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Establishing Policies and Standards to Implement Socially Sustainable Practices

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This is to certify that the doctoral dissertation by

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Abstract

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by

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Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Abstract

Liberia and sub-Saharan African (SSA) countries lag behind the rest of the world due to substandard social and physical infrastructure development. Poverty is persistently increasing, and fewer than half of the countries in SSA did not meet the development goal for reducing extreme poverty. SSA countries could progress much faster by developing their core infrastructure and reforming their institutions. The purpose of the qualitative, policy Delphi study was to determine how a panel of 16 purposively selected global experts on the United Nations Sustainable Development Goals (UNSDGs) in multinational organizations in the United States and Africa view the desirability, feasibility, and importance of forward-looking strategies for establishing policies and standards to implement socially sustainable practices for facilitating social and infrastructure development. The research question pertained to these strategies. The conceptual framework was based on policies and standards, social and sustainable practices, and social and physical infrastructure. Three iterative rounds of data collection and analysis of medians and frequencies resulted in the top 10 most desirable and important strategies in five categories derived from the UNSDGs practices. The five categories are: (a) sustainable development practices, (b) socially sustainable practices, (c) social infrastructure, (d) physical infrastructure, and (e) leadership. The implications for positive social change include the potential for SSA government institutional leaders to use these identified strategies for improving social and physical infrastructure development, enhancing the economy, and living standards for sustainable practices.

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Dedication

This dissertation is devoted to my beloved late father, Joseph Kumah Wiles, who wished me to emulate him by becoming a medical doctor. I did become a doctor but earned a PhD instead, and to my beloved late mother, Beatrice Tetee Doe, who lacked formal education yet valued education, labored relentlessly to support my schooling, and urged me even in her final moments to pursue a higher degree. To my dear departed stepfather, Emmanuel Gbono Ricks, who provided me with a strong base from elementary to junior high school. To my beloved late cousin, Arthur Padmore, I thank you for encouraging me to pursue my goals. To my beloved late friend, Dr. Amos Sawyer, for seeing the worth in me that I had ignored and for inspiring me. Thank you. To my beloved late family friend, George Cooper, thank you for cheering me on. You were always there for our family. Thank you.

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Chapter 1: Introduction to the Study

Sub-Saharan African (SSA) countries lag behind the rest of the world in social sustainability, social infrastructure, and physical infrastructure development, which has caused slow economic growth. McKinsey's Global Institute report showed that about 80% of infrastructure projects failed at the feasibility and business plan stage (Lakmeeharan et al., 2020). The World Bank Group's (2020, 2025) reports indicated that the challenges of SSA countries are (a) unestablished policies and standards, (b) dysfunctional government institutions, (c) inadequate infrastructures, and (d) financial and technical constraints. SSA government institutions could establish policies and standards to implement socially sustainable practices for facilitating social and physical infrastructure development. SSA countries could progress faster by developing their core infrastructure and reforming their institutions (Lakmeeharan et al., 2020; Organization for Economic Cooperation and Development [OECD], 2019; World Bank Group, 2017, 2025). The cross-regional corridors and urban infrastructure also catalyze Africa's transformation and regional integration by developing policies and standards for socially sustainable practices (Lakmeeharan et al., 2020; OECD, 2019; World Bank Group, 2017, 2025). Establishing policies and standards is critical because, without policies and standards, government institutions cannot implement socially sustainable practices to develop economic growth and function properly.

Policy governance is important in alleviating environmental degradation and human development. Generally, human development is a significant theme in the UNSDGs, and this whole human development is critical in SSA nations (Asongu, 2018;

Asongu & Odhiambo, 2019, 2020, 2021). Poverty is persistently increasing, and less than half of the countries in SSA did not meet the development goal for reducing extreme poverty. Research showed a growing need for organizations to incorporate social sustainability in their core operations (African Union Commission & Organization for Economic Cooperation and Development [AUC/OECD], 2024; Ajmal et al., 2018). Social sustainability practices improve the financial performance of organizations and promote economic growth in SSA countries. The connection between poverty, economic growth, and inclusive development could be comprehended from the perspective that economic success has no trickle-down effect on the disadvantaged population.

Background of the Study

SSA government institutions need socially conscious leaders to establish policies and standards to implement socially sustainable practices that prevent poverty and allow them to participate in the global market. The literature selected revealed that developing countries ignored the importance of infrastructure development. SSA countries have not studied and explored the conceptual framework of socially sustainable values for incorporating organizations (Ajmal et al., 2018; Inderst, 2020). The selected scholarly articles are valuable and pertain to leadership and government institutions, policies and standards, the implementation of social sustainability, and the facilitation of social and physical infrastructure development.

The controversial role of technology in the concept of sustainable development is for the common good. Sustainable technology involves taking institutionalized actions to facilitate and enhance the social awareness of new technology users (Adamczyk et al., 2019). New technologies create situations for developing a sustainable future civilization. Adamczyk et al. further found that the challenge for a sustainable future is ensuring participants' safety, freedom, and privacy in a technologized world. The World Bank Group's report introduces the Forest Law Enforcement and Governance and Trade (FLEGT) initiatives to confront illegal logging. Even though the FLEGT initiatives have been one of the most significant actions of West African Regions to strengthen timber legality and compliance, trade monitors along the global supply chain remain limited (Adams et al., 2020). Government institutional capacity trajectories showed a false sense of existence and no capacity for advancing the principles of good forest governance to certify legality in the forestry industry. A voluntary partnership agreement is a binding bilateral trade agreement between the European Nations and a timber-exporting country outside the European Nations. The agreement was created as a voluntary partnership agreement and became the central component of the European Nations' FLEGT to reduce the trade of illegal timber products. The literature is crucial and essential to the current study because it provides critical policies for monitoring illegal timber exports from West African Regions to European Nations and discusses technology to facilitate socially sustainable practices for the common good.

The role of infrastructure is to deliver various sustainable development goals (SDGs) and targets within the 2030 Agenda. The rapid demand for infrastructure services is due to demands from population development, urbanization, economic growth, and climate change (Adshead et al., 2019, 2024). Global government institutions will spend about $90 trillion U.S. on sustainable infrastructure over the next decade by 2050

(Adshead et al., 2024). The AUC/OECD report explored policies that prepare African organizations for growth opportunities. Their report revealed that Africa's growth markets show excellent prospects for profitable conversion, and domestic demand is the fundamental driver of this profitable conversion (AUC/OECD, 2024). The AUC/OECD report also indicated that improving infrastructure could reduce organizational costs, enhance trade and economic growth across SSA countries, and give African decision-makers tools for national, regional, and international policy negotiations and reforms. The literature was crucial to the current study because it explores policies to strengthen government institutions for growth opportunities. The literature further highlights the significance of developing an informed process for infrastructure decision-making to capitalize on opportunities to reach these goals through investments and policies.

Social sustainability has been ignored and is the least studied among the three aspects of sustainable development: environmental, social, and economic. Business organizations seeking sustainability must understand all three factors. The concern about integrating socially sustainable practices in organizations' daily activities is progressively growing as more organizations commit to sustainability (Afshari et al., 2022; Ajmal et al., 2018). Africa lags in development despite autonomous governance. Despite abundant resources, Africa lacks responsible leaders, especially political leaders (Ahmad et al., 2023; Kagema, 2018). There is no socially responsible leadership in SSA countries, and political leaders have ignored the basic needs of their citizens and focused on personal wealth (Ahmad et al., 2023; Kagema, 2018). Most SSA leaders seek to retain power and gain wealth at the expense of their constituents, which has created a dire situation in SSA countries, where people struggle to access poorly managed resources. The literature is critical to the current study because it indicates that socially responsible leadership ensures socially sustainable development and provides a comprehensive social sustainability framework that organizations could adopt to establish policies and standards for implementing socially sustainable practices.

Improving governance standards affects environmental quality in 44 countries in SSA. Functional institutions are essential for improving governance standards and qualities to moderate the effect of carbon dioxide emissions and environmental degradation (Asongu & Odhiambo, 2019, 2020, 2021). Asongu and Odhiambo used a combination of institutional governance, general governance, political governance dynamics, and economic governance. Institutional governance includes regulation and ethical behaviors; general governance encompasses political, economic, and institutional management dynamics (Asongu & Odhiambo, 2020). Political governance comprises political stability, voice, and responsibility, and economic governance consists of government effectiveness and the rule of law quality (Asongu & Odhiambo, 2021). The literature is essential to the current study because functional institutions are crucial for improving governance standards and quality to monitor the effects of carbon dioxide emissions and ecological degradation.

The sustainable development index (SDI) reduces social, economic, environmental, and institutional conflicts. Most governments must implement rigorous planning to achieve sustainable goals (Carraro, 2024; Kusakci et al., 2022). In the social dimension, welfare is weak in most municipalities, especially in rural and semi-arid regions. Urban areas have better infrastructure to meet the needs of health, education, energy, water supply, and basic hygiene (Carraro, 2024; Kusakci et al., 2022). Eizenberg and Jabareen (2017) and Hellberg (2023) proposed a new comprehensive conceptual framework for social sustainability because the connection between practice and theory is missing. Risk is a significant concept of sustainability. The current risk conditions are due to climate change and the uncertainties that ensure it presents a severe social, regional, and physical threat to modern human societies and their habitats (Eizenberg & Jabareen, 2017; Hellberg, 2023). In addition, they proposed that social sustainability sought to oppose social problems and agreed that sustainable development efforts are undermined without socially oriented practices. The literature is vital to this research because it provides a new conceptual framework for social sustainability and identifies how most governments need rigorous planning to achieve sustainable goals.

Limited theoretical and empirical studies exist on social infrastructure regarding social sustainability concepts. Grum and Grum (2020) found the connection between social infrastructure and elements inside a quality-of-life structure, and they concluded that social infrastructure plays a fundamental role in people's lives, improving their quality of life. As a result, explicit connections between such concepts are obscured by unclear definitions, making it challenging to identify and integrate these concepts into a social sustainability framework. Hall et al. (2018) evaluated the effectiveness of recruiting and retaining participants using an expert panel for e-Delphi surveys. Using personalized email, frequent communication, and recruiting passionate experts helped retain expert panelist participants until the end of the research and highlighted that e-

Delphi research methods are cost-effective (Hall et al., 2018). The literature is critical to this research because the research design is qualitative policy Delphi research, and the literature supports a comprehensive understanding of the importance of recruiting and retaining expert panelists until the end of the study. The literature also adds value to the current study because it confirms a relationship between social infrastructure, social sustainability, and quality of life.

Institutional demands on suppliers in developing countries affect the implementation of socially sustainable practices. Huq and Stevenson (2020) contributed to implementing ethical practices in challenging institutional environments. Implementing ethical practices may particularly interest organizations seeking to implement change and reform in geographically and culturally distant suppliers. Kharazishvili et al. (2020) identified society's social safety welfare for developing countries to meet sustainable development standards. Classifying society's current state of social safety, considering the indicators of the shadow economy, and developing its strategic scenarios are components of sustainable development. They developed the structure and a list of indicators considering three elements of social safety: (a) the standard of living, (b) the demographic factor, and (c) the quality of life. The literature is significant to this research because it discusses the social safety of society for developing countries that meet sustainable development standards and demonstrates elusive differences in the institutional demands of developing countries' suppliers.

Africa's infrastructure is uncertain. Africa's infrastructure uncertainties are due to (a) selection of low-impact projects, (b) preliminary feasibility study and business plan,

(c) delays in obtaining licenses, approvals, and permits, (d) high risk allocations, and (e) preliminary program delivery plans (Lakmeeharan et al., 2020). Lakmeeharan et al.'s report revealed that two-thirds of the world's population is deprived of electricity and lives in SSA countries. Latham and Layton (2019) explored a socially sustainable infrastructure network that connects people to public spaces. Cities need social infrastructure to create opportunities for people to socialize. Public spaces are also fundamental to the concerns of people within urban environments. They highlighted that the value of social spaces is often not immediately visible; however, people only notice when something goes wrong or when social space is removed. They further contended that social infrastructure is essential, and citizens should protect these spaces and document how social spaces function and can be experienced as democratic and rewarding. The literature is central to the current study because the research highlights that social infrastructure matters and that citizens should protect these spaces. The literature further provides reasons for Africa's infrastructure uncertainties and the importance of strengthening government institutions to establish standards and policies to implement socially sustainable practices for facilitating infrastructure development.

Leadership accountability is when organizations face economic, environmental, and social challenges relating to actions and inactions to internal and external stakeholders. The conceptual framework of responsible leadership can contribute to stakeholder health and well-being (Macassa et al., 2019). The leaders' leadership style and the human resources policies can shape the future of the organizations, and emotional intelligence (EI) helps leaders make decisions and demonstrate socially conscious leadership behaviors (Macassa et al., 2019). The life of an organization depends on leadership's efforts to reduce employee turnover in direct proportion to employee satisfaction, which is related to the behaviors and attitudes of leaders toward employees (Macassa et al., 2019). The literature was essential to the current study because socially conscious leaders need EI to build stakeholder relationships.

Critical infrastructure constructions in SSA countries include energy and roads. SSA countries need infrastructure development to achieve requirements for industrialization and economic progress and to meet the needs of citizens, which will reduce the continent's high poverty levels (Mutanga et al., 2018; Simshauser, 2023). Even though climate change is a risk to African countries, discussions held in Western nations on climate change often do not include leaders from African countries (Mutanga et al., 2018; Simshauser, 2023). The rapid increase in greenhouse gas emissions was due to the progressive growth of industrialization and economies and high consumption in East and Southeast Asia, which lowered the poverty rate (Mutanga et al., 2018). High poverty, low industrial development, and low consumption levels resulted in extremely low carbon emissions (Simshauser, 2023). The literature was vital to this research because it examines the effects of critical infrastructure elements, such as energy, on poverty in SSA countries.

Digitalization positively impacts economic growth in both OECD and SSA economies. Myovella et al. (2020) examined the comparison of digital contributions to the economic development of SSA with the economic report of the OECD. The rise of digital technologies in developing countries and their limited infrastructure has led to the development of different institutions for implementing standards and policies, and digital infrastructure has increased employment while improving the quality of institutions (Ndubuisi et al., 2021). Ndubuisi et al. (2021) analyzed that the positive impact of digital infrastructure on jobs in the service sector depends on education, the quality of institutions, and the macroeconomic environment, as reflected by inflation. The literature was essential to this study because it examines the effect of digital infrastructure on the quality of institutions for increasing employment and for e-government (e-gov) to establish standards and policies for implementing socially sustainable practices.

