big problem throughout the country, not just in Lagos. The majority of these roads were built between the early 1980s and the late 1990s, and they now require comprehensive renewal or thorough repair because they are already worn out and the government is hesitant to address them. The cause of these substandard roads is primarily due to poor quality maintenance materials and lack of oversight over repair projects. Most repairs are carried out only when there is substantial surface damage and a high yearly accident rate. In Lagos State, public transportation is linked to noise and air pollution. The population of Lagos and its environs are at risk from air pollution caused by carbon monoxide, hydrocarbons, and nitrogen emissions from automobile exhaust pipes. The cacophony from car horns, faulty engines, and motorists calling the next destination all add to an unpleasant environment (Etim, 2019).

According to Babalola (2021), poor roads continue to be one of the major causes of road accidents in Nigeria. According to the Quarter 2-2020 Road Transport Data

report published by the National Bureau of Statistics in conjunction with the Federal Road Safety Corps, FRSC, 2,080 road crashes, many attributable to the bad conditions of the roads, occurred in Quarter 2-2020. While a total number of 5,353 Nigerians got injured in the road traffic accidents recorded, a total of 855 were killed. The total number of vehicles involved in accidents in Quarter 2-2020 was 3,334. Poor road infrastructure in Nigeria serve as an opportunity for kidnappers and bandits who take advantage of several potholes to carry out their evil operations on transport drivers and commuters who are forced to slow down whenever they fall into such potholes. Other consequences of bad roads in Nigeria include commuters' delay in arriving at their desired destinations, incessant strike of oil and gas workers due to regular oil and gas tank accidents and delay in moving goods and services to different point of sale/consumption.

Several studies such as Nwachukwu (2014), Ojo, Mireku, Dauda and Nutsogbodo (2014), Yao, Siali, Darin and Ismail (2014), Abeid (2015), Horsu and Yeboah (2015), Dana, Nane, Belete, Ergado and Labiso (2016), Nafiu, Hassan and Alogwuja (2018), Getachew (2019), Atombo and Wemegah (2021), Chama and Ejem (2021), Etuk, Anyadighibe, Edim and Mbaka (2021), Kospandani and Wahyudi (2021), Jayasakti, Widiyanto and Susanto (2021), etc. have been conducted on public transportation service delivery. None of these studies conducted a comparative study on road transportation service delivery and passengers' satisfaction in two different states. Hence, there is paucity of research on road transportation service and passengers' satisfaction among public transport passengers in Ogun and Oyo States,

Nigeria. This study filled this gap in knowledge by verifying the effect of road transportation service on passengers' satisfaction among public transport passengers in Ogun and Oyo States, Nigeria. The study also filled the gap in knowledge by examining the combined effect of the independent variables on the dependent variable as there exists dearth of research that examined the combined effect of the independent variables on the dependent variable in the literature.

The main objective of the study is to verify the effect of road transportation service on passengers' satisfaction among public transport passengers in Ogun and Oyo States, Nigeria. The specific objective is to:

- i. investigate the effect of road transportation service (passengers' comfort, passengers' safety and drivers' reliability) on passengers' satisfaction in Ogun and Oyo States, Nigeria. In order to achieve the main and specific objectives highlighted above, the research hypotheses was tested:

H₀₁: Road transportation service (passengers' comfort, passengers' safety and drivers' reliability) has no significant effect on passengers' satisfaction among public transport passengers in Ogun and Oyo States, Nigeria.

Review of Related Literature

Conceptual Review

Transportation has a larger part in a country's economic and social development. Transportation in general, and road transport in particular, is the most frequently used means of transportation on the planet. It also serves as a hub for the movement of commodities and passengers on a local, national, regional, and international scale (Dana *et al.*, 2016). Through direct contributions to GDP and employment,

the road transport sector plays a key role in the national economies of emerging countries. It also delivers essential services in an indirect manner. Road transport is the most common means of motorized transport in Africa, accounting for 80% of goods traffic and 90% of passenger travel (Kassa, 2013).

According to Okotie (2022), despite the numerous challenges facing the transport sector in becoming secure, safer, and sustainable e.g. kidnappings, armed robbery, poor monitoring and tracking systems, poor infrastructure and operational standards, bad roads, well-tailored policies, etc., Nigeria's road transport sector still managed to be the best performing sector in the second quarter of 2022 with a 56.38% growth. Contribution of transport activities to Nominal GDP in the second quarter of 2022 was 2.79%. This was greater than the 1.60% contribution in the first quarter of 2022 and also higher than the 2.09% reported in the same period of 2021.

Road transportation refers to the movement of people, products and services from one location to another through the use of road transportation facilities such as cars, buses, bicycles, motorcycles, lorry and tricycles. Road transportation gives room for raw materials, production equipment, running inventories, semi-finished items, finished goods and people to be made available wherever and whenever they are needed for commercial activities and personal consumption (Olakunori, 2006).

As observed by Chama and Ejem (2021), road transportation is an important component of any country's social and economic life since it facilitates trade and serves the industrial, tourism, and distribution sectors. As a result, Nigeria's economic development and vital positions

in the global economy will benefit from a responsive and effective transportation system. Meanwhile, Nigeria's road transport sector is one of the largest employers of labor in the country. The influence of road transporters may be felt across Nigerian society. This is due to the fact that Nigeria's primary form of transportation is through road.

Criteria used to assess the quality of transportation services delivered at any point in time include reliability (providing a reliable service to customers), convenience (accessibility of the service, waiting time, and ease of payment), safety (driving standards of the drivers, vehicle conditions, and overloading), security (secured voyage without robbery), and comfort (availability of good seats and ventilation systems) (Iles, 2005).

According to Hansemark and Albinsson (2004), customer satisfaction is a general customer attitude toward a service provider, or an emotional reaction to the difference between what customers expect and what they get in terms of the fulfillment of some objectives, goals, or desires. It is the foundation upon which favorable and unfavorable impressions of a company's offerings are created. Customer satisfaction is the bedrock of any successful business because it leads to repeat purchases, brand loyalty, and positive word of mouth (Angelova & Zeqiri, 2011). Businesses that want to succeed engage in establishing and implementing initiatives that are aimed at realizing customer satisfaction (Horsu & Yeboah, 2015).

The degree to which passengers are comfortable with the seats, travel experience, vehicle temperature, and other experiential components of companies while in transit is referred to as passengers'

comfort (Njeru, Cheruiyot & Maru, 2019). Passengers' safety is defined by Nyongesa and Bwisa (2014) as the condition in which passengers are protected from harm, injury, risk, or other risks while at the service providers' facilities and while traveling to their final destinations.

A driver's reliability includes his driving skills, duration of driving experience, and knowledge of travel routes, because a driver is only regarded competent if he or she meets these minimal capabilities (Pawlasova, 2015). In transportation services, drivers' reliability is critical since it determines passengers' overall perceptions of the quality of service provided by transportation businesses. As a result, transportation businesses with more skilled and efficient drivers tend to attract and retain more passengers than those without such drivers. This is because an inexperienced driver transporting passengers to their destinations will be unable to ensure their safety and comfort during the transportation procedure, resulting in passenger dissatisfaction (Budiono, 2009).

Theoretical Review

Stakeholder theory was reviewed in this study. This study was also anchored on stakeholder theory. Stakeholder theory was propounded by Edward Freeman. Stakeholder theory stresses the interconnected relationships between a business and its customers, suppliers, employees, investors, communities and others who have a stake in the organization. The theory argues that a firm should create value for all stakeholders, not just shareholders. It also posits that managers should put into consideration the interests of all its stakeholders when making decisions to maximize value (Jensen, 2001). An organization will maximize value for itself and the society at

large successfully when it carefully considers the interests of its stakeholders along with its own interests. These stakeholders include employees, customers, owners and investors, and the community in general (Jensen, 2001). Employees want the firm to provide a safe place to work, give them sufficient training to do their jobs, pay an equitable wage or salary, provide fringe benefits, and provide them after work benefits that can sustain their old age. Customers want fair prices, quality goods and services, and friendly and courteous service. Owners and investors who have invested their time and resources to ensure the successful operation of the business desire a return on their investment. It is therefore the responsibility of the business to integrate and reconcile the needs of its stakeholders along with the needs of the organization in order to operate successfully (Enikanselu, 2008).

Stakeholders in the transport sector include government regulatory bodies, transportation agencies, and environmental groups (Onyenucheya, 2023). Susniene and Jurkauskas (2008) emphasized that in order to meet the demands of the primary stakeholder (passengers), all other stakeholders' involvement in the provision of public transportation services, or the degree of relationships required between a transportation firm and its many stakeholders, is essential. Relationships between various stakeholders (municipality, public transportation service providers, state road maintenance agencies, etc.) are crucial for providing passengers with the best quality service. It is imperative to stress that municipalities and governmental entities play a significant role in managing public transportation service firms. Governmental entities have

an impact on them through laws and regulations, while municipalities, which are the largest shareholders, have an impact on the management team and the company through municipal budget subsidies. Therefore, it is crucial to keep this particularity in mind when managing public transportation businesses and their stakeholder interactions (Susniene & Jurkauskas, 2008).

This study was anchored on stakeholder theory. This is because an organization will attract and retain its customers when it is able to strike a balance between meeting the needs of the organization and the needs of its stakeholders (customers) and not satisfying the need of one group at the detriment of another.

Empirical Review

Amponsah and Adams (2016) assessed the relationship between service quality and customer satisfaction of public transport operations in Vancouver Lower Mainland in the Province of British Columbia, Canada. Sample size comprised of 205 commuters in Vancouver Lower Mainland. Questionnaire was used to collect primary data for the study. The study found that service quality has significant relationship with customer satisfaction in terms of overcrowding of buses and overall satisfaction with service. In addition, late-hour services had negative significant relationship with overall satisfaction, value for fare paid and overall services provided by the operators.

Abeid (2015) assessed customer satisfaction with the public bus (Daladala) services provided by public bus operators in Zanzibar. Sample size of 40 commuters of public bus services in Zanzibar. Questionnaire was used to collect primary data for the study. The study revealed that

customers are not satisfied with public bus (Daladala) services provided by public bus operators in Zanzibar.

Also, the study ascertained that factors such as comfort, bus stop condition, waiting time and safety trips had higher influence on customers/passengers' satisfaction in public transport bus (Daladala) services provided in Zanzibar. Other factors that influenced customers' satisfaction include travelling time, transport cost, special buses and cleanliness.

Horsu and Yeboah (2015) examine the relationship and effects of service quality on customer satisfaction in minicab taxi services in Cape Coast, Ghana. Sample size consist of 281 commuters in four selected taxi terminals. Questionnaire was used to collect primary data for the study. Descriptive statistics was used to analyze the respondents' demography and responses on each item of the research instrument. Pearson correlation analysis and regression analysis were used to test the hypotheses formulated. Findings from correlation analysis showed that comfort, reliability, safety, driver behavior, continuous service and affordability had individual positive and significant relationship with customer satisfaction in minicab taxi services in Cape Coast, Ghana. Findings from regression analysis confirmed that continuous service, comfort, affordability of service and reliability of service had significant influence on customer satisfaction while safety and driver behavior had no significant influence on customer satisfaction.

Getachew (2019) assessed the effect of transportation service quality on customer satisfaction in Debre Markos city, Amhara Region, Ethiopia. Sample size consist of

344 commuters of Bajaj transport service providers in Debre Markos city. Questionnaire was used to collect primary data for the study. Descriptive statistics was used to analyze the respondents' demography and responses on each item of the research instrument. Pearson correlation analysis and multiple regression analysis were used to test the hypotheses constructed. Findings from correlation analysis affirmed that convenience, safety, reliability, comfort and security had individual significant relationship with customer satisfaction among commuters of Bajaj transport in Debre Markos city. Findings from multiple regression analysis showed that convenience, safety, reliability, comfort and security had combined significant effect on customer satisfaction.

Adeniran, Olorunfemi and Aipoh (2020) investigated the factors influencing passengers' satisfaction of minicab services in Akure, Ondo State, Nigeria. Primary data was collected through the use of questionnaire. Sample size comprised of 384 passengers of minicab services in Akure. Descriptive statistics was used to analyze the respondents' demography and responses on each item of the research instrument. Spearman's rank correlation analysis was used to test the hypotheses constructed. The study found that transport fare, time and vehicle condition had individual significant relationship with passengers' satisfaction of minicab services. Convenience and drivers' professionalism had no significant relationship with passengers' satisfaction.

Adeniran and Fadare (2018) examined the relationship between passengers' satisfaction and service quality in Murtala Muhammed International Airport, Lagos State, Nigeria. Sample size consist of 384 passengers of the airport. Questionnaire

was used to collect primary data for the study. Correlation analysis was used to test the research hypothesis. The study found that passengers' satisfaction had significant relationship with service quality in Murtala Muhammed International Airport.

Etuk, Anyadighibe, Edim, and Mbaka (2021) examined the effect of service quality on passengers' loyalty in public transportation companies in Calabar, Cross River State. Sample size comprised of 303 passengers. Questionnaire was used to collect primary data for the study. Descriptive statistics was used to analyze the respondents' demography and responses on each item of the research instrument. Multiple regression analysis was used to test the hypotheses constructed. The study found that passengers' safety, passengers' comfort, travel time, drivers' competence and vehicle cleanliness had combined significant effect on passengers' loyalty in public transportation companies in Calabar, Cross River State. Also, except for travel time, passengers' safety, passengers' comfort, drivers' competence and vehicle cleanliness had individual significant effect on passengers' loyalty.

Conceptual Model

A research conceptual model was developed to show the combined effect of the independent variables (passengers' comfort, passengers' safety, and drivers' reliability) on the dependent variable (passengers' satisfaction) among public transport passengers in Ogun and Oyo States, Nigeria.

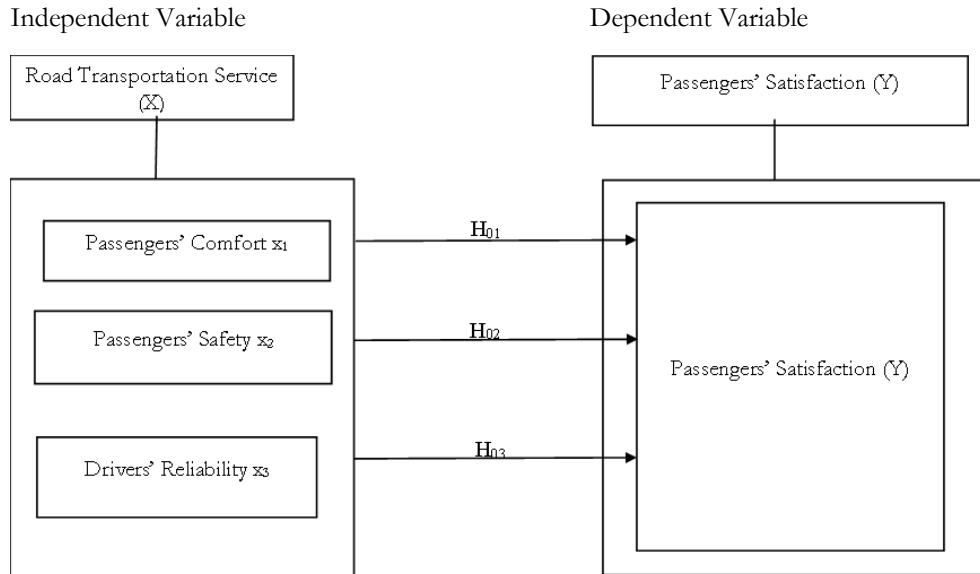


Figure 1: Road Transportation Service and Passengers' Satisfaction

Source: Researchers' Conceptual Model (2023).

