

Role of Accountants in Achieving the Sustainable Development Goals (SDGs): Do Accountants Really Matter for Sustainable Development Goals?

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Abstract

Accountants are known to be present in every medium and large scale organizations globally and are found to occupy different positions in both private and public organizations like, Management Accountants, Chief Finance Controller, internal and External Auditors, Tax officer, Account Officer, Treasury controller, etc and so occupy a large space in organizational growth processes. As organizational efforts are geared towards sustainable development in the 21st century, the roles of every organizational key player like the accountants also change in line to accommodate sustainability concerns. Consequent to this, our study evaluated the extent of roles Accountants play in ensuring sustainable management of water and sanitation (Goal 6), making cities and human settlements inclusive, safe, and sustainable (Goal 11), and, in ensuring sustainable consumption and production patterns (Goals 12), which this study perceives as the foundational goals to achieving most other SDGs. Hence, these three goals as perceived by the researchers form the core of the 17 goals agenda. The population of study was seven hundred and seventy-two professionally affiliated Accountants with Institute of Chartered Accountants of Nigeria (ICAN) and Association of National Accountants of Nigeria (ANAN) in Anambra state, Nigeria. The Mann-Whitney Test used in hypotheses testing revealed that accountants really matter for sustainable development goals since they significantly contribute towards ensuring sustainable management of water and sanitation. Furthermore, it was found that accountants have significant role to play towards ensuring sustainable consumption and production patterns and also in making human settlements and cities safe, inclusive and sustainable. The researchers recommends among others that International organizations like the United Nations and others at the forefront of promoting the SDG drives should recognize the roles of the accountants by sponsoring researches towards promoting accounting innovations; and seminars educating public sectors and businesses on the need to work with the accountants in their SDGs' pursuits.

Keywords: sustainable development, sustainability, accountants, value creation and accounting innovation.

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1. Introduction

The sustainable development agenda refers to a global goal which was initiated by the United Nations (UN) in order to provide opportunities for risk management, environmental impact management and growth potentials for economies. This agenda is more formally known as Sustainable Development Goals (SDGs). The accounting profession is, in empirical discourses of the SDG agenda, charged with the responsibility of taking a leadership role in connecting the key players in the pursuit of sustainable development, *vis-a-vis*; the management of corporate organizations, Government and non-government organizations. In the words of the UN as reported by Izzo, Ciaburri and Tiscini (2020), sustainable development is the "development that meets the needs of the present without compromising the ability of future generations to meet their own needs". Since the inception of SDGs, there have been some debates on its relationship with corporate behaviours and the organizational processes and people, relevant to the success at both national and corporate levels. This is heightened by the call for "new approaches to performance, sustainable business models, and integrated and sustainability reporting systems" (Manfred & Oladipo, 2020; Iliemena, 2020; Iliemena, Amedu & Uagbale-Ekatak, 2022), which is presumed to have given added value to the role of Accountants in this regard. Adapting the view of Williams (2019), any African nation that achieves the SDGs would have succeeded in increasing its market and job

opportunities by about 85%. The market opportunities could emanate from ensuring availability and sustainable management of water and sanitation, making cities and human settlements inclusive, safe, resilient and sustainable through innovative business accounting models and ensuring sustainable consumption and production patterns. Today's Accountants are seen to be capable of delivering the needed structural transformation of the SDGs with the new focus of accounting on value creation, especially in a globalised economy with multi-faceted roles of the 21st century accountant. International Federation of Accountants (IFAC) in its publication in 2020 suggested that new market opportunities could also be achieved from finding new ways of reaching out to "poorly served groups" by harnessing low cost digital accounting technologies. This will usually start from ensuring responsible use of water, materials and energy and aligning business strategies with sustainability objectives. This onus majorly falls on the management Accountants and the Financial Controller or Chief Finance Officer. Even the financial accountants are also perceived to possess the key to success or failure in achievement of the SDGs (Adeyemi, et al., 2020), as the integrated reporting and sustainability reporting systems are within the function of the Modern Accountants. The accounting and finance professionals have so far been relegated to the background in planning of business affairs related to the SDGs due to the panoramic perception of the role of Accountants and that has been one of the major problems and cause of several delays in business risk assessment and sustainable model formulations for sustainable value creation. Some previous studies had asserted that accountants are constrained to the preparation of accountants and therefore have no relationship with the SDGs. Notwithstanding, this essential roles of accountants, there is scanty empirical study that explored whether the extent of responsibility of Accountants in achievement of the SDGs. This therefore leaves one wondering; what role do Accountants play in ensuring availability and sustainable management of water and sanitation? What degree of function do Accountants play in making cities and human settlements inclusive, safe, resilient and sustainable? What level of responsibility do Accountants have in ensuring sustainable consumption and production patterns? A lot of African companies may have some lessons to learn from Siemens and Unilever who have currently embedded innovative products and services into their operating system as noted by Adeyemi, et al (2020). Against this background, the present study examined the role of accountants in achieving SDG agenda of 2030 focusing on goals 6, 11 and 12. The study specifically sought to:

1. Evaluate the role of accountants towards ensuring sustainable management of water and sanitation.
2. Determine the contribution of accountants towards ensuring sustainable consumption and production patterns.
3. Investigate the level of responsibility of accountants in making human settlements and cities safe, inclusive, resilient and sustainable.

2.1. Overview of the sustainable development goals (SDGs)

The 2015 summit of the member-countries of the United Nations (UN) in New York gave birth to the current global goals referred to as the Sustainable Development Goals (SDGs) or Agenda 2030, with 17 global goals and 169 indicators aimed at tackling global development issues including poverty and hunger, pollution, climate change, inequality, and, environmental degradation (Egolum, Iliemena & Ezech, 2022). In 2021, the International Sustainability Standards Board (ISSB) was launched to further help in building strong organizational networks towards achieving the Sustainable Development Goals at firm levels. Izzo, Ciaburri & Tiscini (2020) stated that the SDGs agenda of 2030 is the "instrument to maximize value creation and enhance knowledge of the impact of business activities on sustainable development". These SDGs are highlighted in table one below, as adapted from the publication by the UN (2022) department of Economics and Social affairs.

Table 1: The SDGs

S/N	GOAL	FOCUS	OBJECTIVE
1	Goal 1	No Poverty	End poverty in all its forms everywhere
2	Goal 2	Zero hunger	creating a world free of hunger by 2030
3	Goal 3	Good Health and Well-being	Ensure healthy lives and promote well-being for all, at all ages and prevent needless suffering from preventable diseases and premature death.
4	Goal 4	Quality education	Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.
5	Goal 5	Gender equality	Achieve gender equality and empower all women and girls.
6	Goal 6	Clean Water and Sanitation	Aims to ensure availability and sustainable management of water and sanitation for all.
7	Goal 7	Affordable and Clean Energy	Ensure affordable, reliable, sustainable and modern energy for all
8	Goal 8	Industry, Innovation and Infrastructure	Promote inclusive and sustainable economic growth, employment and decent work for all.

S/N	GOAL	FOCUS	OBJECTIVE
9	Goal 9	Industry, Innovation and Infrastructure	Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.
10	Goal 10	Reduced Inequality	Reduce inequality within and among countries
11	Goal 11	Sustainable cities and communities	Make cities and human settlements inclusive, safe, resilient and sustainable
12	Goal 12	Responsible Consumption and Production	Ensure sustainable consumption and production patterns.
13	Goal 13	Climate action	Take urgent action to combat climate change and its impacts.
14	Goal 14	Life below water	Conserve and sustainably use the oceans, seas and marine resources.
15	Goal 15	Life on land	Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.
16	Goal 16	Peace and Justice Strong Institutions	Promote just, peaceful and inclusive societies.
17	Goal 17	Partnerships to achieve the Goal	Strengthen the means of implementation and revitalize the global partnership for sustainable development.