SSA countries need an extreme about-face to establish policies and standards. Missing fundamental principles are the need for education in ethics and a mindset change (Park, 2019). A government that promotes incompetence through extremely inappropriate government controls, non-competitive policies, and leadership incompetence has failed to achieve change and sustainability, resulting in incompetent governance, insufficiencies, and poverty (Park et al., 2022). Challenges in African countries are mainly caused by non-compliance with policies and standards, and the wrong mindset about corruption. Strambach and Surmeier (2018) explored the roles and importance of standard takers and standard makers and the role of knowledge-intensive intermediaries in setting global sustainability standards. Without input, the global standards imposed on African stakeholders negatively impact local sustainable development (Strambach & Surmeier, 2018). Knowledge is imperative in standards-building processes, including sustainability standards that integrate social, ecological, and economic elements for institutional transformation (Strambach & Surmeier, 2018). The literature was crucial to the current study because it highlights policies and standards that Western countries imposed on SSA countries and identifies essential principles for Africa to gain economic development through education, a growth mindset, and ethical behaviors.

The OECD and the International Institute for Applied Systems Analysis (IIASA) explored sustainable infrastructure and sound quality that meets society's needs, which are critical to human well-being, economic growth, and environmental sustainability. Inadequate infrastructure is disastrous for our environment because poor quality infrastructure contributes to air pollution, reduces the quantity and quality of water, and creates biodiversity loss and environmental degradation (OECD, 2019). Inadequate infrastructure can also widen the gender gap, worsening it in developing countries due to discriminatory legislation and social norms (OECD, 2019). Sustainable connectivity through technology is essential to gender equality. Women and girls are vulnerable to violence, which affects their well-being and participation in the job market. Closing the infrastructure gap in SSA countries is critical.

The World Bank Group (2017, 2025) report revealed that enhancing institutions and processes could make public investment more efficient in SSA countries. The World Bank Group analyzed the impact of public investment on economic growth, which could be improved if SSA countries implement policies that increase public investments. Their report confirmed that robust public investment management systems and enhanced institutions and procedures for evaluating, selecting, and supervising projects are policies that countries must apply to ensure a solid public investment system. The World Bank Group reports are central to the current study because strengthening institutions and procedures to enable more capable public investment could establish economic growth, and enhancing women's access to communication networks and services can help sustain gender equality.

Problem Statement

The situation that motivated me to explore the literature was to determine how sub-Saharan African government institutions could establish policies and standards to implement socially sustainable practices to facilitate social and physical infrastructure development due to inadequate social and physical infrastructure development. Although researchers have explored policies and standards for SSA countries, they have not researched how SSA government institutions could establish policies and standards to implement socially sustainable practices to facilitate social and physical infrastructure development. Government institutions in SSA countries cannot implement socially sustainable practices due to unestablished policies and standards. Adjei-Bamfo et al. (2019), Asongu and Odhiambo (2021), Huq and Stevenson (2020), Park et al. (2022), and Park and Dreamson (2023) studies are consistent with reports from Lakmeeharan et al. (2020) and AUC/OECD (2024). Reports from AUC/OECD (2024), Lakmeeharan et al. (2020), Hynes et al. (2020), and the World Bank Group (2017, 2025) showed that inadequate infrastructure policy frameworks have resulted in limited infrastructure development and limited access to energy. As a result, SSA countries fall behind other countries, such as India, Brazil, and China.

Unestablished policies and standards result in limited infrastructure, poor track records, and closing projects at the financial level. McKinsey Global Institute, OECD, IIASA, and the World Bank Group reports showed that about 80% of infrastructure projects failed at the feasibility and business plan stage (Hynes et al., 2020; Lakmeeharan et al., 2020; World Bank Group, 2017, 2025). The reports indicated that infrastructure investment has been as low as 3.5% per year since 2000 and needs to increase to 4.5% if the continent is to close the infrastructure gaps (Lakmeeharan et al., 2020; World Bank Group, 2017, 2025). The literature was essential to the current study because it identified the investment needed to close the infrastructure gap.

Purpose of the Study

The purpose of the current qualitative policy Delphi study was to determine how a panel of 16 purposively selected global experts on the UNSDGs in multinational organizations in the United States and Africa view the desirability, feasibility, and importance of forward-looking strategies for establishing policies and standards to implement socially sustainable practices for facilitating social and physical infrastructure development. The study included a purposeful sample of 16 expert panelists selected from LinkedIn who were experts in one or more elements of the UNSDGs. A 15-expert panel sample size was appropriate for a homogeneous study because a panel of 15 experts will yield satisfactory results (Musa et al., 2019; Stitt-Gohdes & Crews, 2004). The current study was consistent with how multicultural leaders identify critical factors for developing standards and policies to implement effective socially sustainable practices (Brady, 2015; Fefer et al., 2016). The policy Delphi research design involved iterations of sequential rounds; however, I used three rounds of iterative questionnaires in the current study. The qualitative policy Delphi approach addresses a problem sufficiently (Parsons, 2002; Turoff, 1970). The current study results include recommendations for establishing policies and standards to implement socially sustainable practices.

Research Question

How does a panel of global experts on the UNSDGs in multinational organizations in the United States and Africa view the desirability, feasibility, and importance of forward-looking strategies for establishing policies and standards to implement socially sustainable practices for facilitating social and physical infrastructure development?

Conceptual Framework

The concepts that grounded the current study include the sustainable development concept and theory, the social sustainability concept Brundtland Report (Brundtland, 1987), Walton’s institutions and infrastructure theories (Hamilton, 1919), the theory of appropriate technology (Schumacher, 2012), e-gov concept (National Research Council, 2007), policy concepts and standards theory, (Bloom, 1956) and leadership concept (Taylor, 1911). The World Commission on Environment and Development (WCED) based the concept of sustainable development on sustainability theory; also, sustainable development is a concept and a theory (Adshead et al., 2019; Brundtland, 1987; Delanka-Pedige et al., 2021; Secundo et al., 2020). The Brundtland report, released in 1987 by the WCED, introduced the concept of sustainable development and defined how to achieve the concept (Brundtland, 1987). Norwegian Prime Minister Gro Harlem Brundtland chaired WCED, and the United Nations sponsored the publication (Brundtland, 1987; Secundo et al., 2020). The WCED explored the causes of environmental degradation, attempted to understand the interconnections between social equity, economic growth, and environmental problems, and developed policy solutions that integrated all three areas.

Sustainable Development Concept and Theory

The sustainable development concept and theory are to meet the current requirements without compromising the capacity of future generations to meet their constraints. Social sustainability and sustainable development are ways to protect and safeguard the values of future generations, including human rights, maintenance of diversity, protection, promotion of health, safety, intragenerational, and equity (Grum & Grum, 2020; Kaur & Kander, 2023; Pieper et al., 2019; Prus, 2019; Secundo et al., 2020). Also, social sustainability and sustainable development are within social values and social capital (Fitawek & Hendriks, 2024; Hellberg, 2023; Mani et al., 2018). Scholars based the concepts of sustainable development, social sustainability, leadership, and infrastructure on the theory of institutionalism and policies and standards (Bloom, 1956; Hamilton, 1919). The theory of institutionalism and the theory of policies and standards are associated with management, economics, environment, and social sustainability.

Social Sustainability Concept

Social sustainability and sustainable development concepts and theories have three pillars: economic, social, and environmental. These concepts have a worldview of human behavior based on the model of a level of human ecology. These concepts integrate four elements: (a) environmental resources, (b) population, (c) material culture, (d) technologies, (e) space-time, (f) connectivity, and (g) geography (Adshead et al., 2024; Fitawek & Hendriks, 2024; Pieper et al., 2019). Social sustainability is a concept and a theory. Social sustainability has four elements: (a) fairness and equity, (b) diversity, (c) quality of life in society, and (d) democracy, in which the community provides economic and social benefits (Grum & Grum, 2020; Kaur & Kander, 2023; Pieper et al., 2019). Scholars based the concept of social sustainability on societal change and interdependence with ecological change based on sustainable theory.

Institutional and Infrastructure Theory

Institutional theory is used as a theoretical framework to analyze social phenomena. Institutional economics and economic theory have evolved (Hodgson, 2000; North, 2025). Institutional theory describes how institutional forces bring about conformity behavior in social settings and perceives the social world as a considerably included social order that provides for institutionalism (Adams et al., 2020; Hodgson, 2000; North, 2025). Institutions are essential because they make decisions, enforce rules and regulations for proper administration, implement them for the required purposes, and have broadened since their inception.

The government uses institutional infrastructure to bind a field and govern field interactions. The concept of institutional infrastructure is related to regulating organizational fields (Greenwood et al., 2017; Hinings et al., 2017; North, 2025). The word infrastructure is an English word borrowed directly from the French in 1875 during the construction of railroad lines, public water systems, telegraph lines, and fiber optic cables. In 1875, the word “infrastructure” first appeared in a report on the French railway project to designate the understructure of railways (Greenwood et al., 2017; Grum &

Grum, 2020). “Infras” is a Greek root word meaning beneath, which means element provides coherency and elaboration to a field, and there are two types of infrastructures: physical and social (Greenwood et al., 2017; Hinings et al., 2017). Physical infrastructure refers to physical networks essential for the functioning of modern industry, including roads, bridges, railways, buildings, and airports (Greenwood et al., 2017). Moreover, social infrastructure refers to all institutions that maintain economic, health, social, and cultural standards, such as educational programs, healthcare, parks, tourism, and communities.

Policy Concepts Standard Theory

The word policy is difficult to comprehend in terms of general perspectives because it does not focus on one specific area or program as much as the vital component hidden in policy development. The word policy is a broad concept that embodies several dimensions (Torjman, 2005). The challenge is to understand coherently and persuasively the meaning of this term. However, the public policy objective is to achieve the desired goal considered by all members of society (Torjman, 2005). An example of public policy determines the quality of the air we breathe and the water we drink, and it affects the food we eat and how it is harvested, distributed, sold, and paid for. Transport is another example of a domain regulated by various public policies, most of which are concerned with the safety of travelers. Public policy affects intensely and universally (Mattheis et al., 2023; Torjman, 2005; Yang, 2024). Public policy affects every component of our lives.

There are three different ways of looking at policy. The first is substantive and administrative policy; substantive policy concerns the legislation, programs, and practices that govern the critical aspects of community work. Administrative policy focuses on administrative processes that collect neighborhood data and assess complex community programs (Chinoda & Kapingura, 2023; Mattheis et al., 2023; Torjman, 2005; Yang, 2024). The second is vertical and horizontal policy. A single organizational structure develops vertical policy and generally starts with a comprehensive overarching policy, sometimes called corporate or framework policy (Chinoda & Kapingura, 2023; Mattheis et al., 2023; Torjman, 2005). Two or more organizations develop horizontal policies and create integrated policies between parts of an organization or among organizational components in the same hierarchical position (Torjman, 2005). The third is a reactive and proactive policy.

Reactive policy emerges in response to a concern or crisis that may be addressed. Two examples of reactive policy are health emergencies and environmental disasters. Deliberate choice introduces and pursues proactive policies (Chinoda & Kapingura, 2023; Mattheis et al., 2023; Torjman, 2005). An example of proactive policies is national skills. Knowledge and learning are progressively identified as vital keys that open doors to economic wealth and social well-being (Chinoda & Kapingura, 2023; Mattheis et al., 2023; Torjman, 2005). The fourth is current versus future policies. Policies currently on the public agenda, such as healthcare, usually have a high profile, whereas future policy is a formal process to modify or improve the existing arrangement (Chinoda &

Kapingura, 2023; Mattheis et al., 2023; Torjman, 2005). SSA government institutions have unestablished policies, resulting in inadequate infrastructure development.

Standard Theory

The standard theory goes back to a philosophy by Benjamin Bloom through a taxonomy of educational objectives. The standard approach is based on the concept that students must develop higher order thinking skills, a movement away from memorized learning. Bloom's philosophy was significant in the first standard-based, outcome-based reform (OBE). Standards concerning economic and social-ecological issues have become an element of global governance (Bloom, 1956; Hajian & Kashani, 2021; Yang, 2024). Global-based measures are critical to accommodate citizens' context-specific needs in developing countries that are not applying standards or non-existent ones (Mattheis et al., 2023; Strambach & Surmeier, 2018). Standards could promote economic efficiency, reduce transaction costs, and promote sustainable development processes locally.

Theory of Appropriate Technology

Economist Ernst Friedrich Schumacher (2012) described a new theory of appropriate technology in the book *Small is Beautiful: A Study of Economics AS If People Mattered*. The theory of appropriate technology is an ideological movement that believes technology choices and applications should be small-scale, decentralized, labor-intensive, energy-efficient, environmentally sound, and locally controlled (Oldenziel & Trischler, 2022). Technology, technical innovation, and technological principles are supposed to affect the future and collectively refer to today's society. Technology values substantially vary from social ones. The future of a technological society seems to be a scientific construct designed to promote individual technological innovation (Adamczyk et al., 2019; Akpan-Obong et al., 2023; Khurshid et al., 2024). Ethical considerations surrounding the transformations of human awareness and control of technological values in modern societies appear to be disregarded by political decision-makers (Akpan-Obong et al., 2023; Khurshid et al., 2024; Vilčinskas, 2018). A sustainable technological future involves embarking on institutionalized actions to help heighten social recognition of new technologies among consumers. Long-term and sustainable development will be achievable only by returning social actors to their authentic subjectivity regarding a hybrid techno-social world (Adamczyk et al., 2019). Technology is becoming a complicated task that signifies the universal foundations of the developing civilization of the future (Adamczyk et al., 2019; Akpan-Obong et al., 2023; Khurshid et al., 2024). The 1980s saw the rise of world ecologism, blending nature preservation and social development; in the 1990s, scientists increased the greenhouse effect and ozone hole (Adamczyk et al., 2019). Technology changes how we describe the approach to evaluating the issue of advancement in a progressively complex world.

E-Government (e-gov) Concept

The Paperwork Reduction Act, Public Law 96-511, was passed in 1980 as the U.S. 1977 Commission on Federal Paperwork phased out. The Paperwork Reduction Act, the Federal Government first used electronic government to enhance service delivery through technology in 1997 (Grönlund & Horan, 2005; Myovella et al., 2020; National Research Council, 2007). In the late 1990s, the federal chief information officer’s council emphasized IT projects that provided services to citizens and shifted away from backroom operations (Grönlund & Horan, 2005; Myovella et al., 2020; National Research Council, 2007). The government conducted the National Performance Review (or the Reengineering government) effort, emphasizing IT-enabled government (Grönlund & Horan, 2005; Myovella et al., 2020; National Research Council, 2007). The government uses e-gov to exchange information electronically with citizens, businesses, and other government agencies.

E-gov facilitates government services, transactions, and the integration of many standalone systems and services. E-gov was first called digital government or electronic governance in the 1990s and was used for shared experiences among practitioners (Grönlund & Horan, 2005; National Research Council, 2007). The government is made up of many different agencies and processes. The terms e-gov, e-signature, e-payment, and e-commerce emerged from the Internet boom in the late 1990s (National Research Council, 2007). However, computing in the government went back to the early 1970s and was referred to as office automation (Grönlund & Horan, 2005; Myovella et al., 2020; National Research Council US, 2007). The concept is more concerned with external use, such as services to citizens. More recently, new concepts appeared to gain popularity in new technology, such as m-Government, where *M* refers to mobile technology.