Methodology

Survey research design was adopted for this study. This was done for three reasons. First, it has the ability to gather data from big samples of the population. Second, it works well for compiling demographic information that outlines the make-up of the sample (McIntyre, 1999). Thirdly, it allows for a wide range of variables to be explored, while also requiring little effort to create and implement and making generalizations very simple (Bell, 1996 cited in Glasow, 2005). The population of this study comprised of public transport passengers in Ogun and Oyo States, Nigeria. Convenience sampling technique was used for the study. Convenience sampling technique allows a researcher to select the respondents who are readily available and willing to participate in a research study (Latham, 2007). The research instrument used for this study was a structured

questionnaire. The questionnaire makes it possible for the respondents to comprehend the purpose of the study. The researcher can also easily gather information from the respondents (Asika, 2004). The study adapted the questionnaire of various authors on the variables of the study. The study adapted the research instrument of Adeleke and Aminu (2012) on passengers' satisfaction. Also, the study adapted the research instrument of Nwachukwu (2014) and Getachew (2019) on passengers' comfort, passengers' safety, and drivers' reliability. The research instrument comprised of 20 items.

Internal consistency method of reliability was used to test the reliability of the research instrument. Cronbach alpha was used to test the internal consistency of the research instrument. In order to assess the

reliability of a survey research instrument, the Cronbach alpha co-efficient calculates the internal consistency or average correlation of each question (Santos, 1999). The reliability of the research instrument is indicated by a value of 0.70 or higher (Santos, 1999). The questionnaire comprised of two major sections: Section A (demographic profile of the respondent) and Section B (Research construct items). The questionnaire comprised of major construct items.

However, modified Likert's interval rating scale with options ranging from strongly agree, agree, partially agree, partially disagree, disagree, and strongly disagree were used as the response patterns on the construct items. Copies of the questionnaire were administered to 200 public transport passengers in Ogun State and 200 public transport passengers in Oyo State. The pilot study was carried out by administering copies of the questionnaire to Ten (10) percent of the respondents who filled them and returned back to the researchers. Thereafter, the reliability of the research instrument was tested using Cronbach Alpha co-efficient. Descriptive statistics using simple percentages and frequency distribution tables was used to analyze the respondents' bio-data (gender, age, marital status, and educational qualifications) and responses on each item of the research instrument while multiple regression analysis was used to test the hypothesis formulated. These methods of data analysis were used with the aid of the Statistical Package for the Social Sciences (SPSS) version 23.

Table 1: Cronbach Alpha Value of the Research Instrument

Source: Researchers' Computation (2023).

Variable	No. of Items	Ogun State	Oyo State
Passengers' Satisfaction	5	0.88	0.79
Passengers' Comfort	6	0.76	0.83
Passengers' Safety	3	0.75	0.74
Drivers' Reliability	6	0.85	0.71
Total	20		

Table 1 showed the Cronbach Alpha value for each item of the research instrument tested which ranged between 0.71 and 0.88. This showed that the research instrument tested was reliable. As stated by Santos (1999), a value of 0.70 and above indicate the reliability of the research instrument.

Data Analysis, Results, and Discussion

Copies of the questionnaire were administered to 200 public transport passengers in Ogun State and 200 public transport passengers in Oyo State; out of which only 179 copies were filled and returned back in Ogun State and 165 copies were filled and returned back in Oyo State.

From the analysis of respondents' demography in Ogun State, 113 (63%) of the respondents are male while 66 (37%) are female. The marital status showed that 98 (55%) of the respondents are single while 81 (45%) are married. The age distribution of respondents showed that none of the respondents is within the age of 16-20 years, 54 (30%) are within the age of 21-30 years, 73 (41%) are within the age of 31-40 years, 47 (26%) are within the age of 41-50 years, and 5 (3%) are within the age of 51 years and above. The educational qualification showed that 4 (2%) of the

respondents are SSCE holders, 115 (64%) are bachelor's degree holders, 52 (29%) are master's degree holders while 8 (5%) of the respondents possess a doctorate degree.

From the analysis of respondents' demography in Oyo State, 89 (54%) of the respondents are male while 76 (46%) are female. The marital status showed that 36 (22%) of the respondents are single while 129 (78%) are married. The age distribution of respondents showed that none of the respondents is within the age

of 16-20 years, 36 (22%) are within the age of 21-30 years, 51 (31%) are within the age of 31-40 years, 53 (32%) are within the age of 41-50 years, and 25 (15%) are within the age of 51 years and above. The educational qualification showed that 15 (9%) of the respondents are SSCE holders, 68 (41%) are bachelor's degree holders, 58 (35%) are master's degree holders while 25 (15%) of the respondents possess a doctorate degree. The state of residence showed that 179 (52%) of the respondents reside in Ogun State while 165 (48%) reside in Oyo State.

Table 2: Multiple Regression Analysis Results on Road Transportation Service and Passengers' Satisfaction among Public Transport Passengers in Ogun and Oyo States, Nigeria

Variables	Passengers' Satisfaction	
	Ogun	Oyo
Constant	$\beta = 6.938$	$\beta = 7.999$
	$t = 3.967$	$t = 5.179$
	$p = 0.000$	$p = 0.000$
Passengers' Comfort	$\beta = 0.381$	$\beta = 0.582$
	$t = 3.754$	$t = 7.475$
	$p = 0.000$	$p = 0.000$
Passengers' Safety	$\beta = 0.083$	$\beta = 0.032$
	$t = 0.809$	$t = 0.409$
	$p = 0.420$	$p = 0.683$
Drivers' Reliability	$\beta = 0.192$	$\beta = 0.020$
	$t = 1.868$	$t = 0.242$
	$p = 0.065$	$p = 0.809$
R-Squared	0.306	0.368
Adj. R-Squared	0.285	0.355
F-statistic	14.393	28.293
Prob (F-statistic)	0.000	0.000

Source: Researchers' Computation (2023).

Results of the study in table 2 confirmed that passengers' comfort ($\beta = 0.381$, $t = 3.754$, $p < 0.05$) had significant effect on passengers' satisfaction, passengers' safety ($\beta = 0.083$, $t = 0.809$, $p > 0.05$) had no significant effect on passengers' satisfaction, and drivers' reliability ($\beta = 0.192$, $t = 1.868$, $p > 0.05$) had no significant effect on passengers' satisfaction among public transport passengers in Ogun State. The adjusted R square of 0.29 showed that road transportation service (passengers' comfort, passengers' safety, and drivers' reliability) explained only 29% of the variation in passengers' satisfaction in Ogun State. This implies that only 29% of the changes in passengers' satisfaction could be attributed to road transportation service in Ogun State. The results indicated that the overall model was statistically significant as represented by $F = 14.393$ with p -value $(0.000) < 0.05$.

The regression model showed that holding road transportation service to a constant zero, passengers' satisfaction would be 6.938 which implies that without road transportation service, passengers' satisfaction in Ogun State was 6.938. Based on these findings, the null hypothesis (H_{01}) which states that road transportation service (passengers' comfort, passengers' safety, and drivers' reliability) has no significant effect on passengers' satisfaction among public transport passengers in Ogun State is hereby rejected.

In addition, results of the study in table 2 revealed that passengers' comfort ($\beta = 0.582$, $t = 7.475$, $p < 0.05$) had significant effect on passengers' satisfaction, passengers' safety ($\beta = 0.032$, $t = 0.409$, $p > 0.05$) had no significant effect on passengers' satisfaction, and drivers'

reliability ($\beta = 0.020$, $t = 0.242$, $p > 0.05$) had no significant effect on passengers' satisfaction among public transport passengers in Oyo State. The adjusted R square of 0.36 showed that road transportation service (passengers' comfort, passengers' safety, and drivers' reliability) explained only 36% of the variation in passengers' satisfaction in Oyo State. This implies that only 36% of the changes in passengers' satisfaction could be attributed to road transportation service in Oyo State. The results indicated that the overall model was statistically significant as represented by $F = 28.293$ with p -value $(0.000) < 0.05$.

The regression model showed that holding road transportation service to a constant zero, passengers' satisfaction would be 7.999 which implies that without road transportation service, passengers' satisfaction in Oyo State was 7.999. Based on these findings, the null hypothesis (H_{01}) which states that road transportation service (passengers' comfort, passengers' safety, and drivers' reliability) has no significant effect on passengers' satisfaction among public transport passengers in Oyo State is hereby rejected.

The study ascertained that road transportation service (passengers' comfort, passengers' safety, and drivers' reliability) had significant effect on passengers' satisfaction in Ogun and Oyo States, Nigeria. This implies that efforts made by public transportation service providers to make passengers comfortable while embarking on any journey, protect them against harm and all the risks involved with traveling, and employ and retain highly competent drivers will increase the level of satisfaction passengers derive whenever they board transportation facilities to their various destinations.

Passengers' satisfaction will become a reality in public transport sector when passengers derive comfort, experience safety in every journey they embark on, and drivers carry out their duties effectively.

Also, the study discovered that passengers' comfort had an individual significant effect on passengers' satisfaction in these two states while passengers' safety and drivers' reliability had no individual significant effect on passengers' satisfaction. This implies that the comfortable experience alone passengers get whenever they patronize public transport services determine their level of satisfaction.

Findings of this study agree with the study of Getachew (2019) which found that transportation service quality had significant effect on customer satisfaction in Debre Markos city, Amhara Region, Ethiopia. Also, results of the study support the study of Etuk, Anyadighibe, Edim, and Mbaka (2021) which affirmed that service quality had significant effect on passengers' loyalty in public transportation companies in Calabar, Cross River State. In addition, results of the study tally with the study of Abeid (2015) which discovered that factors such as comfort, bus stop condition, waiting time and safety trips had higher influence on customers/passengers' satisfaction in public transport bus (Daladala) services provided in Zanzibar. Finally, findings of the study contradict the study of Adeniran, Olorunfemi, and Aipoh (2020) which showed that convenience and drivers' professionalism had no significant relationship with passengers' satisfaction of minicab services in Akure, Ondo State.

Conclusion and

Recommendations

Based on the findings of the study, the study concluded that passengers of public road transportation service in Ogun and Oyo States will be satisfied when public transport service providers make them comfortable while in transit, protect them from harm, injuries, and all kinds of risks associated with travelling, and enhance the efficiency and effectiveness of transport drivers. Continual efforts made by road transport employers to increase the level of satisfaction passengers derive each time they make use of transport facilities (vehicles and buses) will encourage them to keep patronizing them frequently and as well spread the good news about the services they offer.

The study recommended that employers/management of road transport service organizations should always make their passengers more comfortable whenever they board their vehicles and buses and ensure they are safe from harms and all the risks related to transit by putting their transport facilities in good conditions, employing skilled and competent drivers, and educating them on how to treat passengers well whenever they are on transit in order to retain their existing passengers and attract more passengers. Also, road transport service managers should carry out frequent survey in order to ask passengers how they were treated by road transport drivers each time they embark on any journey and as well inquire from them on better ways they can improve the services they render.

Management within the transportation sector must embrace service quality strategies, such as investments in vehicle maintenance, interior amenities, and safety measures. Also, transportation managers are encouraged to cultivate a culture of

ongoing driver training, focusing not only on technical proficiency but also on enhancing soft skills. Moreover, to extend the conversation beyond immediate travel experiences, managerial discussions should embrace the power of data-driven decision-making, such as passenger feedback, that can be used for strategic planning. Furthermore, stakeholders, including government bodies, regulatory agencies, and industry associations, should leverage these findings to initiate dialogues on policy and infrastructure improvements such as quality benchmarks, road safety regulations, and incentives for adopting

environmentally sustainable practices.

In order to pave way for future research, additional studies should explore the efficacy of emerging technologies, such as smart transportation systems, within the Nigerian context, investigate the integration of cultural nuances and regional variations in passenger preferences, and as well conduct an in-depth analysis of the economic implications of passengers' satisfaction in order to provide a comprehensive understanding of the sector's overall impact on the Nigerian economy.

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SMEs' Adoption of Computerized Accounting Systems in the Rural North of Ghana

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Abstract:

This study investigates the drivers of Computerized Accounting Information Systems (CAIS) adoption intentions among SMEs in the rural North of Ghana. A Cross-Sectional Survey using structured Questionnaires was employed in gathering data from 800 SME owners in the Savannah region of Ghana. Data analysis was conducted using partial least squares structural equation modelling (PLS-SEM) and the findings suggest that SME owner innovativeness has a significant direct and indirect influence on CAIS adoption. Other factors found to have a significant influence on CAIS adoption include government support, technology complexity, relative advantage, and SMEs' readiness to adopt new technology. Neither security concerns nor the cost of CAIS was found to influence CAIS adoption intentions.

Key words: Small and Medium Enterprises (SMEs), Computerized Accounting Information Systems, Adoption

Introduction

Ample empirical evidence suggests that the non-adoption of appropriate information technology and improper accounting practices are among the major causes of underperformance among Small and Medium Enterprises (SMEs) in Africa (Abor & Quartey, 2010; Chege & Wang, 2020). Besides, many studies have attributed the poor performance of SMEs to their lack of quality information processing systems and their inability to meet the information processing requirements of interested parties (Tilahun, 2019). Using contemporary technology such as Computerized Accounting Information Systems (CAIS) can help SMEs overcome improper accounting challenges, improve information processing accuracy and enhance the overall quality of enterprise systems (Tilahun, 2019; Romney,

<https://dx.doi.org/10.4314/ajmr.v29i1.9>

Steinbart & Cushing, 2015). Notwithstanding the potential benefits of CAIS, SMEs in the developing world often struggle to adopt such technologies and are denied their benefits (Abor & Quartey, 2010; Chege & Wang, 2020). In this regard, we investigate the drivers of CAIS adoption among SMEs in the three northern regions of Ghana, drawing on Thong's (1999) theory of SME information technology adoption. Thong (1999) asserts that SME owners' technological, environmental, organizational and personal characteristics influence their adoption of information technology. This study is unique from existing studies because it focuses on SMEs located in one of the economically challenged regions of a developing country. Besides, unlike studies in large firms, this study accounts for the effect of SME owners' characteristics on technology adoption since they directly influence the decision-making process, such as the decision to adopt a particular Information Technology.

The study expects the following: 1) From the technological perspective of Thong's (1999) model, we expect that Ease of Use and Relative Advantage of CAIS will influence CAIS adoption positively, while Security Risk and Cost of CAIS are expected to have a negative effect. 2) from an environmental perspective, we expect government support to influence CAIS adoption positively 3) From an organizational perspective, we expect organizational readiness (e.g., available I.T infrastructure) to affect adoption positively 4) from the personal characteristics dimension, we expect SME owner's innovativeness to directly affect adoption decisions positively. SME owner innovativeness is also expected to indirectly affect CAIS adoption through

the mediation role of organizational readiness.

The remainder of the study is organized as follows: Section two reviews the literature on CAIS adoption and develops the research hypotheses. Section three discusses the research methodology, while section four describes the sample and analyzes the empirical results. Finally, section five concludes the study.