Source: Table constructed by Iliemena, Uagbale-Ekatah and Seiyaibo, 2022

2.2. Accountants and the SDGs

Accountants are known to play an array of roles which form part of the management process from record keeping, financial analyses, budgeting, production planning, climate risk management, auditing, environmental management and business risk assessment and management, resources planning, machine planning and standard costing, provision of strategic, tactical and lower level management with information for policy formulation, business and operational decision making, and a lot more. As a matter of fact, International Federation of Accountants [IFAC] (2020), Iliemena, Egolum, Goodluck and Ozue (2022) and Iliemena, Egolum and Agu (2021) are of the view that Accountants have an essential role in coordinating organizational resources towards the achievement of the corporate sustainability. It becomes pertinent to carry out this study as a lot of past studies have asserted positive relationship of the drivers of sustainable development with corporate performances both financial and non-financial which are known to be the principle areas of the Accountant, more especially, now that accounting innovations are very essential in advancing from short term to long term value creation for sustainable development. According to a report by the United Nations in 2016, over 80% of Chief Executives have realized that commitments to sustainable development concerns are impactful and relevant for industrial growth. So far, sustainability reports and integrated reports are the two platforms companies use to report their commitments to sustainable development through environmental, economic, social and governance concerns. Notwithstanding, Some organizations still build the reporting structure into their annual financial statement reporting as a way of keying into the sustainable development agenda of 2030. These new reporting systems for sustainable development were recognized officially during the “32nd session of UNCTAD’s Intergovernmental Working Group of Experts on International Standards of Accounting and Reporting (ISAR)”. Accountants are thus, considered to be at the hem of affairs to driving value to public sector organizations, private sector, and every other sector because they calculate values, translate figures into developmental policies, identify performance lapses, control the quantity of input and outputs into a production process, and, ensure adequate communication between any organization and its stakeholders and also recommend observed lapses in the flow of these functions. Accounting innovation capabilities besides, ensuring ethical performance of Accountants towards value creation; goes further to enhance sustainability pursuit by providing an enabling business environment for more integrative business planning, especially with the need for business organizations to incorporate stakeholder welfare, and, environmental, social and governance concerns in its corporate strategies. These roles are recognized and acknowledged by International and local organizations round the globe including International Federation of Accountants (IFAC), International monetary fund (IMF), Institute of Chartered Accountants of Nigeria (ICAN), Institute of Management Accountants (IMA), World bank forum on sustainable development, Association of Chartered Certified Accountants (ACCA), Global Reporting Initiative (GRI), Organization for Economic Cooperation and Development (OECD), and more (Inna & Alex, 2017). Even though there are 17 goals of the SDG, this study perceives 3 major agenda to be pivotal to the achievement of the other objectives and these goals are discussed below as it relates to the modern day Accountant.

Presently, the increasing amounts of nutrients and deposits from pollution into land and water have so much

deteriorated the quality of water worldwide which threatens the life of both humans and aquatic animals. To curtail this, SDG goal 6 seeks to ensure the sustainability of water and sanitation. The water sanitation and hygiene (WASH) scheme have already been adopted by several organizations in Nigeria; examples from the manufacturing sector are Dangote Plc, Unilever plc (Iliemena, 2020). A lot of persons in the rural and urban areas especially where industries are situated find it difficult to access clean water. Environmental management accounting as an offshoot of management accounting intervenes here to ensure that corporate strategies are targeted at ameliorating the long-run effect of these on the environment while ensuring proper communication of the values created and destroyed to the stakeholders (Dahash & Abdlamah, 2022). Water availability and sanitation is something humanity cannot do without. Consequently, changing accounting focus to value creation engages the accountant in innovative ways organizational processes could be conducted successfully with little or no harm to the environment. Achievement of this objective is projected in this study to go a long way in achieving goal 3, goal 7, goal 13, goal 14 and goal 15. The SDG 11 encourages the achievement of sustainable communities and cities by the year 2030. This goal highlights areas of performance that include corporate social responsibility performances. Advancements in achievement of goal 12 are perceived by the researchers to advance the achievement of goal 8, goal 9, goal 10 and goal 16. This study further focused on SDG 12 with the objective of ensuring sustainable consumption and production pattern. This pursuit will eliminate all form of economic waste and ensure greater efficiency in production process and consumption towards economic growth and development. With constant growth in population more pressure is put on energy, resources and material consumption and proper balance is needed to ensure continuous availability of these in the future. This study is also of the view that sustainable consumption and production pattern will in the long-run, address the issues of goal 1, goal 2, goal 4, goal 5 and goal 17. Schaltegger, Etxeberria and Ortas (2017) reported some specific recommendations of IFAC to Accountants in partnering with businesses towards sustainable development. This includes; “identify the environmental impacts of business operations and then correlate it with business’ strategy, model and performances; identify and integrate significant natural and social capital issues into decision-making system of organizations; evaluate the benefits of tackling environmental and social issues (cost reduction; revenue generation); organize internal systems and processes to ensure what matters is measured and managed; Link the strategy and resources to the creation of value for stakeholders; and, control costs and reducing waste through efficient management. This is where sustainable management of water and sanitation, sustainability of cities and communities and ensuring sustainable consumption and production pattern comes in as one of the core areas of management accounting. This has further been streamlined to environmental management accounting which ensures and accounts for proper management of environmental resources through effective input utilization (Iliemena, 2020). The efficient management of resources and stakeholder accounting could be the needed link to sustainability of cities, communities, resources, and the economy at large. However, it is debated that the accountant’s role in this regard might not be as significant as it appears and this formed the foundation of our study models and hypotheses.