Leadership Concept

Leadership influences stakeholders to identify and accomplish the organization's mission and objectives. Leaders identify with their organization and motivate their followers to obtain the organizational goal (Ahmad et al., 2023; Harris et al., 2022; Saha et al., 2023; van Niekerk & van Niekerk, 2013). The leadership style of management may determine the future of an organization. Leadership is a process distributed throughout society and associated with a social movement, culture, and history (Edwards, 2011; Harris et al., 2022). Distributed leadership is complex and has numerous labels, such as dispersed, institutional, shared, multidirectional, and rotated leadership (Edwards, 2011; Harris et al., 2022). Even though this may sound more confusing, the term underscores the various levels of dissimilation, such as institutional leadership in an organizational framework or shared leadership in group settings. For example, the concept of conscious leadership is the intentional method that a leader takes, which is critical to consider the factors of short-term and long-term elements of leadership. Organizations must be conscious of providing quality leadership and enhancing their followers' quality of life.

Relationship of Concepts to Research Problem, Purpose, and Nature

The logical relationship between the framework presented and the nature of this study includes the concepts and theories of sustainable development, social sustainability, institutional infrastructure, appropriate technology, e-gov, standards and policies, and conscious leadership. The framework was widely used in all aspects of economic and social-ecological issues based on Samuelson's theory of institutions and Samuelson's infrastructure theory (Brundtland, 1987; Eizenberg & Jabareen, 2017; Hamilton, 1919; Schumacher, 2012; Torjman, 2005). Notwithstanding, more frequently, with analysis of social phenomena that see the social world as considerably included, institutions are built into the social order. The influence of the social order described how institutional forces brought about conformity in social settings (Adams et al., 2020; Hodgson, 2000; Lawrence & Shadnam, 2008). Institutions are essential because they need leaders to make decisions and implement rules and regulations for proper management (Adams et al., 2020). Institutions, infrastructure, leadership, e-gov, sustainability, environment, economic growth, and social issues are the common threads between theories and concepts in the current study.

Nature of the Study

The specific research design included a policy Delphi to answer the research question in this qualitative study. Qualitative policy Delphi research is consistent with how multicultural leaders will identify critical factors for establishing policies and standards to implement effective socially sustainable practices for facilitating social and physical infrastructure development (Brady, 2015; Fefer et al., 2016). The current study is consistent with Brady's (2015) and Fefer et al.'s (2016) qualitative policy Delphi technique to facilitate knowledge exchange and idea generation. Applying a policy Delphi research design allowed diversity inclusion because it permits overlooked participants who are experts from lower power positions to seek and observe past or current policy results that could impact future policy (Hall et al., 2018). The qualitative policy Delphi allows a researcher to document accurately how policy or policy change can modify the operations of the programs, institutions, and individuals that the policy or policy change was designed to influence (Manley, 2013). I used a qualitative policy Delphi research design to produce the most significant opposing views on possible resolutions to a policy issue by ensuring all necessary options are discussed (Manley, 2013). Participants were selected from the UNSDGs elements to present all policy issues and opinions under study (Franklin & Hart, 2006). A qualitative policy Delphi generates ideas by exploring options and varying perspectives of consensus, points of agreement and disagreement, clarifying arguments, and exposing the strength of evidence related to diverse opinions. The qualitative policy Delphi research is uniquely suited to capture immediate changes in an institution's internal and external environment.

Data Collection Tools and Sources

I facilitated dialogue and interactions among 16 selected aggregated panelists working in multinational organizations' headquarters in the United States and Africa that specialize in establishing policies and standards for sustainable development in developing countries. I selected expert panelists with diverse backgrounds from LinkedIn. The planned qualitative policy Delphi research design does not allow expert panelists to interact face-to-face. I identified potential panelists by leveraging my networks, scanning conference lists, and searching LinkedIn and Twitter. I contacted participants via published email or direct mail from my LinkedIn and Twitter networks, and socially sustainable development groups on LinkedIn and Twitter. I sent an initial email inviting experts to participate in a panel with background information about the topic under study. The email also included the objective of the research, a list of questionnaires about participants' backgrounds, demographics, and knowledge in establishing standards and policies in social sustainability practices, information on the usage and storage of data, completing an informed consent statement, and my contact details. I used data points from Round 3, the final consensus round reached by expert panels responding to the research question.

I selected experts by searching for people with experience in implementing social sustainability practices in developing countries who are credible and recognized on international issues, have knowledge of the topic under study, and represent many perspectives of the issue under exploration. Participants were specifically selected using identified criteria and snowball referral strategies. I classified experts based on their suitability within the predefined guidelines, including professional experience in sustainable development, present experience in international work, and professional experience in establishing policies for socially sustainable practices. Initial selection began by identifying individuals' involvement in sustainable development and expertise based on papers published and work accomplished in academic and administrative positions. The criteria that determined an expert were consistent with individuals' current knowledge of social sustainability practices, international recognition, and credibility based on their understanding of the topic and representation of diverse perspectives to include all opinions. Individual organizations' activities involving economic development, environmental conservation, and social justice are elements of sustainable development (Kaur & Kander, 2023; Pieper et al., 2019; Secundo et al., 2020). I analyzed individual public profiles on LinkedIn and Twitter and confirmed if they match their profiles on their organizations' websites. Selected participants were willing to commit until the completion of the research, be passionate about sustainability, and communicate their experiences coherently, vividly, and reflectively.

Qualitative policy Delphi also involves a panel of anonymous experts through questionnaires varying from more open-ended in Round 1 to closed-ended for Rounds 2 and 3, depending upon experts' knowledge about the topic. Expert panelists can also participate without other expert panelists' knowledge, reducing power dynamics while encouraging participation (Bajwa et al., 2024; Brady, 2015; Renthlei & George, 2024). The qualitative policy Delphi technique included iterative rounds to collect opinions, feedback, arguments, comments, and criticism regarding the consequences of standards and policies of sustainability practices from participants of a structured panel. The current study included three iterations of questionnaires using Google Forms, Google Form Response, and emails sent to panelists. Early in expert panelist recruitment, it is vital to clearly describe the professional roles of other participants in the study, even though they may not meet face to face (Bastas & Liyanage, 2018; Renthlei & George, 2024; Solangi et al., 2020). A unique feature of qualitative policy Delphi is its anonymity among the panelists, allowing panelists to react unbiasedly to ideas, judgments, comments, arguments, and criticism in an asynchronous forum, communicating indirectly through the researcher. Participants were encouraged to provide several opinions to maximize the opportunity to cover the most crucial opinions and issues. Panelists had opportunities to reflect on their initial answers, reach consistency in their responses, and share ideas freely without fear of pressure and groupthink.

Additionally, panelists channeled all communications through the researcher, which were controlled responses from the Round 1 questionnaire (Bastas & Liyanage, 2018; Franklin & Hart, 2006; Solangi et al., 2020). The qualitative policy Delphi method enables the researcher to gather qualitative opinions from Round 1 feedback, analyze feedback, and update concepts, considering experts' customized responses to include how panelists’ arguments differ or are the same as others. The researcher reshared the aggregated responses with the panel of experts.

Round 2 allowed panelists to reflect on their initial answers, change their comments if needed, and reach consistency in their responses. The third and final questionnaire included predictive statements. The panelists from Round 1 rated their importance for each predictive statement on a 4-point Likert-type scale, with 1 representing very important and 4 very unimportant. Round 2 was a closed-ended questionnaire, and panelists rated their desirability and feasibility for each predictive statement on two separate 4-point Likert-type scales. The 4-point Likert-type scales with 1 representing very undesirable, 4 representing very desirable, and 1 representing very unfeasible, 4 representing very feasible (Franklin & Hart, 2006). Round 3 was a closed-ended questionnaire, and the panelists rated their confidence in desirability, feasibility, and importance. The panelists used the 4-point Likert-type scale where 1 = unreliable (great risk of being wrong); 2 = risky (substantial of being wrong); 3 = reliable (some risk of being wrong); and 4 = certain (low risk of being wrong). Panelists reached diverging opinions, leading to strategy statements for establishing policies and standards using Rounds 1 and 2 data. Opinions generate ideas in decision-making for different standards and policies, communication, and determining if individual judgments are complete or incomplete knowledge.

In the current study, I used thematic analysis. I analyzed the data using Microsoft Excel spreadsheets to present patterns of responses, which helped determine diverging opinions on standards and policies; I also used Analyze Data in Excel. A Microsoft Excel spreadsheet (XLS file) was appropriate for coding data and importing survey results from Google Forms as analyzing data in Excel helps create visualizations such as concept maps to evaluate responses. The current study's social impact may promote establishing policies and standards to implement socially sustainable practices to help SSA government institutions become functional. Establishing policies and standards could facilitate social and physical development in Liberia and SSA countries.

Data Points

The data points from the current study were analyzed across three iterative rounds to generate consensus on strategies that may provide government institutions and multicultural organizations with information on establishing standards and policies to implement socially sustainable practices for facilitating infrastructure development in Liberia and SSA countries regarding specific intended outcomes. The current study could also benefit government agencies, industries like sustainable supply chains (SSC), manufacturing, tourism, and educational institutions. Leaders need cross-cultural and intercultural competencies to lead multicultural organizations (Hacker et al., 2019; Syed et al., 2019). The results of the current study could also contribute to social change because the physical and socially sustainable infrastructure would enhance the quality of life for Liberian citizens. Social sustainability is one of three significant sustainability issues in developing countries that are essential for improving welfare.

Definitions

Global standards or Global-based standards: The organizations define a seamless set of procedures and product ecological performance requirements that they must follow globally. Environmental standards ensure that organizations may produce from any manufacturer and meet the same standards (Angel & Rock, 2005; Huq & Stevenson, 2020; Strambach & Surmeier, 2018).

Infrastructure: Infrastructure is referred to as social infrastructure and physical infrastructure. Physical infrastructure comprises physical assets and is referred to as hard infrastructure. Some examples of hard infrastructure are buildings, rails, energy, airports, highways, parks, technology, and churches (Inderst, 2020).

Institutions: Institutions are formal and informal regulations that manage social, political, and economic relations, creating extensive social guidelines that construct social interaction. Institutions build the social order, which forces compliance behavior in social settings (Adams et al., 2020; Hodgson, 2000; Lawrence & Shadnam, 2008). Greenwood et al. (2017) refer to all institutions as social infrastructure that preserves societal well-being. Thacker et al. (2019) defined institutions as physical resources, including all infrastructure, human, and government institutions that encourage a sustainable supply of services. Chester (2021) characterized institutions as policies and standards, governance processes, and enforcers of laws.

Policies, standards, and procedures: Policy is a high-level statement with many government, society, and organizational applications to promote functional efficiencies for decreasing institutional risk. People often use policies, standards, guidelines, and procedures interchangeably. A policy is to solve problems and meet standards, and a written document requires people to abide by it. Policies could be public or private. For example, governments create public policies, and organizations create private policies when challenges need solving. Government public policies provide the approach and guidelines for the public to take for solving problems (Andrews et al., 2022). Standards are a set of regulations and policies that people need to observe.

Standards: Public or private. The extent of a standard is likely to specify the rules about a given issue. A guideline is almost like a standard and differs because it is only a suggestion that people must follow and is not an obligation (Andrews et al., 2022).

Procedures: The method used to meet the regulations of a policy, standard, or guideline. Procedures are functioning practices to execute institutional policymaking and characterize the method for who does what, the time of action, and under what guidelines (Andrews et al., 2022).

Social infrastructure: Social infrastructure refers to a soft infrastructure and may consist of physical infrastructure, built or grey infrastructure in all segments (Inderst, 2020). Social infrastructure is the socially sustainable system that delivers services to society for the system to function. Services include healthcare, education, housing, water, sanitation, security, energy, transport, culture, recreation, communication, policies, and standards (Broers et al., 2022; Inderst, 2020).

Social sustainability: Social sustainability is a social pillar, one of three pillars of sustainable development, referred to as soft infrastructure (Inderst, 2020). Social sustainability is a soft and hard structure and conservation of resources and a process of providing essential services to society, such as energy, wastewater, healthcare, education, housing, transportation, security, telecommunication, and waste (Ballet et al., 2020; Horwood, 2020; Pieper et al., 2019). Social sustainability provides a sustainable living for society, encouraging well-being, inclusiveness, justified life, and understanding of what people need to live a secure and happy life. Social sustainability helps recognize the public aspects of often neglected and undervalued spaces. It brings attention, depth, and textures of sociality afforded by different urban environments (Latham & Layton, 2019).

Sustainable development: Sustainable development is sometimes referred to as green infrastructure. Sustainable development was created to meet the present necessities without endangering the ability of future generations to meet their own needs. Sustainability is within the social values of social capital and management of resources without weakening them for future generations (Ajmal et al., 2018; Mani et al., 2018; Pieper et al., 2019). In the current research, inclusiveness, health, well-being, quality, service delivery, resilience, and value for money are implicit in sustainability.

Assumptions

Researchers should be open and transparent about their assumptions because it helps them retain core consistency during the study. When I began this research, I wanted to know why countries in SSA could not improve economic growth. Supporting literature provided the root problems for the barriers to economic growth in SSA countries. Initially, I had issues finding peer reviews on sustainable development for Liberia in SSA countries; therefore, my first assumption was that I had insufficient materials to complete my research. Even though it is true that the literature on sustainable development in Liberia is limited, my assumption was wrong because there is unlimited literature on other developing countries that I could use. I eventually changed my research to sustainable development in SSA countries, with Liberia as a specific research country.

Although sustainable development is a complex and broad topic with three pillars: social, economic, and environmental, I narrowed the research by concentrating on social sustainability, one of the three.

The second assumption was that I chose the social pillar because I assumed that concentration on the social pillar would narrow the research and that the social pillar is often ignored when discussing sustainable development. However, the social pillar also includes the sustainable and economic development pillars. Although social sustainability is fundamentally valuable to the future of sustainable development, the social sustainability pillar has not gained attention in the debate on the environmental and economic growth of the sustainability development pillars (Ajmal et al., 2018; Grum & Grum, 2020; Horwood, 2020). The goal of the social pillar is ambiguous due to the wide range of related social issues (Ajmal et al., 2018; Ballet et al., 2020; Pieper et al., 2019). The current research was to determine how SSA government institutions could establish policies and standards to implement socially sustainable practices for facilitating social and physical infrastructure development. Therefore, I narrowed my search to mirror how a panel of 16 purposively selected global experts on the UNSDGs in multinational organizations in the United States and Africa view the desirability, feasibility, and importance of forward-looking strategies for establishing policies and standards to implement socially sustainable practices for facilitating social and physical infrastructure development.