CAIS Concepts, Developments and Applications

Contemporary accounting information systems incorporate a broad scope that captures financial and non-financial business processes at the operational, tactical, and strategic levels of business. Such features of contemporary AIS can be beneficial to SMEs in achieving organizational goals. Empirical evidence suggests that accounting information systems are composed of three subsystems, with each system representing a certain managerial level (Hall, 2015). First, the transaction processing system (TPS) supports daily operational requirements such as generating and recording receipts, wage calculation, book-keeping, and journalizing (Hall, 2015; Bagranoff, Simkin & Norman, 2014). The second sub-component of AIS comprises the General Ledger or Financial Reporting System (GL/FRS), which generates accounting statements such as the statement of profit. According to Hall (2011), the second sub-component of AIS is oriented towards supporting the tactical level of management. Finally, the third subcomponent of AIS, which is the management reporting system (MRS), supports strategic decisions (Rom & Rohde, 2007). Most of the data provided by AIS at this level tends to be special-purpose financial reports needed for strategic

decision making in areas encompassing budgets, variance reports, responsibility reports, cost control, relevant costing, among others (Marshall & Steinbart, 2015).

The passage of time has witnessed technological innovations that have changed the way businesses manage and process accounting data. Initially, AIS mainly helped firms manage accounting data, such as timely information processing and the generation of accurate and reliable information (Mancini, Lamboglia, Castellano & Corsi, 2017). However, AIS technologies have shifted emphasis towards business process integration, as highlighted in Mancini et al. (2017). As Mancini et al. (2017) argue, such integration does not merely represent the implications of information technology. Instead, it represents a different philosophical lens by which one can observe organizational processes through information technology (IT). For instance, ubiquity and data sharing describes the new philosophy in AIS practice. In terms of ubiquity, there is an increasing demand for accounting data and information to flow freely (without restrictions) among firms, groups of people, and even across several functional business areas. Besides, Mancini et al. (2016) note that the present generation of AIS requires accounting information to be organized and managed to facilitate data sharing and reuse. Recently, large volumes of data on the internet and social media have ushered in the concept of big data analytics. Capgemini (2015) notes that businesses are increasing investment in big data analytics to get valuable insights that can lead to efficiency, cost focus, and growth of existing revenue streams. Accordingly, AIS technologies that incorporate big data analytics can assist

management accountants in undertaking cost reduction strategies, for example, by streamlining the supply chain to eliminate inefficient processes, fraud and improve risk management (Mancini et al., 2017).

Another noteworthy development in CAIS is the advent of the eXtensible Business Reporting Language (XBRL). In recent years, the eXtensible Business Reporting Language (XBRL) has been proposed and implemented as "a digital and open standardized language applied to financial reports of private companies" (Mancini et al., 2017, p. 14). Such accounting information systems provide a uniform and standardized platform through which firms can report accounting data. In about ten years past (since 2008), the Securities and Exchange Commission (SEC-USA), the United Kingdom's Revenue and Customs (HMRC), and Companies House of Singapore began requiring companies to adopt XBRL as their financial reporting platform (Bhattacharya, Cho, & Kim, 2018). This is because it is believed that XBRL makes financial data readable and understandable by any software, and thus helps improve transparency and efficiency through savings in time, costs, resources, and risks of error (Lai, Lin, Lin & Huang, 2015).

Additionally, the advent of social media and cloud accounting has enhanced the scope of accounting information systems. Presently, social network tools encompassing blogs, wikis, and social messaging (for example, Twitter, and Facebook.) are opening new avenues for disclosure of accounting information and improving stakeholder dialogue and participation. Also, accounting information system practitioners are gradually embracing the concept of cloud accounting based on SaaS. SaaS, pronounced "software-as-a-service", is an

alternative means to access software via a centrally hosted server on the internet, as against the more traditional methods of purchasing AIS software and hosting it locally. Vendors who provide such services are called SaaS providers. In the developed world, most firms (especially SMEs) that cannot afford to build their own AIS and big data centres increasingly resort to the use of CAIS based on SaaS (KPMG, 2013; Brandas, Megan, & Didraga, 2015). According to Brandas et al. (2015), the use of AIS cloud technologies significantly reduces costs associated with CAIS acquisition, maintenance, management of hardware and software, among others.

Theoretical framework and Research Model

SME owners usually have a direct influence on their firm's operations and decision making. Therefore, it is imperative to use theories that integrate both individual and firm-level features of technology adoption (Thong, 1999; Rahayu & Day, 2015; Ghobakhloo et al., 2011). Prominent theories in the technology adoption literature include the Theory of Planned Behavior (TPB-Ajzen, 1985), Technology Acceptance Model (TAM-Davis, 1989), Unified Theory of Acceptance and Use of Technology (UTAUT-Venkatesh et al., 2003), Diffusion of Innovation Theory (DOI-Rogers, 1995), Technology-Organization-Environment Framework (TOE-Tornatzky & Fleischer, 1990), and Institutional Theory (IT-DiMaggio & Powell, 1983). However, most of these theories either operate at the firm level only or individual level only, hence they may not adequately capture the dual nature of SMEs, where both firm-level and individual-level characteristics of owners

are significant determinants of decision outcomes (Rahayu & Day, 2005).

In response to these limitations in existing theories, Thong (1999) developed a model to explain technology adoption at the SME level, where SME owners' characteristics, as well as SME firm characteristics, are incorporated in explaining technology adoption. Therefore, this study adopts Thong's (1999) model in explaining the adoption of CAIS among SMEs that operate in selected rural communities of Ghana.

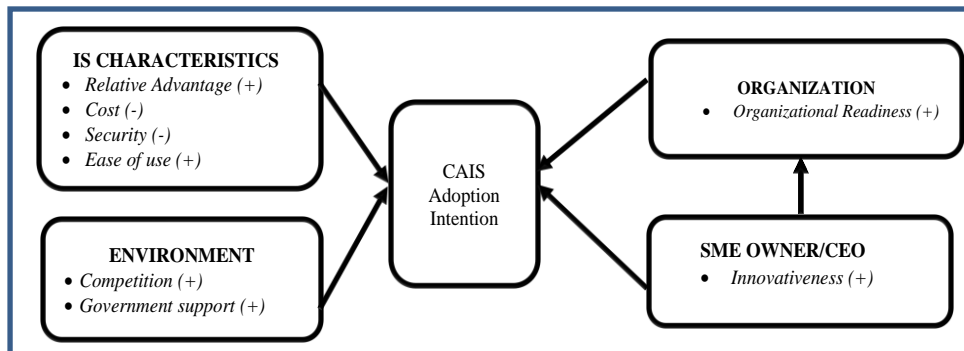
In Thong's (1999) model, he suggests that technology adoption among SMEs is influenced by three firm-level factors and one individual-level factor. The firm-level factors entail organizational characteristics, environmental characteristics, and information system characteristics, while the individual-level factors entail SME owner/CEO characteristics. Within the literature, Thong's model of technology adoption is unique due to its emphasis on SMEs on the one hand, and its incorporation of constructs that measure SME owners' characteristics. Besides, another strength of Thong's model lies in its ability to recognize that environmental factors may impact SME's technology adoption decisions. In figure 1, we present a modified version of Thongs (1999) model to explain the adoption of computerized accounting information systems among SMEs operating in rural communities in Ghana. Our major modifications to Thong's model can be found in our attempt to examine whether organizational readiness mediates the relationship between SME owner characteristics and technology adoption. The intuition is that a highly innovative SME owner is more likely to prepare His firm for technology adoption, hence subsequent adoption. Such preparation is

what this study refers to as organizational readiness, and it might include ensuring the availability of IT infrastructure, and IT capable employees among others. Therefore, an innovative owner will get

His firm ready to adopt information systems, and the readiness will in turn lead to adoption.

Hypotheses on the determinants of CAIS adoption

Figure 1. Research Model



Adapted: Thong (1999)

From figure 1, three firm-level constructs (Information systems characteristics, organizational characteristics, and environmental characteristics), and one individual-level construct (SME owner innovativeness) are hypothesized to influence the adoption of CAIS among SMEs. These are discussed below.

Relative Advantage and CAIS adoption

Relative advantage refers to the benefits that a firm stands to gain by adopting a particular technology rather than otherwise. Rogers (1985) defines it as the degree to which a technological factor is perceived as providing greater benefit for firms. Taiwo and Taiwo (2016) and Dekeng (2014) found that AIS adoption improves both financial and non-financial performance of firms, whereas Ware

(2015) concluded that adoption of CAIS enhances financial reporting quality. Such benefits are not limited to the private but also the public sector. Appiah, Agyemang, Agyei, Nketiah and Mensah (2014) suggest that the potential benefits of CAIS adoption include improved processing speed and accuracy, improved decision making, and enhanced work-life of employees. In essence, these findings suggest that SMEs will be more likely to adopt CAIS technology if they perceive that it will bring new benefits on board. Hence, the study hypothesis that:

H1: There is a positive relationship between Relative Advantage and CAIS adoption among SMEs.

Ease of use and CAIS Adoption

Rogers (2003, p. 257) defines complexity as "the degree to which innovation is

perceived as relatively difficult to understand and use". According to Premkumar and Roberts (1999), complexity creates uncertainty regarding the successful implementation of innovation and thus may negatively impede technology adoption (Rogers, 1995). Researchers encompassing Thong (1999), Grandon and Pearson (2004), Wang et al. (2010) and Gwangwava et al. (2012) document that a high level of technical complexity negatively affects technology adoption. This is particularly important because SMEs usually lack the wherewithal to employ a highly skilled workforce to manage sophisticated IT infrastructure. Therefore, a technology that is easy to use is more likely to be adopted by SMEs. As a result, the study hypothesis is that:

H2: There is a positive relationship between ease of use and CAIS adoption among SMEs.

Cost and CAIS Adoption

CAIS) and implementation and maintenance costs. Generally, SMEs in developing countries, and for that matter, rural areas are characterized by inadequate financial resources and tend to adopt relatively cheaper information technology (Thong, 1999; Senyo, Effah & Addae, 2016). However, recent research findings regarding the influence of cost on technology adoption are mixed. For instance, in Nigeria, whereas Ireferin, Abdu-Azeez, Tijani (2012) found that cost significantly influences technology adoption among SMEs, Adebayo, Idowu, Yusuf and Bolarinwa (2013) did not find any significant relationship, although both studies were conducted in the same country. In the United States, Bressler and Bressler (2006) were shocked to learn that cost was not among the top determinants

of CAIS adoption, whereas in Kenya, Nyang'au (2015) found cost to be the single most significant factor that influences CAIS adoption. This study envisaged that the higher the cost of technology, the lower the likelihood of its adoption. Hence, the study hypothesis that:

H3: Cost has a negative influence on CAIS adoption among SMEs.

Security Risk and CAIS Adoption

Contextually, risk is defined as uncertainty about potential negative consequences of adopting computerized accounting information systems (CAIS). In Jordan, DHanini (2012) documents that users of computerized accounting systems face risks encompassing compromise by viruses, unauthorized access to data, and risks regarding natural and unnatural disasters done by humans. In addition, Ngadiman, Pambudi, Kusuma Wardani and Sabandi (2014) found that risks associated with performance, finance, and security negatively influence the adoption of accounting information systems. Other issues related to system downtimes and hardware malfunctions may impact negatively on firm performance. The study, therefore, hypothesizes that:

H4: Perceived risk negatively impacts CAIS adoption among SMEs.

Organizational and individual determinants of CAIS adoption

The Organizational Context of the TOE framework captures attributes of a firm that may influence technology adoption decisions. These attributes include the availability of resources (for example, computing infrastructure, technical skills, and financial resources), communications process, firm size, and slack resources (Oliviera & Martins, 2011). For instance,

Wang et al. (2010) and Gibbs & Kraemer (2004) find that technical competence and resource availability are organizational factors that drive technology adoption. Similar findings were made by Senyo, Effah and Addae (2016) and Rahayu and Day (2015). Therefore, the availability of organizational resources (for example, financial, computing infrastructure, and technical skills) may indicate SMEs' readiness to adopt CAIS and its eventual adoption. It is therefore hypothesized that:

H5: Organizational Readiness has a direct positive influence on CAIS adoption among SMEs.

Additionally, because SME owners/CEOs usually play a crucial role in their business's management and decision-making process, an owner/CEO that is highly innovative will be more likely to prepare his firm for CAIS adoption (Thong, 1999). A highly innovative SME owner is more likely to appreciate the benefits of adopting modern technologies like CAIS, hence making available the needed resources (for example, financial, computing infrastructure, and technical skills) to adopt the technology. This suggests that SME owners' innovativeness may impact CAIS adoption through organizational readiness. Therefore, organizational readiness may mediate the relationship between owner innovativeness and CAIS adoption.

H6: SME owner innovativeness directly influences CAIS adoption among SMEs.

H7: Organizational readiness mediates the relationship between owner innovativeness and CAIS adoption.

Environmental determinants of CAIS adoption

Tornazky and Fleischer (1990) and Thong (1999) posit that the environmental context of a business influences its decision to adopt information technology. Notably, factors such as the regulatory environment can influence SMEs to adopt a particular technology. In this study, we examine the effect of government support on SMEs' technology adoption.

Government Support and CAIS Adoption

Ample scholarly evidence shows the significance of government support for technology adoption at the firm level. For example, Al-Hawamdeh (2002) and Martinsons (2008) found that technology adoption decisions at the firm level are greatly influenced by governments' participatory role in providing the empowering infrastructure and other support necessary for technology adoption to thrive. For example, Al-Hawamdeh (2002), cited in Awiagah, Kang & Lim (2016), argues that SMEs in Singapore make greater use of ICT because the Government established the Small Enterprise Computerization Program (SECP), which encouraged and assisted SMEs to become more competitive through ICT application. In a related study, Seyal et al. (2004) found a significant relationship between government support and technology adoption. Awiagah et al. (2016) also concluded that government support is the most influential factor driving technology adoption among Ghana SMEs. To this extent, the study hypothesis is that:

H 9: Government support has a positive influence on CAIS adoption among SMEs

Methodology

The study seeks to investigate the factors that influence SMEs' adoption of CAIS in the rural north of Ghana. Therefore, the quantitative research method was implemented to test the hypothesized relationships (Sekaran & Bougie, 2016; Saunders, Lewis, & Thornhill, 2016).

Population, Sample and Measures

The research population is constituted by SMEs in the Savanah region of Ghana. Unlike other studies, this study emphasizes SMEs operating in deprived rural communities which adds a new perspective to technology adoption research. Deprived communities can be differentiated by their lack of technology infrastructure, poverty, the lack of motorable roads, and lack of health facilities among others. Following Amidu et al (2011) and guidelines offered by the Ghana Enterprises Agency (GEA), formerly the National Board for Small Scale Industries (NBSSI), the study defines SMEs as firms having less than 100 employees. The GEA was established by an Act of parliament to create an enabling environment for SME development in Ghana (Amidu et al., 2011). In all, the study retrieved 800 valid questionnaires out of 818 that were randomly administered. The study employed a 5-point Likert scale questionnaire adapted from prior literature and informed by Thong's Model of technology adoption among SMEs.

Data Analysis

The PLS-SEM statistical technique was employed as the main data analysis technique. Our study is explanatory; hence PLS-SEM is appropriate because of its ability to simultaneously predict causal

relationships among latent constructs while dealing with measurement errors in the structural model (Hair et al., 2017). Besides, PLS-SEM works efficiently with small sample sizes, has fewer identification problems, and makes no strict assumptions about data distribution due to its non-parametric nature (Hair et al., 2017). et al., 2011).