In a bid to provide theoretical undertone to the concepts of this study, the researchers’ adopted the Performance Improvement (PIT) Theory and the Stakeholder theory. In the views of the PIT theory, good environmental practices like pollution control, compliance with environmental regulations, proper stakeholder communication through sustainability reporting and good reputation with business community, are very essential to environmental and corporate sustainability towards sustainable development (Iliemena, 2020). The Accountant has a point of duty to prepare the needed reports (integrated or sustainability reports) which maybe voluntary (Arshad, 2018), identify variances in expectations and suggest policy measures for improved performances and thus get the organization to be accepted by the stakeholder. Hence, these are areas that when focused on, organizational performances are expected to automatically improve in line with the PIT theory (Iliemena, Amedu & Uagbale-Ekatah (2022). From another theoretical point of view, the stakeholder theory opine that every corporations exist not for the its shareholders but the general stakeholder groups and this includes; the shareholders, lenders, customers, business community, etc. going by the Stakeholder theory, businesses therefore play major roles in ensuring the sustainability of cities and communities within which they operate. Stakeholders have been found to desire more level of responsibility from companies and more stakeholder-conscious in areas of sustainable development like negative impacts management, greenhouse gas (GHG) emission control, etc. and other related issues (Braam, Weerd, Hauck & Huijbregts, 2016). This is communicated to the stakeholders on period basic through the reports prepared by the accountants, which also sets accountants at a very strategic position on issues relating to the SDGs for organizational, community and economic success in the agenda. The two theories were found relevant to this study as they both viewed the business objective from the aspect of sustainable development and business concern beyond the profit motive. This thus, provided good skeletal framework for this study.

2.3. Empirical literature and gaps in extant study

There are very few empirical researches that explored the roles of accountants in the achievement of Sustainable

Development Agenda. However, this study reviewed works which were done in the past four years due to huge economic and social transformation that have taken place since 2019. Empirical submissions related to our study include the work by Parkinson and Chew (2022), which assessed the role of environmental management accounting (EMA) in helping societies, nations and businesses achieve the commitments and targets of the twenty-sixth meeting of the Conference of Parties (COP26) Global Climate Action summit of November 2022, in Scotland (Glasgow). More specifically, investigated how the internal management accounting functions of business organizations can provide templates for accounting for these five pillars; prosperity, peace, planet, people and partnership. The study was conducted in line with the sustainable development goals and challenged business organizations to identify what needs to be measured and how to go about it within the scope of environmental management accounting (a dimension of the functions of the accountants). This working paper also drew upon the United Nations' Division for Sustainable Development's (UNSD) recommendation in 2001 that Business Organizations, through environmental management accounting, should focus on areas such as identifying, collecting, analyzing and using physical and monetary information for management decision making purposes. Physical information means, information relating to the "use, flows and destinies of energy, water, wastes and materials". Monetary information on the other hand includes information related to environmental costs, earnings and savings" (Parkinson & Chew, 2022). The study concluded that environmental management accounting build on the base of the above recommendation of UNSD in identifying and examining what business organizations are currently reporting, and, evaluates the strengths and weaknesses of such reports and suggest areas of improvement towards sustainable development. Dahash and Abdlamah (2022) studied the role of environmental accounting in achieving sustainability of industrial companies. The study utilized primary data obtained using five-point Likert scale questionnaires. Structural equation modeling and partial least squares regression were used for hypothesis testing. Findings revealed evidence that environmental accounting plays significant role towards achievement of sustainable development. The study failed to specify the number of industrial companies used as population and sample of study which weakens the methodological reliability of the findings. Going further, Iliemena, Egolum and Agu (2021) conducted a study on how organizational resources can be used in achieving socio-economic sustainability in Nigeria beyond the COVID-19 era. The study surveyed the opinion of 76 Accountants in Nigeria and data gathered were tested using Z-test statistics. Results revealed among others that, efficient deployment of corporate resources which is within the purview of the accountant is highly essential for the achievement of socio-economic sustainability. The study emphasized on corporate resources and still failed to evaluate the specific roles of the accountants in the resources management process towards sustainable development. Another related study carried out by Hlalefang, Sanderson and Pierre (2021) explored the relationship of sustainable energy consumption with economic growth using data from BRICS countries between the periods 1990 to 2018. The relationship among the variables were analyzed using pair wise granger causality test and results showed that a long-run relationship exists between energy consumption, employment and trade openness and economic growth. The study failed to examine how accountants mediate in achieving the SDG goal of sustainable energy consumption. Adeyemi, Okewale, Adedapo and Ebipanire (2020) in their study investigated human capital accounting as a panacea to attainment of the SDGs in Nigeria using ample of 31 companies quoted on Nigerian Exchange Group (NGX) from 2013 to 2017. The study utilized secondary data from financial statements and sustainability report. In line with the results generated by Iliemena, Goodluck and Amahalu (2019), the correlation analyses conducted showed there is a significant impact of human capital accounting on attainment of the SDGs in Nigeria. However, this study was focused on the contribution of human capital accounting to SDG, thus, failed to determine whether there is a significant responsibility of Accountants in achieving these goals. Izzo, Ciaburri and Tiscini (2020) evaluated the extent to which voluntary SDGs' disclosure is diffused among 40 listed companies in Italy. Secondary data generated from annual reports, non-financial statements, sustainability Reports, Integrated Reports, and Letters to stakeholders issued by the organizations included through the period of the study (2016 – 2018), were used in the course of the study. Frequency analysis was carried out on collected data and findings showed that companies in Italy are highly ware of the SDGs but prefers non-financial disclosure pattern in showing their commitments to the SDGs. However, this paper failed to address the peculiarities that obtain in Nigeria. Manfred and Oladipo (2020) in Nigeria investigated the ways to meet the goals of electricity access, renewable and carbon goals in the power sector by 2030. The study utilized secondary data (from annual reports) and primary data from a sample of 28 respondents (13 from public sector and 15 from private sector). Findings from the study indicated that fossil fuel plays a significant role in helping Nigeria achieve its tier 1, tier 2 and tier 3 renewable energy goals by 2030. However, the study failed to address the roles of accountants in achieving the energy conservation objective. Ndubuisi-Okolo, Anekwe, and Ekwochi (2020) in their own study assessed the challenges that hinder environmental sustainability towards SDGs in Nigeria. Secondary data were used in the study while adopting exploratory research design. Results from the study revealed that poverty and environmental degradation which are part of the main issues of the SDGs, are part of the major constraints to SDG achievement in Nigeria. The study was also silent on the role of accountants on this even though