The third assumption was that conducting socially sustainable development research in Liberia to collect raw data would be challenging due to limited access to computers and internet connections. For the current study, I accessed numerous literature reviews online in research libraries and international organizations such as The World Bank Group, United Nations, McKinsey and Company, and the OECD. The fourth assumption was that it would be challenging to find leader participants in Liberia to answer survey questions without paying due to rampant corruption. This research contradicts my assumption because I used the qualitative policy Delphi research design; therefore, I did not need to interview leaders from Liberia. A qualitative policy Delphi research design usually involves a panel of experts in organizations related to the issues under research. Panelists share knowledge and opinions through questionnaires of iterations of multiple rounds with controlled feedback and anonymity among the panelists (Franklin & Hart, 2006; Hall et al., 2018). Unlike traditional research design, where researchers and participants may interact, the qualitative policy Delphi research design involves iterative procedures with experts who share ideas and opinions anonymously about the issue under study (Fefer et al., 2016; Hall et al., 2018). The qualitative policy Delphi research design is a methodology for expert panelists to collaborate, provide opinions and commentaries, and agree and oppose views to generate ideas to establish policies and standards.

Scope and Delimitations

The current study's scope was how a panel of global experts on the UNSDGs in multinational organizations in the United States and Africa view the desirability, feasibility, and importance of forward-looking strategies for establishing policies and standards to implement socially sustainable practices for facilitating social and physical infrastructure development. I used the policy Delphi research approach to achieve this goal. The panelists responded to open-ended and closed-ended questionnaires and rated the extracted strategies developed from the open-ended questions in subsequent rounds. The subsequent rounds consisted of questionnaires to rate and rank the elements via two 4-point Likert-type scales, one for desirability and one for feasibility. The time necessary to complete the three iterative rounds and obtain enough responses was 9 months.

There were several delimitations in the current study. The scope of the current study was delimited to identifying forward-looking, desirable, feasible, and essential strategies for establishing policies and standards to implement socially sustainable practices for facilitating social and physical infrastructure development. Second, experts via LinkedIn were purposely selected from one or more elements of the UNSDGs; therefore, I assumed people would be committed to completing the study. Thirdly, the current study was delimited to establishing policies, standards, and strategies for implementing socially sustainable practices. Fourth, the number of survey rounds conducted and the Likert-type scales used for desirability, feasibility, and importance were delimitations imposed on the current study. The volume of controlled feedback shared with the expert panelists and the criteria for achieving consensus from the data were also delimitations of the current study. Given the premise of the Delphi technique to generate ideas for establishing policies and standards through input from a panel of experts, the participants had at least 2 years of experience in implementing socially sustainable practices for facilitating social and physical infrastructure development. By selecting an expert in one or more elements of the UNSDGs, the study's results will be transferable across all elements of the UNSDGs platform and implementation methodologies.

Transferability of qualitative study findings exists when the findings are applicable in other contexts. The policy Delphi study requires a purposive sampling strategy to obtain homogeneous expert panelists. The prospect of transferability of the findings of Delphi studies exists due to (a) the alignment of the expertise of the homogenous expert panelists with the needs of prospective readers, (b) the fixed criteria for inclusion as homogenous expert panelists, and (c) the description of the phenomena under study. The survey administration tool I selected was Google Forms to ensure consistency in how the expert panelists completed the survey. The resulting forward-looking strategies toward establishing policies and standards can be used for future research to establish new policies and standards to implement socially sustainable practices.

Limitations

There is limited peer-reviewed literature on socially sustainable and infrastructure development policies and standards for developing countries. The UNSDGs recently added social aspects to sustainability; therefore, the topic is relatively new. Sustainability is also complex but critical to developing countries (Grum & Grum, 2020). Each element of social sustainability and sustainable development is crucial to enforcing standards across international and local government institutions and businesses. The current study did not cover all aspects of standards for various industries; moreover, there is a need for further research on various industries and knowledge-intensive intermediaries across different sectors.

A second limitation was the availability of adequate samples. Recruiting experts for the current study was challenging and extended the time needed to complete the data collection. The response rate to 260 invitations sent for Round 1 was 6%, with 16 panelists completing and submitting the Round 1 questionnaire. The current study's attrition rate was 25%. A third limitation was the panelists' willingness to continue participating in a lengthy and time-consuming process. Scholars have contended that individuals with strong opinions and passion about the topic would be interested in participating in an extensive process; therefore, selecting highly interested experts was critical (Franklin & Hart, 2006). The anonymity of the panelists was protected through electronic communication between panelists and researchers, which was also essential. Maintaining constant communication between the researchers and panelists was crucial, emphasizing the importance of continuing participation until completion.

Significance of the Study

The current study is significant because the findings narrowed the gap using the qualitative policy Delphi research design. The purposefully selected participants were expert panelists who were anonymous in providing commentaries, evaluations, and the highest feasible contrasting and positive opinions to generate ideas for SSA government institutes to establish policies and standards to implement socially sustainable practices for facilitating social and physical infrastructure development. Researchers have always found that strengthening government institutions is crucial for establishing quality governance standards and policies to implement socially sustainable practices for infrastructure development (Asongu & Odhiambo, 2019, 2020; Biesenthal et al., 2018; Grum & Grum, 2020). The rise in income and population growth pushes SSA countries farther from sustainability practices; therefore, fostering social sustainability practices to promote economic growth is imperative. Even though SSA countries have rich natural resources, they have failed to develop adequate social and physical infrastructure to increase economic growth. Leaders of SSA countries are socially unconscious of sustainability needs and apathetic to the welfare of their citizens and environment (Ahmad et al., 2023; Cumming & von Cramon-Taubadel, 2018; Kagema, 2018). SSA countries need functioning government institutions to establish policies and standards. The current research could narrow the gap by revealing strategies by which the SSA government institutions could establish policies and standards to implement socially sustainable practices. Social sustainability practices could enhance economic growth by providing jobs and stimulating the economy, improving citizens' social justice, security, well-being, and public spaces for people to connect.

Significance to Practice

Social sustainability practices are positively and significantly associated with financial enhancement, societal well-being, customer satisfaction, and employee performance. Government institutions and private and public organizations, including small and medium enterprises (SMEs), can benefit from practicing social sustainability (Masocha, 2019). Government institutions need the knowledge to administer social sustainability practices in SMEs, SSCs, and manufacturing in emerging markets. Social sustainability is essential for firms of any size because businesses depend on their respective societies' health, stability, and prosperity (Grandia & Voncken, 2019; Masocha, 2019). Sustainability promotes sustainable public procurement through technology, including natural and renewable materials, in procuring goods, services, and works (Grandia & Voncken, 2019; Masocha, 2019). Government institutions need socially conscious leadership to implement policies and standards for socially sustainable practices. Socially conscious leaders could establish functional government institutions, as well as public and private institutions.

Significance to Theory

The significance of the social sustainability theory and concept is that social sustainability is one of three pillars of sustainable development, improves the quality of life for society, and reassures stability for human welfare, specifically for disadvantaged groups. Social sustainability is significant because there are increasing societal demands and pressures for businesses to address the negative social impacts of business activities (Cuéllar-Gálvez et al., 2018; Hellberg, 2023; Kaur & Kander, 2023). Business products elaborate on how organizations recognize social sustainability. Scholars defined the concept and theory of social sustainability as social equity and the sustainability of society (Hellberg, 2023; Kaur & Kander, 2023; Mani et al., 2018; Santos, 2023). A society with no exclusionary or discriminatory practices impeding individuals from participating economically and socially is equitable (Ajmal et al., 2018). Social equity is associated with job prospects, health, safety, training, learning, and career growth in the business framework (Cuéllar-Gálvez et al., 2018; Hellberg, 2023). In a community context, social sustainability includes social interaction among community members, the opportunity to contribute to civic affairs, the existence of formal and informal organizations, in addition to the existing interpersonal trust, a sense of security, and a positive sense of belonging (Grum & Grum, 2020). The research emphasized institutional theory because institutions are also social and physical infrastructures. Institutions are significant because they make decisions, enforce laws and regulations for the appropriate administration, and implement them for the required purposes.

Significance to Social Change

Establishing policies and standards to implement socially sustainable practices will result in functional government institutions that are significant to social change. Functional government institutions would provide social and infrastructure development through (a) inclusions, (b) formal and informal rules, (c) customs, (d) health, (e) a safe environment, (f) security, (g) the well-being of society, (h) community collaborations, (i) employment, (j) housing, (k) education, and (l) formal accounting of carbon dioxide emissions (Broers et al., 2022; Grum & Grum, 2020). In addition, government institutions will contribute to reporting practices in global trade and retail chains as part of international climate agreements. Finally, functional government institutions could help create global networks for problem-solving or social innovation labs, which could generate new rules, ways of thinking, and action and decision-making processes.

The current study could strengthen government institutions, education, transportation, energy, and industries such as SMEs, SSCs, and manufacturing to fulfill their social sustainability goals while enhancing financial performance for organizations and communities. Economic development can improve the quality of human life and needs to be compatible with ecological sustainability (Adjei-Bamfo et al., 2019; Biesenthal et al., 2018; Kaur & Kander, 2023). The current research may also contribute to social change in management and leadership. Managers and leaders will develop socially conscious behaviors to establish policies and standards using technologies to implement socially sustainable practices in the operations of their organizations.

Summary and Transition

The purpose of the current study was to determine how a panel of 16 purposively selected global experts on the UNSDGs in multinational organizations in the United States and Africa view the desirability, feasibility, and importance of forward-looking strategies for establishing policies and standards to implement socially sustainable practices for facilitating social and physical infrastructure development. The research approach was a qualitative policy Delphi design to capture the opinions from a panel of 16 experts through three rounds of inquiry to evaluate the various opinions for strategy statements. Chapter 1 began with the introduction of the study. The introduction covered a brief history of why the study was necessary. The introduction highlighted the significance of policy and standards governance in mitigating environmental degradation in human development. Overall, human development is a significant theme in the UNSDGs and is essential in SSA. As none of the countries in SSA achieved the sustainable development goal of decreasing extreme poverty, there has been a continual rise in poverty. The background presented selected scholarly articles that were valuable and related to the concepts and theories of the present study. The problem statement provided the problem that prompted the current study and the value of conducting the current research, followed by the purpose statement and research question.

The conceptual framework was presented with a brief discussion of concepts and theories that grounded the current study. Included in the conceptual framework was the sustainable development theory, which protects and fulfills present needs without undermining the ability of future generations. The socially sustainable concept is a theory and concept based on social sustainability and interdependence with ecological change. Institutions and infrastructure theories are vital since institutions make decisions, implement rules and regulations, and execute them, while infrastructure relates to regulating organizational sectors. The theory of appropriate technology suggests that technological principles are intended to shape the future and collectively refer to contemporary society. Policy concepts and standards theory are used to achieve desired objectives deemed necessary by all societal members and standards to encourage economic efficiency, minimize transaction costs, and foster sustainable development processes locally. Leadership concepts are used to motivate stakeholders to identify and accomplish the missions and objectives of the organization.

The nature of the study contained the specific research design of a policy Delphi research design used to answer the research question in the current study, which included the data collection instruments, Google Forms, emails, and data points. The definition provided descriptions of keywords that established a shared interpretation of concepts and terminology for the audience. The assumptions that helped the researcher retain core consistency during the research and the scope of the current study were delimited to identifying forward-looking, desirable, feasible, and essential strategies for establishing policies and standards. One limitation was that peer-reviewed literature on policies and standards for implementing socially sustainable practices for infrastructure development in Liberia and SSA countries was limited due to the UN Sustainable Development Goals' recent inclusion of social elements in sustainability. Therefore, the topic is relatively new, and sustainable development is complex but critical to developing countries. Social sustainability and sustainable development are crucial to enforcing policies and standards across international and local government institutions and businesses.

Chapter 1 concluded with the significance of the study, which covered the significance of the practice, that government institutions need the knowledge to administer policies and standards to implement socially sustainable practices. The significance of this theory is based on the concepts and theories of sustainable development and socially sustainable development. The significance of social change is that establishing policies and standards to implement socially sustainable practices can contribute to social change.

Chapter 2 focuses on search strategies, literature reviews, and the conceptual framework. Chapter 2 includes a comprehensive literature review of the conceptual framework of the current study and begins with an introduction that will include a brief background of the study, the organization of Chapter 2, and search strategies. Chapter 2 also provides a detailed literature review of each concept and the theory of the conceptual framework. The conceptual framework covers concepts and theories grounded in the current study, including a comprehensive discussion of what is known about SSA government institutions establishing policies and standards to implement socially sustainable practices to facilitate social and physical infrastructure development. Chapter 2 concludes with a summary.

Chapter 3 focuses on research methodology. Chapter 3 begins with a brief introduction to the research methods and an overview of the research design and rationale. The rationale for using qualitative policy Delphi is to explore underlying concepts and theories to generate ideas by exploring options and varying perspectives of consensus, points of agreement, and disagreement, clarifying arguments, and exposing the strength of evidence related to diverse opinions. Chapter 3 contains detailed information on the research design and rationale for using a qualitative policy Delphi method to meet the research purpose and data to answer the research question. Included in Chapter 3 are the selection criteria, which include a demographics questionnaire to determine if participants met the requirements, data collection, which entailed using Google Forms for the survey questionnaire, and analysis procedure using Microsoft Excel, Microsoft Word, and Microsoft Analyze Data in Excel. The current study participants were purposely selected from LinkedIn and identified as experts in one or more elements of the UNSDGs. The chapter covers the role of the researcher, issues of trustworthiness, and ethical procedures, and concludes with a summary. Chapter 4 focuses on the study results.

Chapter 4 presents the study's results, which describe the panel's characteristics, results from the three rounds of data collection, and data analysis evidence for trustworthiness. Chapter 4 provides the results for each survey round. In Round 1, the number of expert panelists was 16, and they offered their opinions or recommendations based on open-ended questions and rationales based on closed-ended questions that resulted in 118 opinion statements and ideas establishing policies and standards for importance forwarded to Round 2. In Round 2, the number of expert panelists was 12. The Round 2 data analysis resulted in 115 opinion statements and ideas establishing policies and standards for desirability and feasibility. Based on the panelists' ratings, the top 10 highly rated strategies in Round 2 were flagged for inclusion and confidence ratings in Round 3. Ten solution items emerged in Round 3. In Round 3, the number of expert panelists was 12, who rated their confidence in each of the 10 most desirable, feasible, and important forward-looking strategies advanced from Round 2. Chapter 4 concludes with a summary. Chapter 5 focuses on the discussion, recommendations, and conclusions.