Results and Discussion

Demographics

Out of the 800 valid responses received, 73% were answered by male SME owners while 27% were answered by female SME owners. The gender distribution reflects the dominance of male entrepreneurs in SME establishments (Darnihamedani & Terjesen, 2020; Chaudhuri, Sasidharan & Raj, 2020). Additionally, the respondents indicated that should they adopt CAIS, they would use it for Internal control, General ledger management, Inventory management, Payroll management, financial reporting, Receivable Management and Payable management. Specifically, 73% of respondents intend to use CAIS for internal control, 72.75% to manage general ledger, while 68.88% intend to use CAIS for payroll management. Additionally, 62%, 63% and 59% intend to use CAIS for financial reporting, receivable management, and payable management.

Table 1. Intended use of CAIS

CAIS application Intentions	Frequency	Percent
Internal control	585	73.13
General ledger	582	72.75
Inventory management	551	68.88
Payroll management	403	50.38
Financial reporting	496	62.00
Receivable Management	507	63.38
Payable management	472	59.00

Additionally, the study examined SMEs preferred mode of CAIS of adoption, whether they prefer to adopt off the shelf CAIS or bespoke CAIS. The findings revealed that the majority (78%) of SMEs prefer to adopt off-shelf CAIS, as compared to bespoke CAIS. Also, we find that SMEs who already use computer software for accounting purposes predominantly use general purpose software (especially, Microsoft Excel), while there is very limited use of special purpose accounting software.

Statistical evaluation of PLS-SEM: Evaluation of the Measurement Model

Following Hair et al. (2014; 2017), the measurement model was assessed for indicator reliability, internal consistency, convergence validity, and discriminant validity.

First, indicator reliability is a concept related to measurement model reliability. As a rule of thumb, an indicator whose loadings are at least 0.708 is assumed to be reliable (Hair et al., 2017). Initially, 32 indicators were used to measure the research model's eight (8) constructs. Out of 32 indicators, 20 had loadings above the

0.708 threshold, hence retained for further analysis. Also, an additional three indicators whose loadings were below 0.708 but above 0.65 were maintained based on content validity (Hair et al., 2014; Nunnally & Bernstein, 1994; Churchill, 1979). Therefore, a total of 23 indicators satisfied reliability assumptions and were retained in the measurement model. These indicators entail ORc, OINc, and EOUa whose loadings were 0.69, 0.67, and 0.69 respectively. However, nine indicators were deleted because they had weaker loadings that were far below the 0.708 threshold. Removal of the weak indicators was justified because their deletion improved the Average Variance Extracted (AVE) and Composite Reliability (CR) of underlying constructs (refer to table three). Secondly, as per Table 3, results show that internal consistency has been achieved since all the measurement items had composite reliability scores above the threshold value of 0.70 (Hair et al. 2014; 2017). This suggests that indicators that purport to measure the same underlying construct will produce similar scores (Hair et al., 2017). Additionally, the measurement model achieves convergent validity since the average variance extracted (AVE) value for all the

measurement items exceeds the threshold value of 0.50 (Hair et al. 2014; 2017). This implies that, on average, all the constructs in the research model can

account for more than half (i.e., an AVE above 0.50) of the variance in their underlying indicator items.

Table 2 Indicator reliability diagnostics

	Adoption Intention	Cost	Ease of Use	Government Support	Organizational Readiness	Owner Innovativeness	Relative Advantage	Security Risk
	(AI)		(EOU)	(GS)	(OR)	(OIN)	(RA)	(SR)
AIa	0.85							
AIb	0.8							
AIc	0.76							
COSTa		0.77						
COSTc		0.92						
EOUa			0.69					
EOUb			0.76					
EOUc			0.86					
GSa				0.78				
GSb				0.77				
GSc				0.94				
OINa						0.79		
OINb						0.67		
OINc						0.79		
OINd						0.92		
ORa					0.78			
ORb					0.85			
ORc					0.69			
RAa							0.73	
RAb							0.7	
RAc							0.83	
SRa								0.74
SRb								0.89

Table 3 Construct reliability and validity

	Composite Reliability	Average Variance Extracted (AVE)
Adoption Intention	0.85	0.65
Cost	0.84	0.72
Ease of Use	0.82	0.60
Government Support	0.87	0.70
Organizational Readiness	0.82	0.60
Owner Innovativeness	0.87	0.64
Relative Advantage	0.80	0.57
Security Risk	0.80	0.67

The latent constructs were examined using Additionally, the measurement model satisfies discriminant validity assumptions because results in Table 4 suggests that the Heterotrait-Monotrait Ratio (HTMT) for

all the constructs are lesser than the threshold limit of 0.9 (Hair et al., 2017). This suggests that concepts or measurements that ought not to be related are actually not related.

Table 4 Heterotrait-Monotrait Ratio (HTMT)

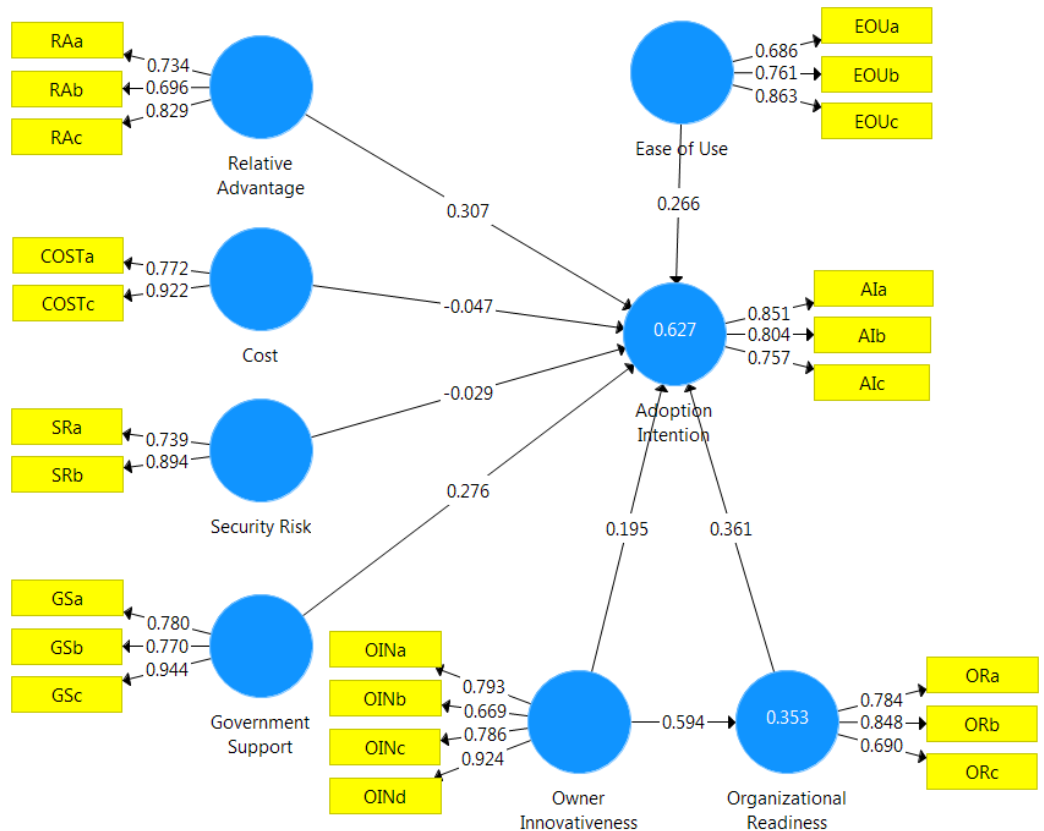
	Adoption Intention	Cost	Ease of Use	Government Support	Organizational Readiness	Owner Innovativeness	Relative Advantage
Cost	0.63						
Ease of Use	0.57	0.54					
Government Support	0.47	0.3	0.31				
Organizational Readiness	0.84	0.55	0.4	0.29			
Owner Innovativeness	0.4	0.24	0.19	0.18	0.69		
Relative Advantage	0.42	0.52	0.46	0.43	0.32	0.43	
Security Risk	0.11	0.04	0.08	0.14	0.03	0.06	0.1

Evaluation of the Structural Model

In general, the proposed model has 62.7% explanatory power for CAIS adoption

intention among SMEs in the rural north of Ghana (i.e., $R^2 = 62.7\%$, see Figure 2).

Figure 2 Final Estimated Research Model



The coefficient of determination in Figure two suggests that exogenous variables in the research model explain approximately 62.7% of the variation in CAIS adoption intentions among SMEs in the rural North of Ghana (Chin, 1998; Moore, 2013). To ensure the reliability and validity of this result, the structural model was assessed for multicollinearity using variance inflation factors (VIF), explanatory power using the coefficient of determination

(R^2), predictive relevance using Q^2 , and path significance using P-values and β -values. The results are contained in Table five and six below.

Table 5 Variance Inflation Factors

	Adoption Intention	Organizational Readiness
Cost	1.55	
Ease of Use	1.17	
Government Support	1.18	
Organizational Readiness	1.96	
Owner Innovativeness	1.91	1
Relative Advantage	1.41	
Security Risk	1.02	

Results in Table 5 suggest that the structural model does not suffer from multicollinearity problems since all the constructs had variance inflation factors below five. Moreover, the structural model has predictive relevance since the dependent constructs had a cross-validated redundancy (Q2) values greater than zero

(0). Thus, the dependent construct "Adoption intention" had Q2 of 0.392, while that of "organizational readiness" had a Q2 of 0.191 importance concerning the independent variable. However, the negative beta value between perceived risk (-0.176) shows an inverse impact.

Significance of path relationships

Table 6 Structural Model Diagnostics

	P Values	β	f^2
Cost -> Adoption Intention	0.07	-0.05	0.004
Ease of Use -> Adoption Intention	0.00	0.27	0.161
Government Support -> Adoption Intention	0.00	0.28	0.172
Organizational Readiness -> Adoption Intention	0.00	0.36	0.178
Owner Innovativeness -> Adoption Intention	0.00	0.19	0.053
Owner Innovativeness -> Organizational Readiness	0.00	0.59	0.545
Relative Advantage -> Adoption Intention	0.00	0.31	0.178
Security Risk -> Adoption Intention	0.18	-0.03	0.002

Concerning the technological determinants of CAIS adoption, relative advantage established a significant positive relationship with adoption intention ($\beta=0.31$; P-Value=0.000), whereas cost established an insignificant negative relationship ($\beta = -0.05$; P-Value=0.07). This provides support for H1, while H3 is not supported (refer to table four). Also, ease of use established a significant positive relationship with CAIS adoption intentions ($\beta = 0.27$; P-Value=0.00), offering support for H2. Security concern on the other hand failed to establish a significant relationship with CAIS adoption intentions, hence H4 is not supported.

Preacher and Hays' (2008) bootstrapping approach to mediation analysis was used to analyze the organizational dimension of CAIS adoption. The bootstrapping approach is premised on three conditions, however, the third condition is contested and often ignored (Carrión, Nitzl & Roldán, 2017). Following Carrión et al. (2017), the study uses the first two conditions to examine the presence of mediation. The first condition is that there should be a significant direct path relationship between the independent and dependent variable before introducing the mediator (i.e., owner innovativeness \rightarrow CAIS adoption must be significant); the second condition is that there should be a significant indirect path relationship after introducing the mediator variable (i.e., owner innovativeness \rightarrow organizational readiness \rightarrow CAIS adoption). In regard to these conditions, the direct path relationship (i.e., owner innovativeness \rightarrow CAIS adoption) was first estimated without the mediator, and the results reveal a statistically significant relationship at a 5 percent significance level (P-Value = 0.00), hence the first condition for

mediation was met. The second condition was also met because the indirect path relationship was significant after introducing the mediator variable (P-Value = 0.00), suggesting that including organizational readiness (in the research model) as a mediator is meaningful. The mediation is a partial mediation since both the direct and indirect effects are significant (Carrión, Nitzl, & Roldán, 2017). Thus, Carrión et al. (2017, p 176-177) states that "a full mediation is indicated in the case where the direct effect is not significant, whereas the indirect effect is significant, all other situations under the condition that both the direct effect and the indirect effect are significant represent partial mediation".

On the whole, the study finds a strong direct and indirect relationship between owner innovativeness and CAIS adoption intentions. Notably, owner innovativeness established a positive significant effect on CAIS adoption intention ($\beta = 0.19$; P-Value=0.00). At the same, Owner innovativeness also established indirect positive effect on CAIS adoption intentions through organizational readiness ($\beta = 0.36$; P-Value=0.00).

On the environmental dimension of CAIS adoption intentions, the results revealed a significant positive effect of government support on CAIS adoption intentions among SMEs ($\beta = 0.28$; P-Value = 0.00).

Discussion of Results

"It has often been said that accounting is the language of business. If that is the case, then an accounting information system (AIS) is the intelligence—the information-providing vehicle— of that language" (Romney & Steinbart, 2017, p.10). We agree with Romney and Steinbart (2017), as we argue that there is a dire need for SMEs to adopt computerized

accounting information technology if they must thrive. This is because the advent of information technology has redefined how businesses operate, compete and survive (Romney & Steinbart, 2017; García-Cabrera, García-Soto & Olivares-Mesa, 2019). To survive in the 21st century, SMEs ought to use IT systems that efficiently process information and integrate business functional areas. Rogers (2016) believes that firms who fail to respond appropriately to the technological environment will be forced out of competition as they become less efficient. This explains why there is a need to investigate and understand the drivers of CAIS adoption among SMEs.

Consistent with Ismail and Ali (2013), our findings suggest that SMEs will be willing to adopt CAIS if they perceive the benefits of adoption to be high. Prior literature indicates that the advantages of CAIS adoption include improved financial reporting quality, efficiency, improved decision making, enhanced processing speed, processing accuracy, and improved work-life balance (Nguyen et al., 2015; Ware, 2015; Agyemang, Agyei, Nketiah & Mensah, 2014). Notwithstanding, the challenge we identified in our study was that most of the SMEs surveyed only applied general-purpose software such as office processing applications (e.g., Microsoft Excel) in executing accounting transactions. This may limit the extent of benefits that SMEs derive from the application of CAIS.

Additionally, the results revealed that cost has a negative but insignificant effect on CAIS adoption. This result was not expected because our initial conceptualization was that firms operating in rural areas may lack the financial

wherewithal to adopt and maintain technological innovations. Therefore, the findings contradict earlier research which establishes a negative significant relationship between cost of technology and adoption intention (Thong, 1999; Senyo, Effah & Addae, 2016; Nyang'au, 2015). Our finding is however supported by the earlier study of Yusuf and Bolarinwa (2013) and Bressler and Bressler (2006) who also did not identify any statistical relationship between cost and accounting technology adoption. The contradictory findings might be explained by the nature of CAIS technology adopted by or known to SMEs in rural areas. In the study, we documented that most of the SMEs consider Microsoft Excel applications as their preferred accounting software. Hence, considering the wide availability of Microsoft Excel and its affordability, it is not surprising for the respondents to indicate that cost does not impede their adoption intentions of CAIS. In their study, Premkumar and Roberts (1999) revealed that technological complexity creates uncertainties about the successful implementation of a particular innovation and that firms are less likely to adopt complex technologies. Consistently, our results suggest that SMEs will be more likely adopt CAIS if it is less complex to learn, implement and use. Therefore, our findings on technology complexity complements prior studies (for example, Grandon & Pearson, 2004; Gwangwava et al., 2012) which found that complexity is negatively associated with technology adoption. Notably, SMEs in rural areas may not have the resources to employ skilled employee to operate complex technologies, and even if they have the resources, it might be difficult to attract such skilled employees due to their

geographical location and its associated downsides. Therefore, most SMEs are likely to prefer easy to use CAIS technologies over complex ones.