environmental sustainability reporting is in the purview of the role of the accountant.

More relatively, Firmansyah (2019) evaluated the role of accountants on the achievement the SDGs using interview and questionnaire approach for data gathering from 7 academics in west java. Data were analysed using Kendall's coefficient of concordance and findings indicated that accountants play a significant role in achieving the SDGs. However, the sample size of the study was very small which could have affected the result. Amedu, Iliemena & Umaigba (2019) examined the value relevance of sustainability reporting among manufacturing firms in Nigeria in pursuit of the SDGs. The study adopted a longitudinal research design. The sample comprised of thirty companies randomly selected from the floor of the Nigerian Stock Exchange. The study relied on secondary data retrieved from annual reports for the period 2010-2018. The hypotheses were validated using panel data regression technique. The results revealed that economic-sustainability and social sustainability reporting of quoted manufacturing companies were value relevant to the attainment of the SDGs. The study failed to establish whether accountants play a significant role towards the achievement of SDGs. Sorina-Geanina, Adriana and Comândaru (2018) studied the relevance of the role of accounting profession in achievement of the SDGs at national level relying on applied research using content analyses of documentations from national and international legislations on SDGs. Evidence from this study revealed that there are three levels to the roles of the accountant in driving corporate organizations towards the sustainable development agenda. Accountants at the strategic level exercise authorities as value creators, act as providers of SDG values while they act as keepers and reporters at the reporting level. However, the findings of the study were not supported by any statistical analytical model. Therefore, this creates a gap in literature. Adeyemi, Oseni and Awode (2018) examined the impact of human capital development (HCD) on poverty alleviation in Nigeria (1990-2017) using metrics of prevalence of poverty rate as a percentage of aggregate population, unemployment rates, real government expenditures on education and health. The sample size of the study was 70. The log-linear regression result showed that real government expenditure on education and unemployment rate both have significant impact on the prevalence of poverty in Nigeria. Besides, real government expenditure on health negatively affects the prevalence of poverty rate in Nigeria. Lawrence (2018) explored the challenges affecting the actualization of the SDGs in Nigeria. The study adopted a qualitative research design. Analysis was done using thematic approach. Findings revealed that the challenges facing the actualization of the SDGs in Nigeria among others include the continuous advancement towards making more potent weapons of mass destruction, improving legislation to prevent these proliferations and as well as coordinating scientific efforts towards better achievement of the SDGs. In addition, it was shown that education in its entire ramification is a key indicator for attaining the SDGs better. As a weakness, this study is also silent on the mediating role of accountants in actualizing the SDGs. Inna and Alex (2018) examined the role of accounting in delivering the SDGs by investigating the different approaches in structuring the role of the professional accountants in sustainable development. The authors synthesized the different approaches from extant literature and publications by international organizations so far on the role of the Accountants. The emphasis of the study was on sustainable development goals 12, 8, and goal17 using corporate sustainable development gradation (strategic, operational and reporting aspects). The study thus highlighted areas of the responsibilities of the professional Accountants in organizational decision making support system. The findings from the study showed that the functional roles of the accountants in the course of their duties and their positions in the business organizations correlate with the specified gradations of corporate sustainable development (strategy, operations and sustainability reporting). Accountants were found to exercise authority as value creators at the strategic level. It was reported that the Accountants provide sustainable development values at the operations level while at the reporting level, they play the roles of keepers and reporters. It was thus, concluded that the roles of the accountants in achieving the sustainable development goals is crucial because different groups of accountants have the responsibility to help corporate organizations achieve high quality and reliable sustainability reporting which is a basis for the SDGs. This study, however, failed to cover goals 6 and goal 11 and then the goals 8 and 17 incorporated in the study cannot be achieve without goals 6 and 11. This and other gaps identified with previous studies inform the motive for this particular study.