Chapter 2: Literature Review

The purpose of the qualitative policy Delphi study was to determine how a panel of 16 purposively selected global experts on the UNSDGs in multinational organizations in the United States and Africa view the desirability, feasibility, and importance of forward-looking strategies for establishing policies and standards to implement socially sustainable practices for facilitating social and infrastructure development. The WCED explored the causes of environmental degradation and attempted to understand the interconnections between the three pillars (Awad et al., 2023; Hellberg, 2023). The three pillars are (a) social development, (b) economic growth, and (c) environmental problems (Awad et al., 2023; Delanka-Pedige et al., 2021; Hellberg, 2023; Secundo et al., 2020). Conversely, the infrastructure of Liberia and SSA nations is behind in quality and service provision compared to other developing countries; the result is not financing issues, as international donors have supplied substantial funding for infrastructure development (Wethal, 2019). Instead, the infrastructure shortfall in Liberia and SSA government institutions is attributed to the unsuccessful creation of policies and standards for implementing socially sustainable practices to promote social and physical infrastructure.

Chapter 2 includes an introduction to the literature review; an extensive academic and professional literature review is conducted to align this research with the existing literature and to understand other researchers' work and how researchers defined and measured concepts and methods. Included is the literature search strategy: databases used, keywords, keyword search terms, and combinations, and a segment that establishes the significance of the problem. Chapter 2 identifies how the research fills a gap in the literature and broadens knowledge in establishing policies and standards to implement socially sustainable practices for facilitating social and physical infrastructure development. Chapter 2 contains the conceptual framework that supports the current study, and a summary of contrasting perspectives, and primary themes derived from the literature are identified and summarized. A thematic analysis identified three themes that emerged from searching the literature. The themes are foundational areas that this review covers: (a) SSA government institutions, (b) policies and standards for implementing socially sustainable practices, and (c) social and physical infrastructure development. Each section includes a synthesis of the differences, similarities, and connections between each theme and answers readers' questions about themes that arose, what other researchers found about the themes, how sources overlap, and gaps in the literature. I used the literature to synthesize the relationship between socially conscious leadership, government institutions, policies, standards, and social and physical infrastructures. The current literature review was crucial because conducting a literature review for a dissertation provides in-depth knowledge of previous researchers on the topic and existing research.

Literature Search Strategy

The strategies used to conduct the current literature review were to extract information about prior specifications of the research problem and procedures used for data analysis in qualitative policy Delphi research design. The literature review included comprehensive searches on the Walden Library and Google Scholar. Walden Library and Google Scholar provided access to Emerald Publishing Limited, ELSEVIER Journal, Geography Compass, Global Networks, Social Indicators Research, Social Science Research Network, Journal of Business Ethics, Journal of Environment (MDPI), Journal of Social Science, Local Environment, Nature Climate Change, Journal of Economic Issues, The European Journal of Applied Economics, Journal of Business Ethics, International Journal of Manpower, Science Direct, Sustainability Open Access International Journal of Production Economics, Journal of Management Development, School Leadership & Management, The International of Business in Society, The International Journal, Sustainable Production and Consumption, Taylor & Francis Group, Wiley, International Organizations such as United Nations, The World Bank Group, McKinsey & Company, Brooking Institute, The Organization for Economic Cooperation and Development (OECD), and The World Bank Group. The keywords and phrases are used to select articles and appropriate resources for the research topic. Keywords from this research included *sustainable development, social sustainability, institutions and infrastructures, social and physical infrastructure, government institutions, circular economy, e-government and m-government, good governance, standards and policies, social capital, socially conscious leadership, and theory of appropriate technology*. The above keywords were critical for researching articles and other sources related to the research topic, such as policies and standards for implementing socially sustainable practices.

The search was limited to the most recent articles published in the last 6 years, 2020-2025. Other limited articles and books yielded additional relevant historical data published later than 5 years, and data from other sources such as the African Union

Commission, McKinsey and Company, Economic Cooperation and Development, the United Nations, and the World Bank Group. The search terms used were *institutional, concept*, AND *theory* (243 results). *Policy and standards* (54,955 results) were narrowed to *socially sustainable policy* AND *standards* (519 results). *Social sustainability* (40,732 results) AND *sustainable development* (42,182 results), narrowed to *socially sustainable practices* (5,037 results); *social infrastructure* OR *physical infrastructure* (3,436 results); *standards* OR *policies* AND *Delphi technique* (221 results); sustainability social policy (6,576 results) narrowed to *standards* AND *policies* AND *qualitative Delphi methods* (25 results).

Conceptual Framework

The concepts and theories that ground the current study include sustainable development theory, social sustainability concept, the Brundtland report (Brundtland, 1987), Walton's institutions and infrastructure theories (Hamilton, 1919), theory of appropriate technology (Schumacher, 2012), e-gov (National Research Council, 2007), policy concepts and standards theory (Bloom, 1956), and leadership concept (Taylor, 1911). The WCED based the concept of sustainable development on sustainability theory (Adshead et al., 2019; Brundtland, 1987; Delanka-Pedige et al., 2021; Secundo et al., 2020). The WCED released the Brundtland report in 1987 to introduce the concept of sustainable development and define how to achieve the concept (Adshead et al., 2019; Brundtland, 1987; Delanka-Pedige et al., 2021; Secundo et al., 2020). The Norwegian Prime Minister, Gro Harlem Brundtland, chaired the report and co-sponsored the publication with the United Nations (Brundtland, 1987). The WCED explored the causes of environmental degradation and attempted to understand the interconnections between social equity, economic growth, and environmental problems. The WCED developed policy solutions that integrated all three areas: (a) social equity, (b) economic growth, and (c) environmental problems (Brundtland, 1987; Delanka-Pedige et al., 2021; Secundo et al., 2020). Evaluating how SSA government institutions could establish policies and standards to implement socially sustainable practices for facilitating social and physical infrastructure is critical.

Through innovation, evaluation of policies and standards for social and physical infrastructure development could create knowledge, data collections, and communications to implement social sustainability practices in government institutions, SMEs, and SSC by 2035. The current study is unique because its findings narrowed the gap in an under-researched area. Due to inadequate social and physical infrastructure development in Liberia and SSA countries, it is unknown how SSA government institutions could establish policies and standards to implement socially sustainable practices to facilitate social and physical infrastructure development. Addressing the challenges of standard processing for infrastructure projects and social sustainability would enhance opportunities to compete in the international market, providing economic growth and improving well-being (Cumming & von Cramon-Taubadel, 2018; Huq & Stevenson, 2020). Institutional theory provides a valuable framework for shaping SMEs and SSCs to implement socially sustainable practices (Biesenthal et al., 2018). A knowledge-based viewpoint would provide detailed insights into global standard-setting (Strambach & Surmeier, 2018). Socially conscious leaders could establish policies and standards to implement the appropriate governance methodology for advancing institutions and balancing multistakeholder interests (Owie, 2017). Social sustainability is one of three significant factors of sustainable development issues in developing countries, especially Liberia, a war-torn country, which is essential for improving welfare.

Literature Review

Sustainable Development Concept and Theory

Sustainable development is a concept and a theory that meets the current requirements without compromising the capacity of future generations to meet their limitations. Sustainable development provides future generations with human rights, health, equity, and safety, and is consistent with previous researchers (Bloom, 1956; Grum & Grum, 2020; Harris et al., 2020; Partiti, 2022). Previous researchers contended that social sustainability and sustainable development are within social standards and social capital (Filho, 2020; Hamilton, 1919; Mani et al., 2018; Pieper et al., 2019; Rutherford, 2010). The concepts of sustainable development, social sustainability, leadership, and infrastructure were based on Hamilton's theory of institutionalism and Bloom's theory of policies and standards (Bloom, 1956; Filho, 2020; Hamilton, 1919; Mani et al., 2018; Pieper et al., 2019; Rutherford, 2010). The concepts of sustainable development, social sustainability, social and physical infrastructure, and policy and standards theory of institutionalism are associated with management, economics, environmental, and social benefits. Critical realism is the framework of social science that depends on human activity and expression in an open system (Filho, 2020). Critical realism combines economics into the social environment that sustains the absolute harmony of human action, and the foundation would be a choice due to logical stratagems and redefinition of concepts. Sustainability is gaining a reputation in supply chain research because corporations increasingly acknowledge social sustainability integration within their core operations.

The interconnection of social infrastructure and quality of life provides valuable insights when discussing the many concepts and standards in sustainable development. Awan et al. (2020) and Oyewo et al.'s (2022) research empirically evaluated several practices to implement socially sustainable development goals that could enhance institutions and establish policies and standards that support sustainable development. Social sustainability is a concept and a critical pillar that connects sustainable development's economic and environmental pillars (Awan et al., 2020; Oyewo et al., 2022). Choi and Matz-Costa (2017) and Dahlmann (2025) explored the benefits of social sustainability in communities and the interactive effect and social cohesion of neighborhoods. The connection between neighborhood safety and psychological well-being is essential because research has indicated that neighborhood security primarily correlates with mental health (Choi & Matz-Costa, 2017; Hellberg, 2023; Oyewo et al., 2022). Dahlmann (2025) and Latham and Layton (2019) studied a socially sustainable infrastructure network that connects people to public spaces. Social infrastructure is critical in helping society recognize the public element, which is frequently overlooked and undervalued in public areas (Dahlmann, 2025; Latham & Layton, 2019). Prus's (2019) research was about the French socialist Emile Durkheim, who encountered German pragmatism that profoundly influenced Durkheim's succeeding scholarship.

Durkheim's concept was based on religion and ethics, and the community is essential for groups to gather and interact.

Awan et al. (2020), Choi and Matz-Costa (2017), Fitawek and Hendriks (2024), and Latham and Layton's (2019) views are essential standards to follow, even if they differ from Prus's (2019). Subsequently, four common themes emerged from all four pieces of literature of Awan et al. (2020), Choi and Matz-Costa (2017), Dahlmann (2025), Hellberg, Latham and Layton, and Prus: (a) social cohesiveness, (b) social sustainability and social infrastructure, (c) secured neighborhoods, (d) sustainable community, society, and equity and (e) enhancing the quality of life. In the meantime, Dahlmann and Prus presented principles as essential guidelines, even if they differed from Awan et al., Choi and Matz-Costa, Hellberg, Latham, and Layton. The progressive trend toward creating a sustainable way of incorporating social sustainability performance within manufacturers, including well-being, equality, and social sustainability partnership for the SDG goals (Awan et al., 2020). The importance of neighborhood safety, sustainable community, society, equity, and the togetherness of the community may enhance psychological health in older adults (Choi & Matz-Costa, 2017; Hellberg, 2023). For example, adults aged 45 and older desire to remain in their residences for as long as possible, which reduces their mental health. Prus stressed the importance of ethics and morality and that it is healthy for people to gather as a group or community. Latham and Layton agreed with Choi and Matz-Costa that the safety concept indicates the right to be safe and adopt all measures of adaptation and security to avoid potential casualties and physical harm. Choi and Matz-Costa's research was consistent with Latham and Layton's; both contended that social sustainability and social infrastructure are major components confirming the satisfaction of fundamental human needs, including social security, social stability, coexistence, and intergenerational.

The contrasting themes from the literature are (a) manufacturers' implementation of socially sustainable practices and (b) the concept based on religion in ethics for communities. However, the contrasting themes provided a thought-provoking overview of manufacturers integrating socially sustainable practices and religion in ethics for communities. These articles could assist in reviewing insight or guidance on developing policies and standards for implementing socially sustainable practices to facilitate social and physical infrastructure development. Awan et al.'s (2020) findings were the same as those of Azolibe and Okonkwo (2020), Signé (2018), and Zhao et al. (2018). They underscored the importance of industries and that they must implement policies to remove barriers preventing social sustainability practices. For example 2030, manufacturing costs in Africa are estimated to reach $600,000,000,000 (Signé, 2018). A well-industrialized economy is estimated to have suitable infrastructure that will positively influence the industry segment, which is perceived as the driver of economic growth.

The concept of the upper echelons theory was to employ qualities for leaders to adopt the mindset for achieving excellent performance in sustainable supply chains and to adopt circular economy-based production systems. Corona et al. (2019), Ostermann et al. (2021), Sehnem et al. (2019), and Zhao et al. (2018) defined *circular economy* production as a concept that ultimately looks to develop new socioeconomic standards. A circular economy is new to sustainable development in manufacturing and supply chain industries (Lamba et al., 2023; Ostermann et al., 2021; Sehnem et al., 2019; Zhao et al., 2018). For example, the circulation of resources in production, if possible, and consequent distribution change social and economic dynamics, causing economic growth and preventing environmental degradation. The circular economy differs from the linear economy and is perceived as a sustainable economic structure where economic development is separated from resources used by decreasing and recycling natural resources (Corona et al., 2019). The current circularity metrics examine eight circular economy authentications and requirements secured in the sustainable development model. Sustainability is a driver of the circular economy, and the upper echelons theory and circular economy-based production systems are critical success factors based on sustainability (Corona et al., 2019; Ostermann et al., 2021; Zhao et al., 2018). The magnitude of the full benefit of eco-industrial parks is a new industrial institution based on circular economy and sustainable development.

Gaps in the Literature

What is unknown is how SSA government institutions could establish policies and standards to implement socially sustainable practices for facilitating social and physical infrastructure development in Liberia and sub-Saharan African countries. Many researchers have indicated the importance of social sustainability and that spaces as social infrastructure direct attention to the breadth, intensity, and consistency of social life facilitated in the urban environment (Choi & Matz-Costa, 2017; Grum & Grum, 2020; Inderst, 2020; Lamba et al., 2023; Latham & Layton, 2019; Schönborn et al., 2019).

Pieper et al. (2019) also distinguished between two competing approaches to social sustainability: equality and social capital. Public spaces are essential social infrastructure because people need to socialize and connect with others, and these spaces create environments for people to be out and connect with others, which are central to the concerns of urban environments (Choi & Matz-Costa, 2017). The basic structure of the standard of living analysis (SOLA) model was developed in the social policy framework (Pieper et al., 2019). Organizations adopting social sustainability practices in their core operations could benefit from social sustainability through successful economic growth (Schönborn et al., 2019). Private organizations must embrace standards for critical social and environmental issues to implement sustainability practices at the micro-level in global governance (Strambach & Surmeier, 2018). The consequences of social infrastructure are society, politics, health, and well-being; social scientists' role is to make sense of and communicate how social infrastructures have come into practice and why they are crucial.

The social infrastructure's value is often not instantly noticeable until something goes wrong or is taken away. Ajmal et al. (2018) and Partiti's (2022) research were in harmony with Latham and Layton's (2019). Safety and risk are fundamental sustainability concepts. In contrast, the existing risk surroundings resulted mainly from climate change, and its successive concerns pose serious social, geographical, framework, and physical threats to human societies and their communities (Ajmal et al., 2018; Choi & Matz-Costa, 2017). Partiti's (2022) research was about human rights infringements and how the environment related to business activities connects stakeholders to risks such as labor rights violations, environmental destruction, or deforestation. Eizenberg and Jabareen's (2017) findings were similar to Grum and Grum's (2020). The concept of safety is the existential structure of sustainability and social sustainability, which is critical to the quality of life (Eizenberg & Jabareen, 2017). A model representing the connection between social infrastructure and elements inside a quality-of-life structure. Choi and Matz-Costa (2017) and Grum and Grum (2020) underscored the connection between social infrastructure, public infrastructure, and human satisfaction with life quality and emphasized the correlation between social infrastructure and social sustainability concepts. The importance of quality of life is that it provides citizens with satisfaction.