Regarding security risk, we find that security concerns do not have any significant influence on CAIS adoption. That is, in the context of SMEs in developing countries, especially, the rural north of Ghana, we do not find support for prior literature (for example, Ngadiman et al., 2014) which posits that the perceived risks of using a particular technology (for example, privacy breaches and data compromise) negatively impact its subsequent adoption. It happens that the SMEs who participated in the study do not make extensive use of CAIS, hence have limited reliance on CAIS as far as executing accounting tasks are concerned. This suggests that these SMEs will incur minimal losses even if potential security threats of CAIS adoption materialize, and this may explain why security vulnerabilities do not have significant effect on SMEs CAIS adoption intentions. On the organizational determinants of CAIS adoption, findings in this study reveal that SME owner innovation characteristics and organizational readiness have the most significant impact on CAIS adoption. In SMEs, owners usually play a crucial role in decision making, and the level of owner innovativeness (for example, creativity, IT skills and experience) drives technology adoption (Thong, 1999; Rahayu & Day, 2015; Alam & Dubey, 2014; Nguyen, Newby & Macaulay, 2015). It is believed that highly innovative owners are more likely to prepare their firms to adopt accounting information systems. For instance, a highly innovative owner will support CAIS adoption by providing the necessary infrastructure and technical know-how to

adopt CAIS (Thong, 1999; Rahayu & Day, 2015; Udagedara & Allman, 2019). Furthermore, the study results show that SME owner innovativeness influences organizational readiness to adopt CAIS, thereby leading to eventual adoption intentions (level of owner innovativeness → the extent of organizational readiness to adopt CAIS → subsequent adoption). Thus, owners of SMEs usually play managerial roles; hence their support is critical in technology adoption decisions. This finding is consistent with other studies which emphasize that managerial support drives technology adoption at the firm level (Kim, Jang & Yang, 2017; Nguyen, Newby, & Macaulay, 2015; Pathan, Jianqiu, Akram, Latif, Khan & Tunio, 2017). For Kim et al. (2017), managerial support is considered a more important determinant of technology adoption than the resources or IT capacity for technology adoption.

Moreover, the study reveals that government support is a crucial driver of CAIS adoption among SMEs in developing countries. Government support could either be financial (where the government subsidizes the cost of technology adoption) or regulatory (where the government ensures a favorable regulatory environment exists to support technology adoption – for example, laws preventing cybercrime, and tax exemptions for the cost of ICT training). This finding is in line with the earlier findings by Awiagah et al. (2016) who noted that in Ghana, government support is the most significant driver of technology adoption among SMEs. As early as 2002, Al-Hawamdeh (2002) posited that SMEs in Singapore make greater use of information communication technology because the Singaporean Government

ratified the Small Enterprise Computerization Program (SECP), which encouraged and assisted SMEs to become more competitive through ICT application. Government support is usually crucial to SMEs because they typically cannot raise huge sums of money to adopt and implement sophisticated modern technology infrastructure.

Research Recommendations

Following the finding that Relative Advantage influences CAIS adoption, it is recommended that CAIS vendors should first gain knowledge about SME's desired attributes of a CAIS system and factor such concerns into the design and development of CAIS technology. Doing this will enhance the likelihood of patronage by SMEs since there is no reason to adopt a technology that is not perceived as being beneficial to the adopter. Furthermore, the marketing efforts should emphasize the perceived benefits of CAIS by clearly demonstrating the impact of CAIS technology on productivity, profitability, improved business processes, among others. It is also recommended that the marketing effort of CAIS vendors should target SMEs with innovative owners or CEOs. This is based on the findings that SME owners who are innovative are more likely to adopt CAIS than the less innovative ones. Besides, based on the finding that organizational readiness (in the form of technical know-how) influences CAIS adoption, the study recommends that SMEs supplement their inadequate knowledge by engaging external CAIS experts such as consulting firms to train their staff with the technical know-how. Finally, premised on the finding that owner innovativeness, organizational

readiness, and government support strongly affect CAIS adoption, we recommend that government interventions aimed at improving technology adoption among SMEs should emphasize ICT education, training, and awareness creation programs among key decision-makers in SMEs. This will increase knowledge about the potential benefits of CAIS adoption, hence leading to subsequent adoption.

More importantly, just as the Singaporean Government ratified the Small Enterprise Computerization Program (SECP) to encourage SMEs to become more competitive through ICT, the Government of Ghana can enact an SME-specific ICT policy to address issues of ICT adoption among SMEs. Although the National Information and Communication Technology for Accelerated Development Policy was introduced in 2003 with the primary aim of engineering an ICT-led socio-economic development process in Ghana, such a policy was broad and was not adapted to the specific needs of SMEs.

Limitations and directions for further studies

The study emphasized Computerized Accounting Information Systems in general, without singling out any specific CAIS (like Computer Assisted Auditing Techniques or Big Data Analytics). Therefore, future studies are entreated to extend this study by examining the technological, organizational, and environmental determinants of a specific accounting information system. Also, this study employed a quantitative design and, as such, could not gather in-depth knowledge as to why respondents provided certain responses on CAIS adoption. As a result, future studies on the

phenomena under consideration are encouraged to use a qualitative design.

Declaration of Interest

We have no conflict of interest to declare.

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Monetary and Non-Monetary Opportunities as Determinants of Turnover Intention Among Academic Staff in IBB University

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Abstract:

It is worrisome, the rate at which lecturers leave one university for another because of the monetary and non-monetary opportunities. The aim of this study is to investigate the effect of monetary and non-monetary opportunities on turnover intention among Academic Staff of IBB University Lapai (IBBUL), Niger State - Nigeria. Turnover intention is when employees or Academic Staff have intention to quit or leave an organization soonest. Survey research design was utilized and the population of study is 318 lectures of IBBUL. A questionnaire instrument was used to collect data which were inputted in the Statistical Package for Social Sciences (SPSS)-version 23 to produce regression results. The results show that job opportunity, job freedom and job insecurity have positive and significant effect on turnover intention of the lecturers. The theoretical contribution of study suggested that higher educational institutions should provide conducive environment for lecturers to avoid high turnover intention. The practical implication shows that an increase in the explanatory variables will significantly increase turnover intention of the lecturers.

Key words: Academic staff, Turnover intention, Job insecurity, Job freedom and Job opportunity

Introduction

The issue of employees quitting jobs to take similar or different jobs elsewhere is of serious concern to managements of many organizations globally, particularly the universities. The plan that employees have to leave their present jobs for similar or different jobs elsewhere in a shortest possible time is described as employee turnover intention (Alo and Dada, 2020; Akpa and Asikhia, 2021; Mumin, Achanso, Mordzeh-Ekpampo, Boasu and Dei, 2021).

Generally, it is not easy to replace a skilled and experienced employee who decides to leave an organization. In the meantime, it decreases the organization's productivity. Also, the financial and time costs associated with recruiting and training of new employees would have been put to other productive sources. In Nigeria, the proliferation of new universities is giving rise to higher career mobility among academic staff (Erunke, 2023; Suleiman, 2023). However, the job of an academic staff in the university is a professional one that requires composite skills which are acquired, developed and continuously improved upon over time on-the-job.

Although some employees are retaining their current jobs, some of them are not happy and are holding latent grudges either with their job characteristics or employment condition giving rise to varying degrees of turnover intentions. The reasons for employees' turnover intention are gender discrimination; inconsistent promotion; bias promotion; loss of group cohesion; job dissatisfactions; job freedom; job insecurity; job stress; poor management or supervision; poor salary, salary discrepancy, poor working conditions; inadequate assistance in terms of school fee, leave for exams, housing, vehicle, personal and staff loans; insufficient number of vacations, returned to higher learning; self-employment; family problems; marital status and gender; procedural justice; psychological contract; organizational justice; no recognition for job well done; reward and promotion system is based on actual performance; work environment and work overload; leadership style; lack of involvement in decision making; lack of adequate training; job opportunity elsewhere; and entrepreneurial creativity among others

(Al-Suraihi, Samikon, Al-Suraihi and Ibrahim, 2021; Mumin et al., 2021; Akpa and Asikhia, 2021; Kox, Runhaar, Groenewoud, Bierma-Zeinstra, Bakker, Miedema and Roelofs, 2022). Employees' turnover intention is very common among teachers, bankers, nurses, medical doctors, football players, etc. This may be due to monetary and non-monetary opportunities that may affect employees' turnover intention. The monetary opportunities are financial opportunities elsewhere such as basic salary; rent subsidy; transport allowance; mail subsidy; entertainment allowance; overtime payment; paid maternity leave; paid vacation; retirement plans; available of new high paid jobs and so on. However, non-monetary opportunities are non-financial opportunities somewhere like job flexibility or job freedom; recognition, responsibilities; work environment; employee's relationships among supervisors, peers, subordinates; and virtual work privileges among others. Thus, the explanatory variables as job opportunities and job insecurity relate to monetary opportunities while job freedom relate to non-monetary opportunities.

This research investigates three explanatory variables that affect turnover intention in organizations such as job opportunity, job freedom and job insecurity. This is because the three independent variables caused employees' turnover intention in most organizations. Job opportunity is when employees have alternative employment opportunities elsewhere that will generate more income. Job freedom is when employees are under strict supervision and not given autonomy as well as not given enough vacations. Job insecurity is when employees sense or detect danger that will affect them and their work in an organization. For example, when there is no retirement plan

for existing and outgoing employees in an organization. These proxies were used by different academic researchers (Kebite, 2018; Alo & Dada, 2020; Sija, 2021; Mumin et al., 2021) in their previous studies and results were inconclusive because of the mixed findings. Kebite (2018) reveals that lack of freedom, perceived alternative employment opportunities and better career advancement are factors affecting turnover intention amongst 252 employees of Federal Ministry of Education in Ethiopia. Alo and Dada (2020) observe that career development and job security have significant effect on turnover intentions of 120 lecturers in Nigerian private universities. Sija (2021) shows that promotional opportunity and compensation/benefit have significant influence on employees' turnover intention in commercial banks in Malaysia. But employee recognition and supervision support have significant influence on turnover intention of employees of four commercial banks in Malaysia. Mumin et al. (2021) indicates that salary, working conditions, working environments, career advancement, relationship with coworkers have significant correlation with employee turnover and job satisfaction of lecturers. But the study was carried out concerning lecturers of Ghana.

The gaps discovered in the preceding studies include variable gap, scope gap and modeling gap. This research work intends to fill the gaps discovered by examining determinant of turnover intention amid Academic Staff in IBB university Lapai-Niger State. This is because the rate at which lecturers leave the university or have intention to leave for another job is worrisome (Ndagi, 2021). In the year 2020, about eight senior lecturers resign from IBB university (Educeleb, 2020).

Again, the researches relating to this topic are inconclusive as a result of mixed findings in previous studies. Thus, this study is carried out by adopting the research work of Alo and Dada (2020) in the field of management sciences after slight amendments in their study variables. The amendments touched their study variables and scope. The amendments make this study unique and unlike the former research works in contribution to the frontier of knowledge. This research work will be beneficial to academic staff (lecturers), educational institutions, regulators of education and reference material to potential academic researchers. The broad objective of this study is to examine the effect of monetary and non-monetary opportunities on turnover intention among Academic Staff in IBB University Lapai (IBBUL), Niger State - Nigeria.

Literature Review and Theory

Empirical Review

Monetary and non-monetary opportunities that determine employees' turnover intention are numerous. Aybas, Elmas and Dündar (2015) assessed job insecurity and employability as factors affecting burnout level among 150 white collar employees sampled in Turkey's top 500 industrial enterprises. Regression outcomes show that job insecurity has significant influence on burnout level while employability (level of educational qualification) has insignificant positive effect on burnout level among white collar employees. However, the study is domicile in Turkey among industrialists and not academic staff. But the research work failed to use job opportunity and job freedom among the study variables. Cobbold and Asamani (2015) studied association of career orientations and turnover intentions of 297 Ghanaian

teachers in basic and secondary schools. The results indicate that entrepreneurial creativity, functional competence, lifestyle motivations, job autonomy, managerial competence and pure challenge have relationships that are significant with turnover intention of teachers. However, job security, stability and dedication to service have an insignificant relationship with the turnover intention of teachers.

In addition, Kebite (2018) investigated factors influencing turnover intention among 252 employees of Federal Ministry of Education in Ethiopia. The correlation output indicates that internal (push factors), external (pull factor) and personal factors have significant relationship with turnover intention. Internal factors are job content and description; dissatisfaction with the job assignment; dissatisfaction with leadership and supervision; dissatisfaction with salary and benefit packages; lack of motivation together with reward for good work; lack of recognition for task accomplishment; lack of communication; lack of freedom, fairness and justice; lack of work life; little opportunities for promotion and career advancement; poor working relationship with co-workers and participation in decision making. External factors are high salary and benefit packages; better career advancement and perceived alternative employment opportunities. Personal factors are health problems, family related problems, and planning to open a new business. But the study was conducted in 2018 at Federal Ministry of Education in Ethiopia. Siddiqui and Nazir (2018) assessed the effect of job satisfaction on turnover intentions amid lecturers at Pakistan private universities in Lahore. The research used convenience sample of 350 academic staff in private universities in Lahore of Pakistan. The outcome indicates

that policy administration, job security, relationship with colleagues, remuneration, training seminar and have significant effect on employees' turnover intentions in Pakistan private universities. Work location has an insignificant effect on employee turnover intentions. Again, the outcome indicates that job satisfaction has a significant mediating effect on the association among the predictors and turnover intentions of the employees. Nonetheless, the study was done on private universities in Pakistan and not public universities.

Okuwa (2019) studied determinants of job satisfaction and job turnover intention among 240 workers of 12 commercial banks in Ibadan-Nigeria. The results show that education, company policies, supervision, salary, working conditions and job insecurity are factors that affect turnover intention in commercial banks of Nigeria. Again, female bank workers have greater tendency of job turnover intention than male workers. In addition, long years of service and job satisfaction reduce job turnover intention. However, the study was done on 240 employees working in 12 commercial banks in Ibadan-Nigeria and not lecturers. Again, Alo and Dada (2020) examined employees' turnover intention among 120 academic staff in Nigerian two private universities located in Ondo State. The output result indicates that career development, job security, job dissatisfaction and selection policies have significant effect on turnover intentions of employees in Nigerian two private universities. However, the study was conducted in the private universities while this ongoing research is about public university. Mumin et al. (2021) investigated factors influencing employee turnover and job satisfaction of lecturers in institutions of higher learning in Ghana. Survey

questionnaire was the instruments data collection from 287 lecturers in the University for development studies-Tamale Metropolis, Ghana. The multiple regression results indicate that salary, working conditions, working environments, career advancement, relationship with coworkers have significant correlation with employee turnover and job satisfaction of lecturers. But the study was carried concerning lecturers of Ghana.