3.1. Research method

For this study, the researchers adopted the descriptive survey research design because it allows the opinion of a group to be studied from the opinion of true representatives of the population. The population of the study is made up of seven hundred and seventy-two accountants who are affiliated with the two prominent professional accounting bodies in Nigeria, ICAN and ANAN, in Anambra state as reported by Ujummadu (2021). Accountants were chosen as the population because they possess the most appropriate knowledge of the subjects under study from their practical field experience. The sample of study was determined as follows using Taro Yamane formula for sample size determination;

$$n = \frac{N}{1 + (e^2) N}$$

n = Sample Size; N = Population; e = sampling error of 10% at 90% confidence level.

$$\text{Therefore, } n = \frac{772}{1 + 772(0.1)^2}$$

$$\text{Sample Size} = 89$$

To obtain the needed information for the study, a structured questionnaire was administered on 89 Accountants both online (through district societies' social media groups) and physical copies. The section A was designed to obtain personal data about the suitability of the respondents to give reliable responses while the section B part of the questionnaire was designed in line with Five-Point Likert-Type Scale of 1 (Strongly Disagree), 2 (Disagree), 3 (Neutral), 4 (Agree), and 5 (Strongly Agree).

Reliability test result:

Table 1 below gives the result of the reliability test established with the aid of Cronbach's alpha coefficients.

Table 2: Test of Reliability of Research Instrument

Scale	Scale Items	Reliability Coefficients
Role of Accountants in SDG #6	4	0.8126
Role of Accountants in SDG #11	4	0.7901
Role of Accountants in SDG #12	4	0.8814

Source: Analysis Output (2022) Using SPSS Version 22

Each of the scales as shown in table 2 above passed the minimum reliability benchmark of 0.7. This implies that the research instrument used in the conduct of the study is reliable. The demographic characteristics of the respondents were analyzed using descriptive statistics such as percentage analysis, mean and frequency distribution tables while Mann-Whitney Test was used to validate the hypotheses at 5% significance level. This technique of data analysis was chosen because the data fit a non-parametric test tool and the responses were grouped into Yes/No categories. The score "0" is given when the respondents deny that accountants plays a role in achieving the identified SDGs while the score "1" is given when the respondents accept that accountants plays a role in achieving the identified SDGs. As is often used by other researchers, the test rule is to accept the null hypothesis if the *p-value* of the test is greater than 0.05; otherwise, it is rejected.

4.1. Data and outcomes

Response rate of questionnaires:

Table 3: Presentation of Response Rate

Item	Frequency	Percentage
Valid	62	69.66
Invalid	8	8.99
Unreturned	19	21.35
Total	89	100

Source: Field Survey, 2022

As shown in table 3, Eighty-nine (89) questionnaires were distributed, out of which 62 of the questionnaires which represent 69.66% were valid, 19 questionnaires were not returned while 8 questionnaires were invalid.