Although the contrasting themes provided valuable viewpoints about social infrastructure and sustainable development, the literature presented could assist in reviewing any insights or guidelines on social sustainability practices. Moreover, Ajmal et al. (2018), Choi and Matz-Costa (2017), Grum and Grum's (2020), and Latham and Layton's (2019) research provided principles to follow, even if different from Partiti (2022). When local government institutions are self-sufficient, they give the citizens safe communities and a decent quality of life. Social sustainability and social infrastructure ensure the effectiveness of local government self-sufficiency (Choi & Matz-Costa, 2017; Grum & Grum, 2020). Partiti (2022) also agreed that human rights due diligence (HRDD) holds corporations accountable for the harm they cause to humans and makes mandatory HRDD violations for businesses and corporations, including governments across the globe. Farias et al. (2020) elaborated on the movement in thinking for global organizations to embrace practices of a sustainability mindset. The central point that Farias et al.'s research revealed is that society would face existential risks. The concept of sustainability is undoubtedly on a holistic system level, and organizations are substantially part of both the solution and the problem. The research is essential because it revealed a relationship between social infrastructure and social sustainability and well-being, emphasizing human rights and due diligence accountability.

Social Sustainability Concept

Social sustainability is based on the concept and theory of sustainable development. Sustainable development includes environmental, economic, and social dimensions (Brundtland, 1987; Mani et al., 2018; Mensah, 2019; Pieper et al., 2019; Santos, 2023). The social pillar includes many dimensions of society, including social infrastructure, environmental justice, and social justice. The social pillar requires social infrastructure, physical infrastructure, monitoring and enhancing the lives of marginalized people, and researching strategies to overcome food insecurity through innovation (Ajmal et al., 2018; Mensah, 2019; Santos, 2023). These concepts have a world view of human behavior based on the model of a level of human ecology that integrates seven elements: (a) environmental resources, (b) population, (c) material culture, (d) technologies, (e) space-time, (f) connectivity, and (g) geography (Ajmal et al., 2018; Mani et al., 2018; Pieper et al., 2019). Social sustainability is one of the three pillars of sustainable development and is a quality of society that reassures stable conditions for human well-being, especially for vulnerable people or groups.

Social sustainability is a concept and a theory. Scholars based the idea of social sustainability on societal change and interdependence with ecological change based on sustainable theory (Grum & Grum, 2020; Pieper et al., 2019; Schönborn et al., 2019). Social sustainability has four elements: (a) fairness and equity; (b) diversity, which includes low-income communities and various diversity; (c) quality of life in society and opportunities for all demographics; and (d) democracy, in which the community provides economic and social benefits (Ajmal et al., 2018; Eizenberg & Jabareen, 2017; Grum & Grum, 2020). The United Nations set up 17 SDGs as a blueprint for 17 interrelated global goals designed to reach a safer, quality, and sustainable future for all (United Nations, 2024). The SDGs are valuable complex structures for examining the correlation between social sustainability, sustainable development, and infrastructure (Harris et al., 2020; United Nations, 2024). The UNSDGs consist of seventeen different sustainable development goals and extensions of the United Nations Millennium Development Goals (MDGs); however, they are interlinked (Harris et al., 2020; United Nations, 2024). Due to the complex context of the SDG, the search for each SDG may require a systematic search of all seventeen together (Harris et al., 2020). For example, SDG #11, Sustainable Cities and Communities, interlinks with all SDGs that address social sustainability, seek resilient and sustainable urban cities, and guarantee that sustainable administration of water and sanitation is affordable and accessible to all (Delanka-Pedige et al., 2021; United Nations, 2024). Social sustainability is critical to sustainable development in addressing environmental problems, social equity, and economic growth.

Since adopting the SDGs, the United Nations has identified indicators to observe progress. The sustainability concept is tailored for specific regions and places. For example, the need for sustainable development goals and indicators is more related to place-specific than global perspectives (Nilsson & Larsen, 2020). The SDGs' objective is to engage local society and sub-national decision-makers in a sustainable development transition; instead, the SDGs relied on governments and intergovernmental organizations, representing a top-down process that came under criticism (Nilsson & Larsen, 2020). Hence, SDGs are essential to ensure that the objectives for sustainable development and indicators are followed up on the goals. SDGs are perceived as relevant for various local environmental and societal contexts that are aspects of the social pillars of sustainable development.

Research on social sustainability presented complete insights regarding the dialogue for the relationship between social sustainability and sustainable development. Ajmal et al. (2018) explored the wide range of appropriate frameworks of social sustainability standards to be conceptualized and incorporated into the business world. Delanka-Pedige et al.'s (2021) research highlighted and supported the effect of wastewater infrastructures on the sustainability of cities. The wastewater treatment inferred that the algal-based sewage treatment and resource recovery (STaRR) system is a sustainable route to supply wastewater utility services to future cities. The STaRR system is related to safe drinking water and may need established policies and standards for implementation (Awan et al., 2020; Delanka-Pedige et al., 2021; Grum & Grum, 2020). An empirical assessment of various practices for implementing socially sustainable practices enhances institutions and establishes policies and standards that support sustainable development (Awan et al., 2020). The concept of safety is the existential foundation of social sustainability and is essential to the quality of life (Eizenberg & Jabareen, 2017; Grum & Grum, 2020). Grum and Grum (2020) explored the need for theoretical and empirical studies regarding social sustainability concepts on social infrastructure. Harris et al.'s (2020) research supported a concrete conceptualization of the correlations and conflicts between infrastructure policy and public health regarding the UNSDGs, emphasizing well-being. Mani et al.'s (2018) research was to gain scholars' and practitioners' interest regarding sustainable development and social concerns due to public awareness and pressure. Nilsson and Larsen (2020) explored making sense of location in the global sustainable development index for the Arctic. Schönborn et al. (2019) explored whether there is an interrelationship between corporate social sustainability culture and the economic growth of organizations. Meanwhile, the principles of Nilsson and Larsen provided solid standards to follow, even if they are different from those of Ajmal et al., Delanka-Pedige et al., Grum and Grum, Harris et al. (2020), Mani et al., and Schönborn et al. The current study's findings were consistent with the literature review.

Furthermore, the three common themes from the literature were (a) the integration of social sustainability standards, (b) the conceptual framework of social sustainability, and (c) the correlations and conflicts between infrastructure policy and public health. The UNSDGs objective could engage local society and sub-national decision-makers in a sustainable development transition; instead, UNSDGs relied on international perceptions of governments and intergovernmental organizations, representing a top-down process that came under criticism (Nilsson & Larsen, 2020). Nilsson and Larsen's (2020) top-down progress is consistent with Corona et al. (2019). Eizenberg and Jabareen (2017) demonstrated that the theoretical premise was social sustainability, an inclusive framework that attempted to improve and protect all people. The objectives for sustainable development and indicators are essential to ensure that the goals are followed and perceived as relevant for various local environmental and societal contexts, which are aspects of the social pillars of sustainable development.

Sustainability includes environmental, economic, and social elements and a quality of society that supports stable human well-being conditions, especially for vulnerable individuals or communities. Delanka-Pedige et al. (2021) stated that 30% of the manufactured fertilizers are found in sewage and wastewater, and the existing sewage treatment plants (STPs) disruptively dispel them into the environment. Recovering nutrients from STPs for recycling could preserve the energy and natural resources used in fertilizer manufacturing and decrease secondary effects such as excessive minerals and nutrients, global warming, and water table pollution (Delanka-Pedige et al., 2021). Risk is a fundamental concept of sustainability. The current requirements of risk outcomes, mainly from climate change and its substantial uncertainties, pose critical social threats to communities, citizens, structural damages, and living spaces (Ajmal et al., 2018; Choi & Matz-Costa, 2017; Eizenberg & Jabareen, 2017). Quality infrastructure leads to the essential quality of people's lives in the developed environment, which is equal to social sustainability (Grum & Grum, 2020). Social sustainability is crucial to positioning health within infrastructure policy to accomplish sustainable development goals.

The progressive growth of communications infrastructure may benefit access to health-related information and services, and aggravate inequalities. Mani et al.'s (2018) research was consistent with that of Schönborn et al. (2019). Supply chains that adopt social sustainability may enhance their social performance and give them a competitive edge, providing cost savings and increased market share (Mani et al., 2018). Corporate social sustainability positively relates to financial enhancement. The predictors that measured their financial success were communication and learning, the social welfare of employees, and stakeholders' commitment and recognition (Schönborn et al., 2019). The different themes found by Ajmal et al. (2018), Delanka-Pedige et al. (2021), Grum and Grum (2020), Harris et al. (2020), Mani et al. (2018), Nilsson and Larsen (2020), and Schönborn et al. (2019) are (a) positioning health within infrastructure policy, (b) place-specific for regional global sense, and (c) the STaRR system. Although the contrasting theme provided a valuable perception of socially sustainable regional locations, the research presented could provide any guidance on strategies for appropriate locations when implementing socially sustainable pillars. Nilsson and Larsen (2020) provided solid standards to follow, even if they are different from Ajmal et al. (2018), Delanka-Pedige et al. (2021), Grum and Grum (2020), Harris et al. (2020), Mani et al. (2018), and Schönborn et al. (2019). Nilsson and Larsen (2020) provided a comprehensive description of the specific location of the global sustainable development index, which implies that global sustainability varies from location to location. Each location has unique circumstances, such as the Arctic. Although the contrasting theme provided a valuable perception of socially sustainable location, the research presented could offer any guidance on strategies for appropriate locations when implementing socially sustainable pillars.

Link Between Sustainable Development Pillars

Climate disasters, migration resulting in forced displacement, and population density in many urban cities in developing countries affect social cohesiveness. Sustainable development includes three pillars: a social pillar, an environmental pillar, and an economic growth pillar. The social pillar operates as a link between the economic and environmental pillars of sustainable development. However, sustainability requires social change; research showed that the adaptation of social sustainability is fragile to the change required for sustainable development. In sustainable development, the idea is that changes could exist in the social roles people agree to fulfill (Ballet et al., 2020). Social pillars, such as environmental and economic, are also inclined to social fallout and are subsequently vulnerable (Ballet et al., 2020; Eizenberg & Jabareen, 2017). For example, climate change may cause refugee crises with mass migration from rural areas into crowded urban areas. Many researchers, such as Ajmal et al. (2018), Ballet et al. (2020), Choi and Matz-Costa (2017), and Eizenberg and Jabareen (2017), highlighted the interconnection betweenness. Examples of non-regulatory (disruptive and proactive) actions at the district and community levels include declaring climate emergencies and linking Indigenous Māori planning to regulatory plans (Saunders et al., 2020). A national policy statement should be designed for natural hazard management, climate change adaptation, and the inclusion of vulnerability into land-use planning.

The social pillar is usually created from an undetermined list of factors that make humanity socially livable. Examples of an undetermined list include social justice, social community well-being, human-scale development, engaged government, human services, social infrastructure, community, community capacity building, and human and social capital (Ballet et al., 2020). Various lists link the social pillar to social sustainability; however, both concepts are distinguished heuristically despite being closely interlinked, and the social pillar links sustainable development's economic and environmental pillars (Ballet et al., 2020). The idea is that there are changes in sustainable development; therefore, sustainability requires social change. However, adapting to social change is crucial to achieving sustainable development (Ballet et al., 2020). In contrast, many researchers suggested that adopting social sustainability is uncertain (Ballet et al., 2020; Grum & Grum, 2020; Horwood, 2020). Social pillars, such as environmental and economic, are predisposed to social repercussions and are vulnerable.

Social disintegration and natural environmental threats are interrelated. The problem is conserving the natural environment and protecting the entire society (Ballet et al., 2020; Grum & Grum, 2020; Horwood, 2020). Environmental justice shows that population and positive environmental conveniences are distributed unevenly (Ballet et al., 2020; Horwood, 2020; Pieper et al., 2019). The geographical discrimination of underprivileged populations in highly populated areas reinforces the relationship between social and ecological inequity (Ballet et al., 2020). Social sustainability strives to challenge risk within the context of sustainability while addressing social concerns. Limited theoretical and empirical studies exist concerning social sustainability, and a new conceptual framework was proposed (Eizenberg & Jabareen, 2017). The sustainability method complements a combined concept; inversely, social concerns are homogenous and inseparable from economic or environmental concerns (Ajmal et al., 2018; Eizenberg & Jabareen, 2017). Researchers from diverse disciplines congregated to research the social aspects of sustainability; subsequently, they were surprised to encounter challenges in finding relevant concepts, terminology, scope, and evaluation methods (Ajmal et al., 2018). The social pillar of sustainable development has not received the same attention as the other two pillars, economic growth, and environmental problems; therefore, sustainable development researchers seek to balance sustainability's environmental, economic, and social pillars.

Conversely, the meaning and relevant objectives of the social pillar are still vague. Social sustainability is arguably the most theoretically confusing pillar of sustainable development (Ajmal et al., 2018; Ballet et al., 2020; Horwood, 2020; Sierra et al., 2017, 2018). Amoah et al. (2020) agreed with previous studies that sustainability is the scope to which identities, relationships, and institutions can persist in the future. Although social sustainability is critical to a sustainable future, social sustainability has received less attention than environmental and economic sustainability (Amoah et al., 2020). The United Nations could not resolve climate change and ecosystem degradation without dealing with relevant social sustainability (Ajmal et al., 2018). Now, the world realizes that society cannot make steady progress in fixing worldwide issues such as climate change and ecosystem degradation without dealing with social sustainability, such as economic and social justice concerns (Ajmal et al., 2018). Consequently, social matters are identical and inseparable from economic or environmental issues. How SSA government institutions establish policies and standards to implement socially sustainable practices for facilitating social and physical infrastructure development is unknown.

Institutional and Infrastructure Theory

Walton H. Hamilton was the first to create institutionalism, institutional economics, and economic theory in 1919, and these theories have evolved over the years. Institutional theory is a theoretical framework that analyzes social phenomena. Institutional theory perceives the social world as a considerably included social order, including institutionalism, and describes how institutional forces bring about conformist behavior in social settings (Adams et al., 2020; Hamilton, 1919; Hodgson, 2000; Lawrence & Shadnam, 2008). Institutionalism features the transmission of information through discussions about institutional perspectives. The transmitted ideas fall into two categories: cognitive and normative. The cognitive refers to what is now and what action to take, and the normative refers to what is appropriate and not appropriate (Vilčinskas, 2018). The coordinative discussions between stakeholders in developing, negotiating, and reaching a consensus are crucial in the public policy domain (Vilčinskas, 2018). The communicative discussion among political stakeholders and the public involves exhibiting, challenging, discussing, and legalizing those policies in the political domain (Vilčinskas, 2018). The difference between coordinative and communicative political discussions is crucial.