Also, Sija (2021) studied job satisfaction and its influence on 127 employees' turnover intention in banks of Malaysia. The results indicate that promotional opportunity and compensation/benefit have significant influence on employees' turnover intention in commercial banks in Malaysia. But employee recognition and supervision support have significant influence on turnover intention of employees of four commercial banks in Malaysia. The research work was conducted on employees of four commercial banks in Malaysia and not employees of the university. Shuaibu, Mohammed and Maluri (2021) examined moderating effect of perceived job alternative on the relationship between perceived organizational justice and turnover intention among 150 secondary school teachers in Potiskum metropolis-Nigeria. The findings of Smart PLS regression model indicate that there is a positive and significant relationship between perceived organizational justice (distributive justice, procedural justice and interactional justice) and turnover intention. Again, there is a negative and significant relationship between perceived job alternative and turnover intention. Lastly, perceived job alternative moderates the relationship between organizational justice and turnover intention among 150

secondary school teachers in Potiskum metropolis-Nigeria. However, the study was conducted about secondary school teachers in Potiskum-Nigeria.

Chen, Tang, Liu, Bai and Chen (2021) assessed factors affecting turnover intention among 605 employees of elderly caring social organizations in Anhui Province, China. Multiple linear regression results indicate that social support to elderly and job satisfaction (salary, promotion, and job safety) have significant effect on reducing employees' turnover intention in elderly caring social organizations in Anhui Province, China. But the study about elderly employees was in China.

Thus, the gaps discovered in the reviewed preceding studies are scope gap and variable gap. This research is unique and intends to add value to existing knowledge by investigating the effect of monetary and non-monetary opportunities on turnover intention among Academic Staff working in IBB university.

The null hypotheses developed for this research to achieve the specific objectives as follow:

Ho1: Job opportunity has no significant effect on turnover intention among Academic Staff in IBB university Lapai-Niger State.

Ho2: Job freedom has no significant effect on turnover intention among Academic Staff in IBB university Lapai- Niger State.

Ho3: Job insecurity has no significant effect on turnover intention among Academic Staff in IBB university Lapai-Niger State.

Underpinning Theories

The theories underpinning this research are theory of reason action and Hertzberg two factors theory. The theory of reason action postulates that an individual's

behavioral intention to perform certain behavior is very close determinant factor of the behavior of other individuals or organization. Hence, this theory supports employees' turnover to leave as a dependent variable of the model presented in the methodology. This is because turnover intention of employees is a determinant of employer or organizational behavior in terms of provision of financial and non-financial benefit packages to workers (Umar and Jinjiri, 2015).

Hertzberg two factor theory (dual factor theory or motivation – hygiene theory or motivation – maintenance theory) was developed by Frederick Hertzberg and his associates in 1959 (Mbah and Ikemefuna, 2012; Aslami, 2013). The theory states that the hygiene or maintenance factors in the workplace do not motivate workers. These hygiene factors simply prevent dissatisfaction and maintain the status quo. The deficiency of these factors leads to job dissatisfaction and removal of dissatisfaction does not mean satisfaction. The ten hygiene factors include company policy and administration, job security, personal life, quality of supervisor, relations with supervisor, relations with peers, relations with subordinates, salaries, working condition and status.

The theory also states that the motivation factors are related to work itself and if present in the work they do increase employees' job satisfaction. The six motivational factors include achievement, advancement, possibility for personal growth, recognition, responsibility and work itself. In nutshell, the hygiene factors are job-context related while motivation factors are job-content related (Mbah and Ikemefuna, 2012; Aslami, 2013). Thus, this theory is important to this study as it supports independent variables (poor, salary, salary discrepancy, job insecurity,

lack of freedom and inconsistent promotion) of the model presented in the methodology.

Research Methodology

Research Design, Population, Sample Size and Sampling Technique

Survey research design is utilized. The survey research involves gathering data from field to meet the research objectives. In this research, the population is 318 Academic Staff in IBB university as at March 2021 (Ndagi-IBB Establishment unit and Kudu-ASUU Chairman of the University). The population of the Academic Staff cut-cross 32 departments and six faculties. The six faculties include Agriculture, Applied Sciences and Technology, Education and Arts, Languages and Communication Studies, Management and Social Sciences and Natural Sciences. The University is chosen for the study because of the high-level of senior academic staff turnover. In the year 2020, about eight senior lecturers resign from IBB university (Educeleb, 2020). The characteristics of the population include tenure, contract and visiting Academic staff of the university.

Out of the 318 elements of the population, 177 subjects were selected as sample using Yaro Yamene's formula for determining sample size (Yamene, 1973). Thus, Yaro Yamene's sample size formula is stated as $n = \frac{N}{1 + N(e)^2}$. Note that n is the sample size; N is the population; 1 is constant and e is level of significance (i.e., 0.05). The research utilized simple random sampling technique in making selection of 136 academic staff of IBB university. The sampling technique allows individual elements of the population to be given equal opportunity of being chosen

(Cavana, Dalahaye and Sekaran, 2001).

Measurement Instrument

Questionnaire is the instrument for data collection which comprises of two sections. Section A are questions relating to demographic variables of the respondents. However, section B are questions relating to the study variables. Section B of the questionnaire ranging from dimension 1 to 5 Likert scale.

Validity and Reliability of the Questionnaire Instrument

In this research, face and content validity assessments by an expert in field of management science was done. Again,

ordinal rating scale was utilized to ensure that the questionnaire is properly adapted before a full-scale study. In order to ascertain the reliability of the questionnaire instrument, Cronbach's alpha reliability statistical test was conducted. Cronbach's Alfa reliability statistical test is utilized to measure internal consistency of the variables. The values of Cronbach's Alfa range from 0.0 to 1.0. The Cronbach's Alfa result test for the four (4) study variables in the model is 0.755 meaning there is no interval consistency of the items (See Table 1). This is because Cronbach's Alpha that is 0.70 and above is acceptable. (Pallant, 2001 and Hair, Black, Babin and Anderson, 2014).

Table 3.1 Reliability Statistics

Cronbach's Alpha	N of Items
.755	4

Source: Author's Computation, 2022-Using SPSS Version, 23.

Method of Data Collection

The data were gathered by self-administration of questionnaire to the respondents who are both male and female Academic Staff working in IBB University, Lapai. The questionnaire instrument used for this study is close ended type that consists of some questions which allow respondents making fast decisions. The close ended questionnaire is simple to interpret and code (Cavan et al., 2001; Araoye, 2004).

(SPSS)-version 23. The regression coefficient tests the effect of predictors on the response variable.

The null hypotheses of this research study are tested or verified at 1%, 5% and 10% significance level. Then, the research rejects the null hypotheses if the findings are 1% (0.000 – 0.005), 5% (0.006 – 0.050) and 10% (0.051 – 0.099) significant. Else, the research study rejects the null hypotheses due to no adequate reasons.

Method of Data Analysis

The coded data are a mixture of nominal and ordinal scale. Nominal scale split data into mutually exclusive (male and female or man or woman). Regression statistics will help in transforming primary data to secondary form that are inputted in Statistical Package for Social Sciences

Model Specification

This is a multiple linear regression model in which the explanatory variables are job opportunity, job freedom and job insecurity while the dependent variable is turnover intention. These proxies are chosen because comparable studies indicated how these explanatory variables

affect turnover intention. Also, the results of the previous studies generate mixed findings. Hence, this study adopts the research framework of Alo and Dada (2020). The research scholars used career development, job security, job dissatisfaction and selection policies as their independent variables while turnover intentions of employees as response variable. This study tests the association between job opportunity, job freedom, job insecurity and employees' turnover intention in IBB University, Lapai. Therefore, the regression model is specified below:

$$Y_i = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e_i \quad \text{Where:}$$

Y_i = Turnover intention: It means when academic staff have intention to leave or quit an organization soonest. Belete (2018); Kebite (2018), Masenya and Jiyane (2020); Alo and Dada (2020) gauged turnover intention using subject measurement as adopted by this study.

X₁= Job opportunity: It is when there are alternative employment opportunities elsewhere that will generate more money or income. Kebite (2018); Alo and Dada (2020); Ninroon et al. (2020); Akpa and Asikhia (2021); Mumin et al. (2021); Shuaibu et al. (2021); and Sija (2021) and Kox et al. (2022). made use of similar variables in their studies.

X₂= Job freedom: It is when Academic Staff are under strict supervision and not given autonomy as well as not given enough vacations. Kebite (2018); and Cobbold and Asamani (2015) used similar variables in their studies.

X₃= Job insecurity: It is when employees sense or detect danger that will affect them and their work in an organization. For instance, when there is no retirement plan for existing and outgoing academic staff-lecturers. Aybas et al. (2015); Cobbold and Asamani (2015); Arijanto et al. (2019); Okuwa (2019); Alo and Dada (2020) and Almuqati et al. (2021) utilized similar variables in their studies.

α = Constant.

β₁...β₅ = Regression coefficients.

e_i = error term.

Results

This section presents and analyses the regression output in order to test the hypotheses and draw conclusions (See Table 4.2, 4.3 and 4.4). For the demographic characteristic of the respondents and correlation coefficients see the appendix.

Table 4.2 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.607 ^a	0.368	0.357	0.71952	0.368	33.622	3	173	0

a. Predictors: (Constant), Job Security, Job Opportunity, Job Freedom **SOURCE:** Author's Computation, 2022 using SPSS Version, 23.

Table 4.2 indicates diagnosis test of the research model. The value of R, R2 and adjusted R2 are 0.607, 0.368 and 0.357 respectively. The R value is the coefficient of association that explains the relationship among the predictors and response variable which is a strong positive association. For the reason that value of R below 0.2 is considered weak; a value of R between 0.2 and 0.4 is moderate; and a value of R above 0.4 is strong. Also, the R2 value shows that 36.8 percent of the variation in the response

variable (turnover intention) is explain by the predictors that comprise job insecurity, job freedom and job promotionn. The value of R2 is moderate because a value of R2 below 0.2 is considered weak; a value of R2 between 0.2 and 0.4 is moderate; and a value R2 above 0.4 is strong (SSRL, 2010).

The F-statistical value (p-alpha) is 33.622 which is significant at 0.000 (one percent). There is statistically significant influence as specified by the significance of F change

Table 4.3

ANOVA^b

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	52.219	3	17.406	33.622	.000 ^a
Residual	89.563	173	0.518		
Total	141.782	176			

a. Predictors: (Constant), Job Security, Job Opportunity, Job Freedom

b. Dependent Variable: Turnover Intention

Source: Author’s Computation, 2022 using SPSS Version, 23.

Table 4.4

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95% Confidence Interval for B		Collinearity Statistics	
	B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1 (Constant)	.256	.260		.984	.327	-.257	.769		
Job Opportunity	.178	.061	.194	2.936	.004	.058	.298	.833	1.201
Job Freedom	.362	.085	.327	4.260	.000	.194	.530	.620	1.613
Job Security	.285	.088	.238	3.231	.001	.111	.459	.672	1.489

a. Dependent Variable: Turnover Intention

Source: Author’s Computation, 2022 using SPSS Version, 23

value (0.000). This discloses that the research model is fit for this study going by F statistic rule of fitness (Pallant, 2001). The research model is only fit for study if significance of F statistic value is less than 0.005 ($p < 0.005$) as indicated in ANOVA statistic below (See Table 4.3).

Table 4.3 shows the ANOVA statistic that reveals the significance of the overall regression output. This is because the F-statistical value (p -alpha) is 33.622 which is significant at 0.000 (1%).

Table 4.4 indicates multiple linear regression output that is utilized to test the hypotheses. The regression output reveals the effect of job opportunity, job freedom and job insecurity on turnover intention as expressed in the equation form as follows.

Turnover Intention

$$(Y) = 0.256 + 0.178X_1 + 0.362X_2 + 0.285X_3.$$

The regression output between the explanatory variables and turnover intention has a constant β value of 0.256 and standard error of 0.260. Job opportunity has a positive co-efficient β value of 0.178 with standard error 0.061, t-value of 2.936 and significant level of 0.004 (1%). Therefore, job opportunity has positive and significant effect on turnover intention among Academic Staff working in IBB University Lapai-Nigeria. This reveals that a 1% increase in job opportunity will increase turnover intention among the Academic Staff by 0.178 (17.8%).

In addition, job of freedom has positive co-efficient β value of 0.362 with standard error 0.085, t-value of 4.260 and significant level of 0.000 (1%). Thus, job of freedom has positive and significant

effect on turnover intention among Academic Staff working in IBB University Lapai-Nigeria. This discloses that a 1% rise in job freedom will raise turnover intention among the Academic Staff by 0.362 (36.2%).

Also, job insecurity has a positive co-efficient β value of 0.285 with standard error 0.088, t-value of 3.231 and significant level of 0.001 (1%). Hence, job insecurity has significant positive effect on turnover intention among Academic Staff working in IBB University Lapai-Nigeria. This means that a 1% increase in job insecurity will increase turnover intention among the Academic Staff by 0.285 (28.5 %).

behavioural intentions and attachment to third places.

Besides, 95% confident interval of the predictors range between lower boundary and upper boundary limits. First, the lower boundary limit and upper boundary limit of job opportunity are 0.058 and 0.298 respectively. The estimated coefficient β value for job opportunity is 0.178. This means job opportunity has significant and positive effect on turnover intention among Academic Staff working in IBB University Lapai-Nigeria. This is because the coefficient value for job opportunity ranges between the lower and upper boundary limits.

Second, the lower boundary limit and upper boundary limit of job freedom are 0.194 and 0.530 respectively. The estimated coefficient β value for job freedom is 0.362. This discloses that job freedom has significant and positive effect on turnover intention among Academic Staff working in IBB University Lapai-Nigeria. This is because the coefficient value for job freedom ranges between the lower and upper boundary limits.

Third, the lower boundary limit and upper

boundary limit of job security are 0.111 and 0.459 respectively. The estimated coefficient β value for job security is 0.285. This means that job security has positive and significant effect on turnover intention among Academic Staff working in IBB University Lapai-Nigeria. This is because the coefficient value for job security ranges between the lower and upper boundary limits.

From Table 4, the values of both tolerance and VIF for the predictors have met the satisfactory conditions for non-multicollinearity. This is because a tolerance value above 0.1 and VIF value below 10 implies that there is absence of multicollinearity amongst the predictors used in the study (Pallant, 2001 and Hair et al., 2014).

Discussions

The results of multiple linear regression in Table 4.4 show the effect of the explanatory variables on the response variable. Job opportunity has positive and significant effect on turnover intention among Academic Staff working in IBB University Lapai-Nigeria. So, hypothesis one (Ho1) is supported and not rejected because there are no sufficient reasons for rejection. This implies that a one percent increase in job opportunity will significantly increase turnover intention of the academic staff. The result is similar with the findings of Kebite (2018); Alo and Dada (2020), Shuaibu et al. (2021); and Sija (2021) that show that job opportunity has significant effect on turnover intention.

In addition, job of freedom has positive and significant effect on turnover intention among Academic Staff working in IBB University Lapai-Nigeria. Therefore, hypothesis two (Ho2) is supported and not rejected. This means

that a one percent rise in job freedom will significantly raise turnover intention among the Academic Staff. The result is similar with Kebite (2018); and Cobbold and Asamani (2015) that reveal that lack of freedom significantly determines turnover intention among 252 employees of federal ministry of education in Ethiopia.