Gender classification of respondents:

Table 4: Gender Distribution of respondents

Gender	Frequency	Percentage
Male	29	46.8
Female	33	53.2
Total	62	100.0

Source: Field survey, 2022

Table 4 above, shows the classification of the respondents based on their gender. Thus, the respondents were made up of 29 males which represent 46.8% of the sample and 37 females representing 53.2% of the respondents.

Accounting education qualification:

Table 5: Distribution of Respondents Based on Accounting Educational Qualification

Highest Educational Level	Frequency	Percentage
Bachelor Degree	31	50.0
Master's Degree	23	37.1
Doctorate Degree	8	12.9
Total	62	100

Source; Field survey, 2022

Table 5 indicates the highest level of education of the respondents. 8 of the respondents (representing 12.9%) have a PhD. 23 (representing 37.1%) of them have a master's degree while half of the entire respondents (50%) have a bachelor's degree.

Years of experience:

Table 6: Distribution of Respondents Based on Years of Work Experience

Years of Work Experience	Frequency	Percentage
0 – 5	9	14.5
6 – 10	21	33.9
11 – 15	14	22.6
Above 15	18	29.0
Total	62	100

Source; Field survey, 2022

In Table 6, the respondents were grouped according to the length of time in years they have been practicing in the Accountancy profession. 9 persons representing 14.5% have worked for 0 - 5 years. 21 (33.9%) have worked for 6 to 10 years; 14 (22.6%) have worked for 11 – 15 years, while 18 (29%) have worked in the firm for over 15 years.

Null Hypothesis I

H₀₁: The role of accountants towards ensuring sustainable management of water and sanitation is not significant.

Hypothesis one test result:

Table 7: Mann-Whitney Test for Hypothesis I

a. Ranks				
	Accountants Play Significant Roles in Achieving SDGs	N	Mean Rank	Sum of Ranks
SDG #6	No	42	27.65	1161.50
	Yes	20	39.58	791.50
	Total	62		

b. Test Statistics ^a	
	SDG #6
Mann-Whitney U	258.500
Wilcoxon W	1161.500
Z	-2.447
Asymp. Sig. (2-tailed)	.014

a. Grouping Variable: Accountants Play Significant Roles in Achieving SDGs

Analysis Output (2022) Using SPSS Version 22

Mann-Whitney Independent Sample Test was applied in table 7 to ascertain whether the role of accountants towards ensuring sustainable management of water and sanitation is significant at 5% level. Table 7a gives the mean ranks of the respondents, showing that 20 respondents with the mean rank of 39.58 accepted that accountants play significant roles in achieving SDGs with respect to SDG #6. Although the number of respondents that denied this is 42, the mean rank of the respondents in this category is lesser than that of those who accepted. In other words, the respondents answered differently that accountants the role of accountants towards ensuring sustainable management of water and sanitation is significant. The answer with the highest mean rank is chosen and the Asymp. Sig. (2-tailed) is used to determine whether the difference in the responses is statistically significant.

Decision: Since the *p*-value of the test (.014) is less than 0.05, the alternate hypothesis is therefore accepted with

the conclusion that the role of accountants towards ensuring sustainable management of water and sanitation is significant at 5% level. This result is in agreement with previous works by Ndubuisi-Okolo et al (2020), Firmansyah (2019), and Dahash et al (2022) who had earlier found the accounting profession and the accountant as contributing significantly to the achievement of the SDGs.

Null Hypothesis II

H₀₂: The contribution of accountants towards ensuring sustainable consumption and production patterns is not significant.

Hypothesis two test result:

Table 8: Mann-Whitney Test for Hypothesis II

a. Ranks

	Accountants Play Significant Roles in Achieving SDGs	N	Mean Rank	Sum of Ranks
SDG # 11	No	42	26.51	1113.50
	Yes	20	41.98	839.50
	Total	62		

b. Test Statistics^a

	SDG # 11
Mann-Whitney U	210.500
Wilcoxon W	1113.500
Z	-3.175
Asymp. Sig. (2-tailed)	.001

a. Grouping Variable: Accountants Play Significant Roles in Achieving SDGs

Analysis Output (2022) Using SPSS Version 22

Mann-Whitney Independent Sample Test was also applied in table 8 to ascertain whether the contribution of accountants towards ensuring sustainable consumption and production patterns is significant at 5% level. Table 8a gives the mean ranks of the respondents, showing that 20 respondents with the mean rank of 41.98 accepted that accountants play significant roles in achieving SDGs with respect to SDG #11. Although the number of respondents that denied this is 42, the mean rank of the respondents in this category is lesser than that of those who accepted. In other words, the respondents answered differently that the contribution of accountants towards ensuring sustainable consumption and production patterns is significant. The answer with the highest mean rank is chosen and the Asymp. Sig. (2-tailed) is used to determine whether the difference in the responses is statistically significant.