Institutions have broadened since their inception. Adams et al.'s (2020) research was on the forest ecosystem, and based on a theoretical framework of institutional capacity for good forest governance, they conducted a relational evaluation of the potential of institutions. Theory and practice are closely related, and institutional economics is defined as the science of the ongoing economic methods that support the movement of goods and services society needs for satisfaction (Chester, 2021). Institutions are essential because they allow lawmakers to make decisions, enforce rules and regulations for proper administration, and implement them for the required purposes. Institutional infrastructure is a feature that binds a field together and governs field interactions (Greenwood et al., 2017; Park, 2019; Park & Dreamson, 2023; Park et al., 2022). Functional institutions support good governance and improve public service delivery.

Institutional Infrastructure

The concept of institutional infrastructure is related to regulating organizational fields. Infra is a Latin root word meaning beneath, which means an element provides coherency and elaboration to a field (Schipper & Schot, 2011). There are two types of infrastructure: physical and social. In 1875, the word infrastructure was first revealed in a report on the French railway project to assign the understructure of railways (Schipper & Schot, 2011). Infrastructure is an English word borrowed directly from a French engineer in 1875 while constructing railroad lines, public water systems, telegraph lines, and fiber optic cables (Greenwood et al., 2017; Grum & Grum, 2020; Schipper & Schot, 2011). Adams et al. (2020), Adshead et al. (2019, 2024), Chester (2021), Greenwood et al.

(2017), Ochieng et al. (2020), and Thacker et al. (2019) described the concepts of social infrastructure and physical infrastructure and the difference between social infrastructure and physical infrastructure. Adams et al. (2020) focused on the potential of institutional capacity. Adshead et al. (2019, 2024) explored institutions' policies and guidelines for decision-making; Chester's (2021) research was about regulation theory and institutional economics. Social infrastructure is all institutions that maintain economic, health, social, and cultural standards, such as educational programs and healthcare (Greenwood et al., 2017). *Infrastructure* is physical resources that include all classifications of infrastructure and human and governance systems critical to sustainably delivering services for those resources (Thacker et al., 2019). Examples of some resources are green infrastructure and all elements of water-related ecosystems. Simultaneously, Adams et al., Adshead et al., and Thacker et al. provided valuable insights into institutions' social infrastructure, physical infrastructure, sustainable policies, standards, and trade concepts. Notwithstanding, three common themes derived from Adams et al., Adshead et al., Chester, Greenwood et al., Ochieng et al., and Thacker et al. are (a) institutional policies and standards, (b) institutional economics, and (c) institutions as physical resources and infrastructure. Trade is an aspect of institutions, and institutions promote trade.

The institutions are defined as infrastructure-related institutions of the government infrastructure. Evaluating institutional capacity in separation from circumstantial elements, such as socio-political-economic and chronological paths, was likely to deliver perception (Adams et al., 2020; Kelling et al., 2021). The socio-political-economic and chronological paths were based on a misguided sense of current and recognized capacity for furthering the standards of good forest governance and certifying authenticity in the forest segment (Adams et al., 2020; El-Bouayady et al., 2024). Task infrastructure could provide a broad range of sustainable development objectives within the 2030 SDGs agenda (Adeleye, 2024; Adshead et al., 2024). The essentials of creating communication procedures for infrastructure decision-makers to take advantage of prospects to accomplish goals through investment policy (Adeleye, 2024; Adshead et al., 2024). Institutions are policies, standards, collective action, behavior patterns, methods of governance, approaches, implementation, repetitive, structured interactions, perceptions, and ideologies (Adshead et al., 2024; Chester, 2021). Institutional structures include modes of regulations such as (a) a financial system that involves various economic divisions and national and international monetary systems, (b) a wage-labor connection involving capital and industry covers all work establishments and employees' living standards, (c) form of competition, which includes establishing the connection between organizations, (d) international position, which comprises financial and political establishments that connect organizations, investment, trade, and domestic and global economy, (e) state system is the institutionalized concession between capital and labor, state involvement, and monetary policy(Adshead et al., 2024; Chester, 2021). Institutional structures are bylaws, policies, guidelines, negotiated results, and a shared value system.

Infrastructure systems deliver services that affect development. The demand for infrastructure services is growing pressure from society and is expanding due to population growth, urbanization, economic expansion, and climate change (Adshead et al., 2019; Chester, 2021; El-Bouayady et al., 2024). Institutions are the development of society, everyday habits of thinking concerning specific relations, and certain functions of the individual and the community (Chester, 2021). The institutional concept concerns behavior patterns of performance in a structural context. The institution's perception is relatively experiencing social events and essential elements of the traditional characteristics of social life, behaving to restrict, not encourage (Chester, 2021; El-Bouayady et al., 2024; Ochieng et al., 2020; Thacker et al., 2019). Social ontology supports the concept of institutions, which is that an institution is not only a social rule but also a social phenomenon (Chester, 2021). Social analysts may explain why some are affluent or not well off; some are better off, and others are worse off than the average (Chester, 2021; El-Bouayady et al., 2024). Chester (2021) framed social conception around methods grounded in institutions such as regulations, ideologies, cultural principles, norms, class relations, and the environment. In contrast, previous and existing researchers agreed that the term institution has a vague meaning (Chester, 2021; Ochieng et al., 2020; Thacker et al., 2019). The two contrasting themes found are (a) the potential of institutional capacity and (b) elements of water-related ecosystems. Chester's finding is consistent with Ochieng et al.'s (2020) argument that the term institution has an ambiguous interpretation, and to date, no clear definition consensus has surfaced despite earlier methodological consistency. For example, many researchers defined *institutions* as rules, laws, regulations, constraints, controls, norms, going concerns, modes of governance, strategies, operations, structured interactions, and instructions (Chester, 2021; Ochieng et al., 2020). Institutions correct the boundaries and enforce structure upon change movements for human beings.

The definition of an institution is unclear; the regulation theory provides institutional insights that institutional economics may use. Previous and existing researchers are consistent with Ochieng et al.'s (2020) research. Chester's (2021) and Ochieng et al.'s (2020) descriptions of the institution are similar to Filho's (2020) explanation of the institution. Institutionalism is cross-functional and critical to any economy (Filho, 2020). An economist must study and comprehend the institution's preservation, digitization, and changes. Institutions are open and progressing systems positioned in a pure ecosystem influenced by technological changes interrelated with social, cultural, political, and power (Filho, 2020). Institutional theory was not used to study the implementation of socially sustainable practices. Huq and Stevenson (2020) provided a contrasting view on institution descriptions from other researchers. Three types of pressures that force organizations to adopt socially sustainable practices are (a) pressure from cultural and societal, (b) formal education and professional networks, and (c) mimetic pressure; organizations feel pressured to imitate their competitors (Filho, 2020). Four diverging, complementing pressures of limited institution regulations are (a) regulative framework not implemented by the state due to incompatibility, incapacity, and corruption; (b) institutional instability and dissociation, (c) state actors diminishing elements as engineers of institutional instability, and (d) complementing pressures as impediments to institutions (Kelling et al., 2021). Multicultural organizations in developing countries do not implement socially sustainable practices in their supply chains; therefore, they cannot maintain employees' safety, health, and equality of well-being (Huq & Stevenson, 2020). Multicultural organizations tend to violate human rights.

Physical Infrastructure Concept

Physical infrastructures are roads, railways, bridges, tunnels, water supply, sewers, electrical grids, and telecommunications, and physical infrastructure is the structure of economic and social activity. Many governments make significant investments in infrastructure because infrastructure is critical to economic growth and the welfare of citizens (Bogart, 2022; El-Bouayady et al., 2024). Advancing the scope of what social sciences consider physical infrastructure has been a feature of work on infrastructure (El-Bouayady et al., 2024; Latham & Layton, 2019). Infrastructures such as public health and education are infrastructure work. A close historical correlation exists between infrastructure development, composition, and social sustainability's health (Delanka-Pedige et al., 2021; Harris et al., 2020). Water is a precondition for growth, and various SDGs are directly connected to the water and wastewater infrastructure and all social infrastructure (Delanka-Pedige et al., 2021; Harris et al., 2020; Nchofoung & Ojong, 2023; Simshauser, 2023; Wolde et al., 2022). Water is crucial to human health, survival, and the planet's sustainability.

Infrastructure is the pillar of every society, providing critical services such as water, health, energy, housing, education, environmental protection, transportation, and communication. Harris et al.'s (2020) research is similar to El-Bouayady et al.'s (2024) and Thacker et al.'s (2019) research. Delanka-Pedige et al. (2021) and Harris et al.'s (2020) findings are consistent with El-Bouayady et al.'s (2024), Thacker et al.'s (2019), and Wolde et al.'s (2022) findings. Infrastructure is crucial to minimizing humankind's environmental influence and facilitating people to live in cities by supplying wastewater treatment and waste gathering, retrieval, and dumping systems (El-Bouayady et al., 2024; Thacker et al., 2019; Wolde et al., 2022). Technology might drift towards the regionalization of alternative energy, which could improve the flexibility of infrastructure networks (Thacker et al., 2019). The energy infrastructure is a devastating challenge for SSA countries. African countries in SSA made minimal progress in per capita electricity-generating capability over 22 decades (World Bank Group, 2020). About 35% of the population in SSA countries has energy access, with the interior's access rates being less than one third of metropolitan energy access (World Bank Group, 2017, 2020). Transport infrastructure has also lagged due to road deterioration and the lack of an alternative transportation model in SSA countries over the past 20 years (World Bank Group, 2017). Social infrastructure included electrical power, transportation, and public infrastructure.

The infrastructure concept is an integral part of the metropolitan structure, and the background technological networks that sustain municipal life and infrastructure are also critically political. The facilitation of life is the dominant element of infrastructure. The concept of infrastructure is about the environmental foundations and systems that facilitate social, economic, cultural, and civil life (Adeleye, 2024; Harris et al., 2020; Latham & Layton, 2019). Facilitating life is the dominant element around infrastructure. Infrastructures are intertwined with how socioeconomic inequalities are maintained and spread (Adeleye, 2024; Awad et al., 2023; Harris et al., 2020; Latham & Layton, 2019; Saadaoui Mallek et al., 2024). Even though infrastructure is often ignored, infrastructure is a core part of how cities operate as socially sustainable technological systems. The first two pillars of sustainable development, economic growth and the environment, have received significant attention; however, researchers have ignored the sustainable social pillars and have limited research (Adeleye, 2024; Josa & Aguado, 2019). The concept and methodology for assessing sustainable social development are not clear. An institutional framework is used to examine the ideas, stakeholders' rules, mandates, and procedures, and underpin the inclusion of health in infrastructure policy (Adeleye, 2024; Thacker et al., 2019). Infrastructure is the construction and provision of services that facilitate economic, environmental, and social incomes (Harris et al., 2020). Latham and Layton (2019), Nchofoung and Ojong (2023), Simshauser (2023), Thacker et al. (2019), and Wolde et al. (2022) characterized infrastructure as the pillar of every society, providing critical water, health, energy, housing, education, environmental protection, transportation, and communication. Social infrastructure investment is essential to community welfare, safety, diversity, and inclusion (Atkins, 2022). Investment in infrastructure is increasing globally, increasing the number of decisions to lock in development patterns for future generations.

Infrastructure plays a substantial role in accomplishing the SDGs. Decisions made for significant investments and policymakers may need to recognize development conditions, likely indications for the next 10 years. Institutions pose restrictions on civil work design planning, construction, maintenance, operation, and decommissioning because infrastructures are interconnected with all three pillars (Awad et al., 2023; Josa & Aguado, 2019). The relationship between society and infrastructure is bidirectional;

therefore, it is challenging to deal with infrastructure (Adeleye, 2024; Josa & Aguado, 2019; Saadaoui Mallek et al., 2024). Infrastructure is critical to economic growth and may be risky to the environment and society (Thacker et al., 2019). The risk created by infrastructure may be progressive, making society vulnerable to natural disasters and costing a financial burden to communities (Awad et al., 2023; Hellberg, 2023; Saadaoui Mallek et al., 2024). Advancing the scope of what social sciences consider infrastructural has been a feature of work on infrastructure. For example, public institutions include libraries, schools, playgrounds, parks, athletic fields, community swimming pools, sidewalks, courtyards, community gardens, and many public spaces where people gather to communicate. Community organizations such as churches and civic associations, art centers, and other consumer goods established in physical spaces, where people are encouraged to meet regularly, are critical parts of the social infrastructures (Adeleye, 2024; Saadaoui Mallek et al., 2024). Ochieng et al. (2020) explored the relationship between infrastructure and trade in East Africa. The challenge is comprehending the trade performance of emerging markets by acknowledging the contributions of infrastructure and the quality of institutions (Saadaoui Mallek et al., 2024). The potential of emerging markets to join international trade is contingent on the quality of institutions and access to a well-developed infrastructure. Numerous Researchers from previous research have explored the role of infrastructure on trade movement; however, there is a vague understanding of how various infrastructures and institutions affect intra-country trade flows, especially in African countries (Ochieng et al., 2020). The quality of institutions is a factor in the analysis using the estimator Poisson-Pseudo Maximum Likelihood (Awad et al., 2023; Ochieng et al., 2020). International trade enhances the economic performance of developing countries, and their successful participation in global trade development depends on components that include the quantity and quality of current infrastructure (Ochieng et al., 2020; Oluwatayo & Ojo, 2018). Infrastructure development stimulates competitiveness by decreasing domestic and foreign trade costs and improving countries' economic integration.

Some interrogative research is needed to fully understand the importance of infrastructure. Infrastructures are not only material objects; the infrastructure is also practiced and interactive, which has numerous properties and is deeply rooted within society and relationships (Latham & Layton, 2019). For example, a library as a physical and social infrastructure is within book distribution systems and has a significant relationship between lending and borrowing (Harris et al., 2020; Latham & Layton, 2019). Infrastructure's core function is classified as hard and soft infrastructure. Hard infrastructure is challenging and includes physical things that are critical economic motivators (Broers et al., 2022; Harris et al., 2020; Latham & Layton, 2019). Hard infrastructure includes libraries, health, education, transportation, energy, water, housing, agriculture, and telecommunication. The library's social infrastructure is transparent; however, a library is not necessarily acknowledged as a soft infrastructure.