Again, job insecurity has significant positive effect on turnover intention among Academic Staff working in IBB University Lapai-Nigeria. Thus, hypothesis three (Ho3) is supported and not rejected. This discloses that a one percent increase in job insecurity will significantly increase turnover intention among the Academic Staff. This result is similar to the studies of Aybas et al. (2015); Nazir (2018); Arijanto et al. (2019); Okuwa (2019); Alo and Dada (2020); Chen et al. (2021) and Almuqati et al. (2021) that observe that job security as well as career development have significant influence on the turnover intentions of lecturers in private universities in Nigeria. But the result disagrees with the research of Chen et al. (2021) that say that job satisfaction (salary, promotion and job safety) has significant effect on reducing employees' turnover intention.

From the discussions, the result of this reasearch has theoretical implication that suggests higher educational institutions should provide conducive environments for their academic staff to avoid high turnover intention which is supported by the theory of reason action. Hertzberg two factors theory supports the explanatory variables like job opportunity, job freedom and job insecurity. Again, the practical implication of this study is that an increase in job opportunity, job freedom and job insecurity will significantly increase turnover intention among Academic Staff in IBB University Lapai-Nigeria.

Thus, this study contributes to knowledge as an increase in the studied explanatory variables (job opportunity, job freedom and job insecurity) will significantly increase turnover intention among Academic Staff in IBB University Lapai-Nigeria. Again, higher educational institutions must provide conducive environments for their Academic Staff to avoid high turnover intention. This is because high turnover intention among Academic Staff is not good for educational institutions where knowledge and experience are paramount.

Conclusions and recommendations

It is worrisome, the rate at which lecturers leave one university for another because of the monetary and non-monetary opportunities. This is because there was massive exodus of senior lecturers in Ibrahim Badamasi Babangida University, Lapai-Nigeria and some existing Academic Staff have intention to quit their jobs. This study examines the income and non-income factors affecting turnover intention among Academic Staff in IBB university Lapai. The study discovered that job opportunity, job insecurity and job

freedom have positive and significant effect on turnover intention among Academic Staff in IBB university Lapai. The research concludes that the monetary and non-monetary opportunities significantly affect turnover intention among Academic Staff in IBB University Lapai- Niger State. The study is recommending that management of the university should create favourable job environment and career advancement to avoid losing competent staff to other universities.

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The Effects of Capacity Development on Organizational Performance: The Case of Municipal Assemblies in Ghana

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Abstract:

The need for organizations to pay attention to their essential resources has been a global concern for some time now. This is because the performance of any organization is fundamentally determined by the requisite capacities to improve its overall performance. Organizations are therefore making efforts to improve skill gaps across individuals, groups, organizations, sectors, and institutions by developing their capacities. To enable the Ghanaian Local government sector, through its agencies - Municipal and Metropolitan assemblies - discharge their mandates effectively, developing capacity has been a frequent feature in their functional strategy in order to promote local economic development and respond to numerous socio-economic challenges at the local level. This paper seeks to examine the relationship between elements of capacity development such as Management Capacity (MC), Technical Capacity (TC) and Management Innovation (MI) as determinants of organizational performance. The study used a survey questionnaire administered to 302 from 36 Municipal and Metropolitan Assemblies in Ghana to gather data needed. The results of this study, with the use of SEM-PLS, indicate that all the elements had positive and significant implications on organizational performance. Again, the study reveals a high predictive accuracy, providing a variance of 41.6 percent of changes in the dependent variable. The study recommends for investment in resources that contribute immensely to the organization's outcomes. The study also calls for managers of municipal assemblies to commit themselves to ensuring availability of such important resources in order to sustain the organizational performance.

Key words: Capacity development, technical capacity, management capacity, management innovation and organizational performance

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Introduction

The need for capacity development (hence referred to as CD) is well acknowledged among international development agencies. This is so because capacity development is regarded as a critical component in addressing social, economic, and environmental concerns, as well as skill gaps across individuals, groups, organizations, sectors, and institutions (Li, Westlund, & Liu, 2019; Vallejo & Wehn, 2016; Ubels, Fowler and Acquaye-Baddoo, 2010). Besides, CD is considered as an important organizational activity that improves performance (Nwankwo, Abdulahi and Faith, 2017; Vallejo & Wehn, 2016; Vincent and Stephen, 2015; CIDA, 2000 Grindle, 1997). It facilitates the organization's ability to appreciate and deal with development within a broader context in a sustainable manner. CD does not only focus on improving individuals' knowledge and abilities and businesses, but also extends its effect to the wider environment (Vallejo and Wehn, 2016; Pearson, 2011). Further, CD enables businesses and individuals to successfully improve their management decision-making and organizational performance by repeating actions and processes (Bakker, 2017; Jenatabadi, 2015).

Capacity development, since the birth of international assistance in 1950s, though seen as development intervention, has come in different forms with different focuses. According to Vallejo and When (2016), CD operates at different levels with different approaches and focus, and therefore addresses different development challenges. Among these challenges, organizational strategy, skills, systems and infrastructures; organizational structure and culture (Miller & Doherty, 2016). Other scholars have focused on organizational internal structure,

leadership, external relation and management (Light Hubbard & Kibbe, 2004; Olson et al., 2018; Elbers & Kamstra, 2020; Bolger, 2000; Brinkerhoff & Morgan, 2010). This evidence suggest different ways by which scholars can approach CD interventions to achieve organizations' goals (Khambule & Mtapuri, 2018; Choi, 2021; Vallejo & Wehn, 2016; Adank, et al., 2018; Millar & Doherty, 2016). However, Connolly and York (2003) have branded these CD elements under four broad themes namely, management capacity, leadership capacity, technical capacity, and adaptive capacity. They hoped that the combined effect enables organizations to be efficient, effective, sustainable and able to meet people's aspirations (Connolly & York, 2003; Choi, 2021).

One critical issue plaguing public organizations is insufficient capacity (Ingraham, Joyce & Donahue, 2003; Ahmad, Niu & Xiao, 2017). Local government units, which are structured within the public sector, require requisite capacities to discharge certain defined responsibilities defined for them. They exist to formulate and execute plans, programs and strategies for effective mobilization of all resources of their areas of operation, which does not exclude providing basic services to support the wellbeing of the people (Kazuya, 2003; Olowu, 2003). To address this deficiency, governments across the globe, including Ghana, have taken the initiatives to implement various CD policies to improve the capacities of local government operatives, with the assumption that such initiatives will enhance their allocative efficiency, welfare and increase public participation, accountability and responsiveness to the local communities

(Akudugu, 2013; Robinson, 2003). Evidence suggests that effective local governance requires good leadership skills, strategic management and innovative capacity (Jutting et al.; Holman et al., 2018), and that an absence of such ingredients seriously affect governance.

In spite of the numerous advantages that accrue to developing local government capacity, researchers have not given much attention to it. Governance and organizational researchers seemed to have concentrated mostly on the structure of local government and its associated dimensions, such as legal framework, governance reforms among others to the neglect of capacity development or building issues. The few studies, such as Annan-Prah t(2019), are limited in scope, which does not present a wider picture of CD effect at the local government level in Ghana. Besides, there is an apparent lack of rigorous studies relative to capacity development elements at the Ghanaian subnational level in prior literature. The study is therefore motivated to fill these research gaps by investigating the effects of management capacities, technical capacities and management innovation on the performance of municipal assemblies in Ghana. The study will respond to a fundamental question: what capacity

elements influence the performance of municipal assemblies in Ghana? This paper identifies these elements and assesses both their individual and combined strength on the municipal assemblies' performance in Ghana.

In response to the main question, the study will address three sub questions with their corresponding hypotheses namely, R₁: What is the relationship between capacity development elements (Management, Technical Capacities and Management Innovation and organizational performance? R₂: What is their individual effect of Management, Technical Capacities and Management Innovation on organizational performance? R₃: What is the combined strength of Management, Technical Capacities and Management Innovation on the organizational performance?

There are four sections to the paper. The background, introduction of concepts, and construction of research hypotheses are all covered. The second section discusses the study design, which includes data gathering techniques and the use of PLS-SEM as our main data analysis techniques. The results of the data analysis will be provided in the third segment. The fourth half of the paper will address the findings, as well as the management implications and limitations of the study.

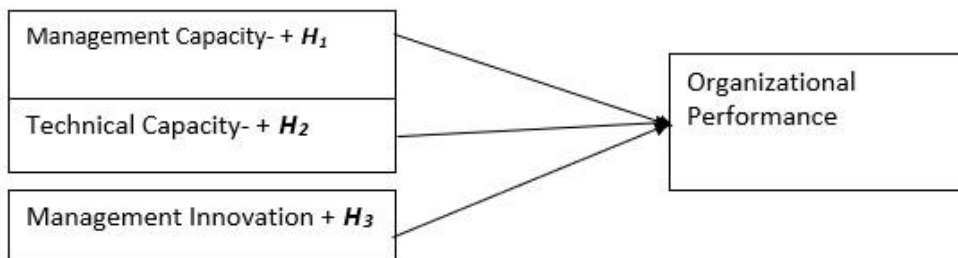


Figure 1. Conceptual model - Author's Construct

Theory and hypotheses

To understand the interactions among the variables in this study, we use the RBV to discuss the positive effects of capacity development elements, management, technical capacities and management innovation on the organizational performance, arguing that these elements positively influence organizational performance. According to the RBV (Barney, 1991; Penrose, 1959; Wernerfelt, 1984), organizations are a collection of people who work together to achieve a wide variety of goals (Prause & Mujtaba, 2015). The RBV's main principle is that if an organization acquires and controls enough assets, it can have a long-term competitive urge, superior growth as well as improved performance so long as it has valuable, uncommon, inimitable, and non-substitutable resources and competencies, the ability to absorb and put them into practice (Barney, 1991). Assets, capabilities, organizational procedures are just examples of resources, including information and knowledge that might provide a long-term competitive advantage, which can spark up superior growth and performance (Desarbo et al, 2005; Hult et al., 2006; Teece, 2007).

As a result, internal capabilities are critical for gaining access to capital and growing a business. Organisations or firms are unequally dispersed bundles of resources, according to the RBV. (Teece 2007; Wernerfelt 1984), which brings about resource heterogeneity that lasts across time (Teece, 2007; Wernerfelt, 1984), and establishes a foundation for business expansion (Barney, 1991). We contend that management, technical capacities and management innovation interact as a bundle to generate competitive advantage and may be used to accomplish a variety of goals. Again, management and technical

capacities and management innovation are internal firm capabilities needed to argument other firm capabilities. To attain superior growth outcomes, you will need such capacities. This finding has been established in previous studies (Adomako et al., 2016; Brush and Chaganti, 1999) emphasizing that a firm's capabilities position it to pursue its growth. By using RBV, therefore, we examine the performance implications of the influence of the management innovation, management and technical capabilities on the performance of municipal assemblies in Ghana.

Management capacity and organizational performance

Management capacity is a hands-on activity that all managers have to engage in. It serves as a system of organizational actions and practices targeted at improving management capabilities for the organization's ultimate benefit (Becker & Bish, 2017). Inspired by RBV, this paper holds the view that management capacity is an important resource for organizational performance. Previous studies have linked management systems to service improvement. (Jennings & Woods, 2007). Heckman (2007) in a study specified generally, that management capacity, which covers capital, finance, HRM, and IT management, helps state governments to improve air pollution. It is also noted in other studies, that strong financial management systems contribute to better performance (Hou, Moynihan, & Ingraham, 2003; Mullins, 2016). In this study context, management capacity is considered as organizational actions and practices, which cover financial and human resource management, that improve management capabilities to achieve the organization's ultimate benefit.

On the basis of the meaning derived from the explanation given above, the study hypothesizes that:

H1: Management capacity has a positive effect on organizational performance.

Technical capacity and organizational performance

Technical capacity refers to an organization's ability to deliver programs and manage operations based on its skills, tools, and facilities. It addresses concerns such as program design and evaluation. TCC Group (2010) defines technical capacity as an organization's ability to plan and carry out a successful evaluation. Beyond this limited scope of programs development and execution, Claussen (2019) anticipates a properly designed program that is relevant with a logical model and/or other evaluation tool that support organizational effectiveness. Like management capacity, technical capacity is recognized as firm's distinctive resources that influences its performances. Such resources according to Berney (1991), Penrose (1959) and Wernerfelt (1984), helps the firm to achieve its sustained competitive advantage and perform better if it acquires and controls valuable, rare, inimitable and non- substitutable resources and capabilities. Claussen (2019), holds the view that such technical abilities allow an organization to not only design programs, but also evaluate their implementation. They have the ability to raise funds (particularly within nonprofit organizations), procure financial and in-kind resources required for efficient operations, possessing marketing skills that enable the organization to communicate effectively with both internal and external stakeholders, and having the appropriate technology, including equipment, systems,

and software (TCC Group, 2010).

On the basis of the above explanations, technical capacity is contended as a critical component in capacity development with its attendant effect on the organizational performance. This makes technical capacity very relevant in this context with a hypothesis that:

H2: There is a positive relationship between technical capacity and organizational performance.

Management Innovation and organizational performance

Prior studies have identified innovation as an essential component for businesses to survive, which is fueled by the impact of globalization, migration, technological and knowledge revolutions, and climate change issues, and the value that innovation brings (Giuliani et al., 2018). Innovation comes with creativity and puts new problem-solving ideas into use; it regenerate ideas for reorganizing cost cutting, putting in new systems and improved communication among others (George & Jones, 2008). Innovation has therefore become a major factor in influencing strategic planning that leads to wealth creation and sustain business growth (Giuliani et al., 2018). Past studies have noted that the focus of studies on innovation had concentrated on bringing new products and services, and also develops new processes, new business systems and new methods of management, which have a significant impact on productivity and growth product and process innovations rather than on non-technological innovations (Walker et al., 2015). Management innovation (MI), although without a generally agreed definition, its end products have focused on the establishment of new structures,

novel processes, original systems and, programs or practices in firms (Evangelista & Vezzani, 2010; Walker et al., 2015). MI represents new management practices that aim to improve a company's performance. It creates and executes new state-of-the-art management practice, process, structure, or approach meant to enhance organizational goals. It enables them to frame their goals, make choices, coordinate activities, and inspire staff as an integral component of organizational processes, presented through new managerial practices, processes, and structures (Khan et al., 2018; Hamel, 2006; Bergmann & Posch, 2018). These benefits accrued to MI have lent validity to top management's belief in its critical role in organizational performance. This has brought about new thinking in management placing premium on the usage of MI across the organizations (Mol & Birkinshaw, 2009). The above ideas, typically, reflect changes in what and how managers conduct their jobs (Birkinshaw, Hamel, Mol, Birkinshaw, & Mol, 2008; Hamel, 2006).

However, prior studies on management innovation in firms suggest some inconsistencies in their findings. For instance, while in Atalay et al. (2013), product and process innovations showed significant and positive impact on firm performance, the relationship between non-technological innovation such as marketing innovation and firm performance showed otherwise. In the research of Walker et al. (2015), the results showed that there was “no differences in the direction and the strength of the association between MI and TI on organizational performance. It was also established that the organizational competencies gained from initiatives such as new ways of structuring and

coordinating organizations and knowledge management activities were shown to be essential, especially in competitive markets”. The differences could possibly be attributed to the nature of the industry, and the potential effects of moderating variables used in the industry and construct measurement of the studies. Despite the above conflicting results, review of Walker et al. (2015) has shown that MI is positively associated with organizational performance. On that basis, the study anticipates a positive relationship between management innovation and organizational performance. We therefore assert that:

H3: There is a positive relationship between management innovation and organizational performance.