Decision: Since the *p*-value of the test (.001) is less than 0.05, the alternate hypothesis is therefore accepted with the conclusion that the contribution of accountants towards ensuring sustainable consumption and production patterns is significant at 5% level. More relatively, results from the studies of Adeyemi et al (2018), Amedu, Iliemena and Umaigba (2019) and Iliemena (2020) had also earlier found that issues involving the business environment generally, as value relevant.

Null Hypothesis III

H₀₃: The level of the responsibility of accountants in making human settlements and cities safe, inclusive, resilient and sustainable is not significant.

Hypothesis three test result:

Table 9: Mann-Whitney Test for Hypothesis III

a. Ranks				
	Accountants Play Significant Roles in Achieving SDGs	N	Mean Rank	Sum of Ranks
SDG #12	No	42	26.83	1127.00
	Yes	20	41.30	826.00
	Total	62		

b. Test Statistics ^a	
	SDG #12
Mann-Whitney U	224.000
Wilcoxon W	1127.000
Z	-2.973
Asymp. Sig. (2-tailed)	.003

a. Grouping Variable: Accountants Play Significant Roles in Achieving SDGs

Analysis Output (2022) Using SPSS Version 22

Finally, Mann-Whitney Independent Sample Test was also applied here as in table 9 to ascertain whether the level of responsibility of accountants in making human settlements and cities safe, inclusive, resilient and sustainable is significant at 5% level. Table 9a gives the mean ranks of the respondents, showing that 20 respondents with the mean rank of 41.30 accepted that accountants play significant roles in achieving SDGs with respect to SDG #12. Although the number of respondents that denied this is 42, the mean rank of the respondents in this category is lesser than that of those who accepted. In other words, the respondents answered differently that the level of responsibility of accountants in making human settlements and cities safe, inclusive, resilient and sustainable is significant. The answer with the highest mean rank is chosen and the Asymp. Sig. (2-tailed) is used to determine whether the difference in the responses is statistically significant.

Decision: Since the *p*-value of the test (.003) is less than 0.05, the alternate hypothesis is therefore accepted with the conclusion that the level of responsibility of accountants in making human settlements and cities safe, inclusive, resilient and sustainable is significant at 5% level. The outcome here is further in line with the results generated by Sorina-Geanina *et al* (2018), Hlalefang *et al* (2021) and Ndubuisi-Okolo *et al* (2020).

5.1. Conclusion, Implication and Recommendations

The Accounting function in the 21st century is a multi-dimensional one with the change of accounting focus from profit to value creation. However, some extant literature and some organizations still relegate the accountant to the background in policy areas that relate to the SDGs. Even though it is generally known that Accountants prepare the annual reports including the sustainability and integrated reports but the role of accountants has far grown beyond that. Therefore, the extent of the role in driving sustainability and how it relates to the SDGs however remained a contentious one. Hence, this study investigated the extent of the role of the accountants in achieving the SDGs using the case of goals 6, 11 and 12. Based on the findings indicated above as shown in the test results, this study concludes that Accountants have significant roles to play in achieving the SDGs. By implication, involving Accountants from the planning stage of organizational and national affairs will greatly yield significant results in overall success of the SDGs. Consequently, this study makes the below recommendations as a way forward;

1. Business organizations should take advantage of the innovative abilities of the accountants by providing them with the needed work environment for better performance.
2. International organizations like the United Nations and others at the forefront of promoting the SDG drives should recognize the roles of the accountants by sponsoring researches towards promoting accounting innovations and seminars educating countries and businesses on the need to work with the accountants.
3. Accountants should constantly upgrade their knowledge profile through constant trainings and education to brace up for greater responsibilities in delivering the SDGs.

5.2. Limitations and suggestion for further studies

As this study could not cover all geographical regions and all SDGs, it is hereby further recommended that future studies be carried out to compare results across other regions both nationally and globally. Also, future studies may try to evaluate the extent of the roles of the Accountant in delivering the SDGs from the perspective of non-accountants or using other goals different from goals 6, 11 and goal 12.

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Data availability

The data used for this study will be made available on request for further research

Conflict of interest: The authors have all contributed to this work from the beginning to the end. Hence, no conflict of interest exists among the authors of this work.

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