Methods

Study context

The study used data from Ghana, an emerging middle-income country in West Africa with a population of 30million, devolved into 261 local government units, designated as Metropolitan, Muncipal, and District Assemblies (MMDAs) depending on population concentration. Prior to 1988, local government administration in Ghana had undergone a number of reforms, but the most comprehensive reforms gave birth to the PNDC Law 207 in 1988. The law served as an inspiration for the inclusion of Local Government and Decentralization in the 1992 Constitution of Ghana as a system to achieve Ghana's development objectives. Crook (2003) also notes that such local government architecture improves public sector efficiency and serve as an arrangement to fight poverty through people and community interactions at

close range. Studies have also found that local government structures, once established, encourage participation of private and non-governmental organisations in economic development, and allows more accountability and transparency at the local government level (Kauzya, 2003; Olowu, 2003).

There have been mixed reactions in respect of different antecedents on the performance of the assemblies (Crook, 1994; Akudugu, 2013; Abane & Brenya, 2021). According to Scott (2016), just establishing local governments, is not the only tool for poverty reduction, but also improving representation of the poor and better targeting of service delivery. Annan- Prah, (2019) notes that building capacities of assemblies influences commitment, enthusiasm, empowerment, and learning into though with its attendant shortcomings. Abane and Phinaitrup (2017) also found the need for performance management as an alternative tool to enhance performance at local authorities, but identified some challenges associated with such a management tool. In the midst of these challenges, therefore, we selected a wider context of municipal assemblies in Ghana, which includes metropolitan assemblies to test the influence of management innovation within that context. The study population was made-up of the various departments (minimum of 13 departments) and their employees working within the Municipal Assemblies.

Sampling procedure

The study targeted five departments out of 13 namely, Central Administration, Physical Planning, Works, Finance and Human Resource departments due to the central and critical role around which assemblies implement their programmes (LGS, 2014) for effective services

provision. For instance, the Coordinating Director leads the group to carry out the responsibilities to ensure that the planning and coordinating units' function effectively (LI 1961). In total, there are a minimum of about 26,000 employees working in these categories of assemblies in Ghana (LGS, 2014). They constitute key personnel with varied professional background and years of experience working to ensure that they provide quality service to the benefit of the people. They included personnel from Central Administration (Development Planning, Budget, Internal Audit) Finance, Human Resource, Physical Planning and Works departments, and the Coordinating Directors of the selected assemblies.

Sample size determination

The sample size was determined after consideration of the population size, cost, time, heterogeneity and non-response rate of the questionnaire. The major consideration for the sample size was to increase the level of precision of the sample and decrease sampling error (Bryman, 2008). Other considerations were the magnitude of acceptable errors and confidence interval (Zikmund, 2003). We therefore estimated the sample proportion by relying on Zikmund (2003) table that indicates predetermined sample sizes. The sample size for this study was estimated at 95% confidence level and assumed the parameter in the population to be over 70% or under 30%. Given the study population of about 26,000, the minimum sample size for this study was 321 (Zikmund, 2003). As posited in Hair et al.'s (2017), the threshold of a sample size to achieve statistical power should be more than 100. An additional 10% questionnaire brought the total administered questionnaire to 360 to

compensate for non-response and also take care of persons unable to reach, and to provide the desired level of confidence and precision (Israel, 1992).

Data collection procedure

In collecting data for this study, we paid particular attention to the geographical distribution and socio-economic characteristics of the municipal and metropolitan assemblies. conducted at the level of the organization (Alvi, 2016). The assemblies were therefore clustered into three geographical belt or zones, namely northern, middle and the southern. The northern belt covered the Upper East, Upper West, Northeast, Northern and Savannah, Oti Regions. The middle belt covered Bono, Bono East, Ahafo, Ashanti and Eastern Regions. The remaining, which included Volta, Western, Western North, Central and Greater Accra represented the southern belt (MSDI, 2020). The zoning was done to group the assemblies based on their cultural and socio-economic characteristic of the geographical areas (Machiyama & Cleland, 2013). Based on some notable characteristics, such as the number of municipal assemblies in each geographical zone, clustered and selected the required number of assemblies within the determined quota. With the sample size of 360 respondents, we drew 310 from municipal assemblies and 50 from metropolitan assemblies (the southern belt- 16, middle belt-13, while the northern belt- six (6).

In selecting respondents for the study, we listed all municipal assemblies in the selected regions in each belt, and randomly selected the assemblies by creating a random number generator in Excel (ie. =RAND ()). The names of the assemblies were entered in a single column of an Excel worksheet, and the Excel

formula= RAND () applied to generate random numbers for each of the assemblies. The generated random numbers, sorted in ascending order, served as a guide for selecting the assemblies to participate in the study. Generally, staff of Municipal Assemblies are categorized into professional and sub-professional. We were therefore guided by these strata to select participants for the study to allow the opinions of the two major group to reflect in the results of the study (Alvi, 2016).

Data collection instrument

Given the wide geographical area, the researcher used a survey to collect its data. The main research instrument was a questionnaire. The instrument was in two parts- Part I and Part II. The first part was sectionalized into 11, which covers independent variables, moderator variable, dependent variable, and control variables. Apart from the dependent variable, which was measured with seven (7)-point, all other constructs were measured with five (5) - point scales summing up to 55 items in total.

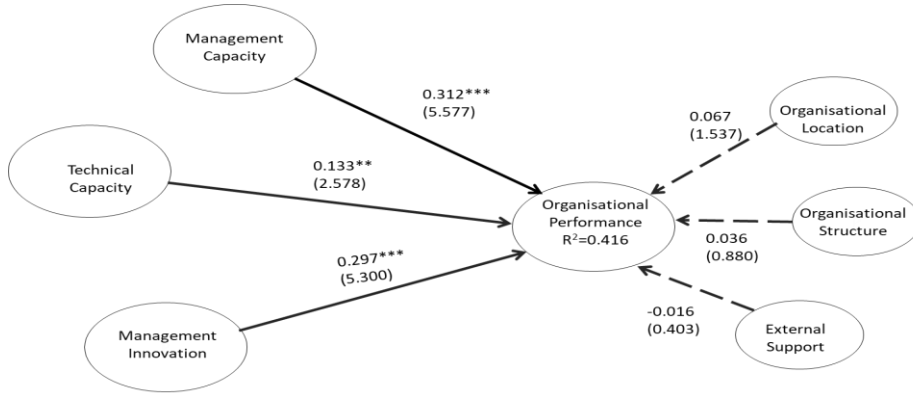
Results and Discussion

The results and discussion focused on the analysis with Partial Least Square-Structural Equation Model (PLS-SEM) to test the hypotheses of the study presented in Figure 1 and Tables 1 and 2, and the discussion of the results.

Results

The results indicated that management capacity had a significant positive effect on organizational performance. Management capacity was significant at $p=.001$. Likewise, management innovation had a significant effect at $p= .001$. Technical capacity also had a significant positive

effect on organizational performance at $p = .01$. Per these results, all the hypotheses were supported.



Note: *** $p < 0.001$; ** $p < 0.01$ (two-tail); t-values are in parenthesis; dotted line means path is not significant

Figure 1: Structural path showing the effects of capacity development and management innovation on organizational performance.

Table 1: Structural Path Result on the Effect of Capacity Development

Hypothesis	Structural path	Path coefficient	t-value (Boot)	p	Hypothesis results
H1	Management Capacity → Organizational Performance	0.312***	5.577	0.000	Supported
H2	Technical Capacity → Organizational Performance	0.133**	2.578	0.010	Supported
H3	Management Innovation → Organizational Performance	0.297***	5.300	0.000	Supported

Note: *** $p < 0.001$; ** $p < 0.01$
 Sources: Authors analysis from Survey data

Structural Model

Table 2 presents the predictive accuracy (R^2) of the model used for this study. It showed that management capacity, technical capacity, management innovation, and the three control variables (organization location, organizational structure, and external support) jointly explained about 42% of the variance in

organizational performance. Also, the cross-validated redundancy Q^2 – value was 0.278 for organizational performance. Finally, the effect sizes (f^2) computed for the exogenous variables showed that management capacity, technical capacity and management innovation all had small effect sizes on organizational performance. Evidence of predictive accuracy (R^2),

predictive relevance (Q^2) test and effect sizes (f^2).

Table 2: Predictive Accuracy (R^2), Predictive Relevance (Q^2) and Effect Sizes (f^2)

Constructs	R^2	Q^2	f^2 (Organizational Performance)
Management Capacity			0.113(Small)
Technical Capacity			0.02(Small)
Management Innovation			0.10(Small)
Organizational Location			0.01(None)
Organizational Structure			0.00(None)
External Support			0.00(None)
Organizational Performance	0.416	0.278	

Source: Author's analysis from Survey data

The predictive accuracy (R^2) of the model used for this study showed that management capacity, technical capacity, management innovation, and the three control variables (organization location, organizational structure, and external support) jointly explained about 42% of the variance in organizational performance. This shows a large explanatory power of the model (Hair et al., 2017). Cross-validated redundancy Q^2 – value of 0.278 was obtained for organizational performance which is higher than 0 showing a predictive relevance (Chin, 2010). Finally, the effect sizes (f^2) computed for the exogenous variables showed that management capacity; technical capacity and management innovation all had small effect sizes on organizational performance. Evidence of predictive accuracy (R^2), predictive relevance (Q^2) test and effect sizes (f^2) are presented in Table 2.

Discussion

This study sought to examine the relationship between capacity development elements and the performance of Municipal Assemblies in Ghana. Specifically, the study was to establish

whether, individually, there was a relationship between capacity development elements (Management, Technical Capacities and Management Innovation and organizational performance). It was also to find out the individual effects of Management, Technical Capacities and Management Innovation on organizational performance, and finally found out the combined strength of Management, Technical Capacities and Management Innovation on the organizational performance.

The results showed that participants were unanimous in their view that the three elements of capacity development (management capacity, technical capacity and management innovation) had relationships with organizational performance, thus management capacity ($\beta=0.361$, $t=7.312$, $p<0.001$), technical capacity ($\beta=0.155$, $t=3.144$, $p<0.05$) and management innovation ($\beta=0.311$, $t=6.303$, $p<0.001$). These significant positive results revealed in the study showed that participants were of the view that municipal assemblies required such capacities and innovations to discharge their responsibilities well. In spite of their

small effect size showed, the results lend support to earlier findings by Desta et al. (2020) and Nwanchukwu et al. (2019) whose studies revealed that implementing capacity development programs such as leadership and management activities significantly improves management practice and quality services, and needed much emphasis placed on finance and human resources management. In a sense, they narrow the scope of management capacity. This suggests that finance and management are very critical to the performance of organizations.

The results showing direct positive significant effect of management innovation on organizational performance makes it a positive driver of organizational performance irrespective of the direction. This corroborates the findings of Walker, Damanpour & Devece (2011). It is, however, important to note that implementing new and advanced management processes, by themselves, does not necessarily guarantee organizational performance. It requires management innovation. Honyenuga, Tuninga & Ghijsen (2019) see it as a necessary condition for organizational performance. This suggests that management innovation by itself must have a positive influence on performance in order to influence other elements to influence performance positively. Technical capacity likewise shows a significant positive effect on organizational performance. An der Waldt et al. (2018), have found technical capacity as an important element for effective performance and a tool to stay competitive in the changing technological world. This observation is in sync with George and Jones (2008) which highlighted the

importance of information technology to human resource to engage in constructive innovative activities and managing organizations. As observed by van der Waldt et al. (2018), the use of IT innovation, for instance, helps to improve organizational performance (Cheg and Wang (2020). This suggests that a significant shortage of technical skill will impede organization development especially in today's fast changing world.

The predictive accuracy of the analysis showed $R^2=0.416$. It is apparent from this study that the design does have a significant effect on predictive accuracy results reported. This result confirms findings from similar investigations in other fields. This simply tells us that the combined strength of management capacity, technical capacity and management innovation and the control variables jointly explains about 42% of the variance in organizational performance. According to Hair et al. (2017), this represents a large explanatory power of a model. This result acknowledges and supports the earlier studies that an organization achieves high performance when it has the requisite capacities to work with.

Theoretical implications

The results of the study have strong theoretical implications about resource allocation and use. The study was grounded on the Resource-Based View, which has widely been applied in private sector organizational research compared to the public sector. The theories hold that an organization with a bundle of strategic resources have the potential to outperform its competitor (Barney 1991; Wernerfelt, 1984), but this is not restricted to the private sector and non-for-profit

organization. Past studies using these elements have mainly come from non-governmental sector. This study has, however, proven, that capacity development has a positive and significant relationship with the units within the local government sector, thus the public sector. The study found support for the influence of management capacity, technical capacities and management innovation on organizational performance in line with the prior studies (Connolly & York, 2003; Hope, 2011; Haque, Fernando, & Caputi, 2019; Nwachukwu & Chladkova, 2019). It suggests that organizations with unique resources irrespective of whether private or public sector can influence some behaviors within the organization. The framework used in this study therefore provide a theoretical basis for understanding and justifying how management, and technical capacities and as well as innovation on the part of management can influence performance.

Managerial implications

This study has very important managerial implications. First, the empirical support for the proposed model suggests that capacity development is a critical source of resource and capabilities that improves organizational outcomes. This calls for managers of municipal assemblies to commit themselves to ensuring availability of such important resources of the organizations. Managers ought to know the actual benefits that investment in any resource will yield to the organization, but not just any resource. Resource availability motivates employees and serves as incentives to give off their best, which eventually will reflect the performance of the organization. Second, the positive performance as a result of improved level of capacity can help managers promote the

positive image of managers and the organization as performing managers and organization. Consequently, managers are not to underestimate the positive effect of developing capacity to sustain the organization's performance, particularly the managers in the local government sector. Studies suggest that when employees find management forthcoming with needed resources, they also respond appropriately to support the organization achieve its goals. This should therefore urge managers to make maximum use of available resources and invest in strategic ones that will inure to the benefit of the organization. Third, with the positive results of management innovation managers of municipal assemblies are required to encourage and get the buy-in of all stakeholders to derive the desired benefits.

Limitation and implication for future research

This paper is not without limitation. First, the study scope was limited to only metropolitan and municipal assemblies with selected departments. Future research can look out to include district assemblies and extend the study to cover other departments of the assemblies. Using only a few of the departments and their staff cannot give the total picture of the capacity development situation. Organizational performance is a multidimensional concept. This study dealt with just an aspect of it, thus effectiveness. To have a broader view, future studies need to expand the scope to include other elements of capacity development and performance dimensions such as organizational efficiency, cost, quality, and other performance related indicators. Again, studies could further refine the hypothesized model by using

additional moderators and/or mediator such as work environment, employee motivation, trust or organizational culture. The inclusion and testing of additional variables will help develop a more robust model, which potentially could reveal certain critical information needed to improve organizational performance.

Conclusion

The study set out to examine the relationship between capacity development and the performance of Municipal Assemblies in Ghana. Three elements of

capacity development, namely, management capacity, management innovation and technical capacity came out as significant at p-values of $p=.001$ and $p=.010$ respectively on the performance of municipal assemblies in Ghana. This study presents to management of municipal assemblies in Ghana the relative and combined effects of these capacity development elements on performance, and their significance as positive drivers for service delivery at the local government level.

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