In contrast, a social infrastructure element, soft infrastructure, is a complicated set of specialized services supplied across governance, health, education, and leisure. Social Infrastructure is interrelated, and citizens and society are actors and users of social infrastructure, including structures and public space (Harris et al., 2020; Latham &

Layton, 2019). Infrastructure facilitates water distribution, sanitation, energy, and technologies (Delanka-Pedige et al., 2021; Latham & Layton, 2019). Infrastructure development also accelerates economic progress by enhancing production activities and lowering domestic and foreign trade costs (Ochieng et al., 2020). More infrastructure facilities lead to industrialization and create numerous employment opportunities, reducing poverty. Hence, infrastructure development exploits comparative advantage, particularly in local and international trade (Awad et al., 2023; Hellberg, 2023; Ochieng et al., 2020; Saadaoui Mallek et al., 2024). Various kinds of infrastructure facilitate international trade. A complex infrastructure is essential for trade between a country and the rest of the world, including roads, rail lines, ports, and airports. Soft infrastructure also determines trade volumes and relates to cost, time, and the number of documents needed during trade between borders (Awad et al., 2023; Hellberg, 2023; Ochieng et al., 2020; Saadaoui Mallek et al., 2024). Furthermore, since various sectors consume infrastructure services differently, infrastructure quality affects opportunity cost and specialization in international trade. Infrastructure is a multi-trillion-dollar global market displaying many circumstances and risks for sustainable development (Adshead et al., 2019). Foreign investors invested trillions of dollars in the present infrastructure due to population growth, resulting in increasing demands (United Nations, 2024). Foreign investors have invested over $600,000,000,000 in infrastructure development in SSA countries (Signé, 2018). A country's infrastructure quality determines the costs and volume of international trade.

Government Institutions

In the late 1600s, a theoretical move was made about the appropriate role of the source of government, and John Locke's words were used in the Second Treatise of Civil Government. Governmental authenticity depends on the administrator's permission and accountability to secure natural rights (Locke, 2021). While society accepted the monarch's rule of kings as traditional royalty, Locke's (2021) perception differed profoundly. Locke believed that people willingly agreed to be ruled and hold rights that emanate from nature, not the royal decree (Bill of Rights Institute, 2022; Locke, 2021). The fundamental purpose of government is not to rule; the government is to secure those rights. The concept of limited government safeguards the rights of life, freedom, and the quest for happiness, which restricts the appropriate role of government in protecting these absolute rights. (Bill of Rights Institute, 2022; Locke, 2021). The fundamental role of government is to protect the rights of citizens and allow them to pursue their interests. The limited government allows citizens the freedom to prosper, and the government was designed to be an institutional infrastructure, not the source of economic growth (Bill of Rights Institute, 2022; Locke, 2021). Moreover, the unlimited government could cause citizens' freedom, well-being, satisfaction, and limited security; the government would be without adequate power to encourage the public good.

Governance theory provides a valuable and challenging dimension to comprehending social sustainability, sustainable development, and the political world. Governance is about the regulations of cooperative decision-making in situations with many stakeholders or organizations, and no official control system can influence the association between these stakeholders and organizations (Chhotray & Stoker, 2009; Hellberg, 2023; Oyewo et al., 2022). Chhotray and Stoker's (2009), Hellberg's (2023), and Oyewo et al.'s (2022) findings were the same. Governance is an issue across various disciplines, and the word governance is pervasive. Bevir (2011) agreed with Chhotray and Stoker (2009). Researchers gave limited attention to governance to make sense of the entire literature on governance. The World Bank Group and the International Monetary Fund provide financial conditions for good governance (Adams et al., 2020; Bevir, 2011). Governance relates to numerous new ideas and theories constantly challenged by practical reality, leading to policy dilemmas (Bevir, 2011). The concept and action through which society addresses these dilemmas form the basis for new theories and governance.

The latest governance theories and practices encourage citizens to behave in ways that help develop and understand new practices and dilemmas. Previous theories and practices emphasized hierarchy and conditions, and more on markets and networks; however, new concepts and practices placed less emphasis on hierarchy (Bevir, 2011; Chhotray & Stoker, 2009). Mbaku's (2020, 2021) findings concurred with Bevir's (2011), Bill of Rights Institute's (2022), Chhotray and Stoker's (2009), and Locke's (2021) findings. Even though Mbaku provided a contrasting view of governance in SSA countries, the research provided insight into the root problems of unsustainable social development. African government institutions' corrective intervention role is to conserve peace and safety and support economic growth and the formation of the wealth needed to deal with poverty and enhance human development (Mbaku, 2020, 2021). Kofi Annan, former United Nations Secretary-General, said that policies and standards for good governance are critical in eradicating poverty and promoting development (Mbaku, 2020, 2021). For African countries to realize their full potential, the government institutions in SSA countries' political and economic transformation must establish policies and standards for good governance, democracy, respect for human rights, equal justice, and the rule of law.

Many African countries established institutional reforms that transformed their governance infrastructure, providing new leaders. The fundamental factors for good governance are transparency, diminishing corruption, citizens' involvement, equality, social justice, and the rule of law (Mbaku, 2020, 2021; Park et al., 2022). Even though only three countries have implemented good governance, Kenya, Morocco, and Côte d'Ivoire, many countries in SSA still need to implement good governance. Governments in SSA countries play limited roles in promoting and stimulating the economy and are not concerned because they get substantial support from foreign donors (Park et al., 2022). SSA countries' governments do not have policy directives and master plans identifying their limitation for achievement and how to move forward; the overarching, persisting problem is always the application of established policies (Park et al., 2022). SSA governments have not adopted a sense of nation or national identity, resilience, or proactive role-play in a growth mindset. A government that drives incapability by extremely improper government controls, non-competitive policies, and leadership incompetence could not achieve transformation and sustainable development, resulting in the trap of incompetent governance, insufficiencies, and poverty (Park et al., 2022).

Challenges in African countries are mainly due to the non-execution of policies and standards and the wrong mindset of corruption. What is unknown is how SSA government institutions could establish policies and standards to implement socially sustainable practices for facilitating social and physical infrastructure development.

Social Infrastructure Concept

Many elements of social infrastructure exist, and sewage removal and treatment provide clean water, positively affecting health, and are examples of social infrastructure. Transportation infrastructure is also a component of social infrastructure in metropolitan areas that impacts societal walking behaviors, traffic safety, noise, and air quality (Harris et al., 2020). Environmental Infrastructure includes carbon-intensive energy and transportation, contributing to climate change and health impacts (Delanka-Pedige et al., 2021; Grum & Grum, 2020; Harris et al., 2020; Inderst, 2020). More importantly, social infrastructure's essential services cover education, healthcare, and social services critical for health, well-being, and equity. Communication infrastructure is an aspect of social infrastructure necessary for accessing health-related information and services (Hellberg, 2023; Inderst, G., 2020; Ndubuisi et al., 2021). Consequently, communication infrastructure aggravates inequalities.

The social infrastructure concept is the public aspect of urban life, how social infrastructure orients people to how interlinked communities are with publicness. Many researchers argue that social infrastructure is essential to people's everyday lives (Grum & Grum, 2020; Harris et al., 2020; Inderst, 2020). Social infrastructure is an element of work within social sciences, such as public health, education, and democracy. Facilitating life is the dominant element around infrastructure (Latham & Layton, 2019). Infrastructure facilities assist governments in providing vital community services that enhance living standards. Community civic associations, food markets, furniture, art centers, libraries, and other consumer goods are established in physical spaces where people are encouraged to meet regularly (Grum & Grum, 2020; Inderst, 2020; Santos, 2023). Another social infrastructure space is a religious infrastructure designed for religions and places of worship. Built infrastructure is critical for social sustainability and includes physical home characteristics, a safe neighborhood, accessible schools, public transport, parks, and green spaces (Hellberg, 2023; Santos, 2023; World Health Organization, 2024). Users enjoy built infrastructure that increases their quality of life (Grum & Grum, 2020; Inderst, 2020; Latham & Layton, 2019). Communities build trust, achieve collaboration, and develop friendships through social infrastructure.

Public and collective space functioning depends on creating and preserving a sense of trust. Commercial spaces also have a public character that allows citizens to interact with friends and strangers (Grum & Grum, 2020; Inderst, 2020). For example, commercial spaces are covered markets, laundromats, health spas, barbershops, hair salons, and restaurants. Social infrastructure could be a critical resource for the disadvantaged, including diversity (Grum & Grum, 2020; Latham & Layton, 2019). When communities build and preserve social connections by accessing social infrastructure, they have essential benefits and consequences, and these communities may create a social surplus, encourage civility and confidence, and meet common goals (Atkins, 2022; Grum & Grum, 2020). Most of all, communities that access social infrastructure maintain people's physical and mental health. Social infrastructure has other primary functions besides encouraging community gathering and facilitating sociality, which is crucial for providing its primary function. Social infrastructure may also magnify group relationships and align people's interactions across differences (Klinenberg et al., 2020; Santos, 2023). Grum and Grum's (2020) research was consistent with Inderst's (2020). Social infrastructure provides various services crucial to cities' operations as a social sphere, delivers critical functions, and creates affordances for urban inhabitation (Grum & Grum, 2020; Klinenberg et al., 2020). For example, libraries provide books for people to read and borrow, leisure centers provide space to exercise, schools educate people, and markets sell goods (Grum & Grum, 2020; Inderst, 2020). The library is a place that confers aristocracy on people who could not afford or share in aristocracy (Atkins, 2022; Klinenberg et al., 2020). People need pride and decency in their lives and want people to acknowledge them, and a library is a place where people meet strangers, encourage conversations, make people feel important, and learn how to deal with diversity.

Researching social infrastructure means exploring social practices, which means finding and comprehending the spaces and facilities that administer sociality and social connections, making sense of how they work, and discovering the social excess. Atkins (2022) and Klinenberg et al. (2020) provided a credible argument for the significance of developing shared urban spaces; however, the research did not guide how to create urban spaces. The research could include acknowledging the specific value of spaces and facilities, understanding how and why they matter to the communities that use them as social infrastructure, and looking at how good cities may be realized (Latham & Layton, 2019). The significance of social infrastructure includes the value citizens encounter in many cases, such as using facilities as free citizens and free movement (Grum & Grum, 2020; Latham & Layton, 2019). Cities need social infrastructure because they provide spaces to socialize and connect. Social infrastructure is one of the most researched topics, specifically in the social development of communities (Grum & Grum, 2020; Inderst, 2020; Kaur & Kander, 2023). Even though many researchers had discussions on many different definitions, have subjective opinions and concepts of social infrastructure, and have adapted to present policies, they all agreed on one common theme (Afshari et al., 2022; Hellberg, 2023; Santos, 2023). They agreed that social infrastructure is the glue that holds society and communities together. Public spaces are essential because they allow people to go out and socialize with others, enabling them to collaborate on personal and social issues, including politics.

Social infrastructure is critical to sustainability and increases citizens' interactions. In some cases, social infrastructure promotes sociality; moreover, social infrastructure is the core element in highlighting interactions within groups and orienting people toward collaboration across different cultural boundaries (Latham & Layton, 2019). Santos' (2023) research concurred with Latham and Layton's (2019). Social networks encourage infrastructure, diversity and inclusion, integrity, and community development. Livability connects to accessible services, security, affordable living, health, transport, and air quality (Baldwin & Stafford, 2019). Even though researchers agree that social development encourages inclusive societies, communities in developing countries are far from meeting many citizens' social and physical demands (Afshari et al., 2022; Hellberg, 2023; Santos, 2023). Enhancing health and social results is crucial to creating physical environments that are more responsive to the desires of diverse citizens and actively enable social interrelationships and active living.

Government institutions and policymakers have paid little attention to social structures and how they benefit the well-being and involvement of diverse groups in communities and cities (Baldwin & Stafford, 2019). Many disadvantaged groups, such as children, senior citizens, and people with disabilities, are mostly affected. Baldwin and Stafford's (2019) research showed that justice awareness is necessary for policy and practices. The absence of universal design in planning livability practice creates consistent barriers; therefore, policy and decision-making in the planning processes are critical for social development (Baldwin & Stafford, 2019). The various kinds of literature are essential in the current study because the literature discusses planning for establishing socially sustainable policies and practices for marginalized people, people with disabilities, and seniors.

In contrast, despite the importance of social infrastructure and the growing calls for organizations to integrate social sustainability practices into their operations, no coherent policies address the SDGs' economic, social, and environmental challenges (Harris et al., 2020). Various actors involve the public and private sectors at different planning and delivery cycle points (Harris et al., 2020). Actors or stakeholders agree that infrastructure is planned for, invested in, developed, and regulated as a public instead of a private enterprise. Harris et al. (2020) stated that infrastructure is not concerned with public versus private conversation; instead, infrastructure is public versus public conversation. To accomplish infrastructure development, the actor must respect public vs. private conversation (Harris et al., 2020). How SSA government institutions could establish policies and standards to implement socially sustainable practices for facilitating social and physical infrastructure development is unknown.

Theory of Appropriate Technology

Appropriate technologies are objects tailored to operate moderately efficiently to fit the psychosocial and biophysical framework occurring in a particular place and time. Appropriate technology was first used in 1973 by the British economist E.F. Schumacher (Schumacher, 2012; Willoughby, 2004). Elements to consider regarding appropriate technology are environmental, financial, institutional infrastructure, and community (Patnaik & Bhowmick, 2019; Schumacher, 2012; Willoughby, 2004). Appropriate technology is structured for a focused community under confined surroundings. Appropriate technology seeks to develop an independent and environmentally friendly system where people can successfully manage their local needs and appreciate the benefits of technological advancements and development (Patnaik & Bhowmick, 2019). Appropriate technology becomes suitable when acceptance in emerging nations can potentially enhance their economy, culture, environment, and social sustainability, and is essential for the alternative development strategy.

Previous and existing researchers have many definitions of appropriate technology. For example, Patnaik and Bhowmick (2019) defined appropriate technologies as a technology that supports the reasonable practice of technology by drawing on an available resource in a specific environment, and supports the applicable practice of technology by creating the use of an existing resource in a particular environment. The purpose of implementing appropriate technology is when the technology is suitable for the intended environmental, cultural, and economic conditions (Willoughby, 2004). The theory of appropriate technology is an ideological movement that technological choices and applications should be small-scale, decentralized, labor-intensive, energy-efficient, environmentally sound, and locally controlled (Oldenziel & Trischler, 2022). Patnaik and Bhowmick's (2019) and Willoughby's (2004) research is similar to that of Oldenziel and Trischler (2022). Technology provides suitable solutions for a specific community under a particular circumstance. The objective is that appropriate technology seeks to expand the number of technological alternatives for a community and does not focus on any current established technology.

Appropriate technology naturally affects essential human desires and may achieve its intended objective in a specific space. The relevance promotes their use in a more extensive and lesser section of a location and enhances their well-being (Mudawi et al., 2020; Patnaik & Bhowmick, 2019). Akubue's (2000) and Opesemowo and Adekomaya's (2024) research are in harmony with present researchers such as Mudawi et al. (2020), Mensah et al. (2021), Mubangizi (2024), Okonkwo et al. (2024), and Glyptis et al. (2020). The necessity for inclusive policymaking procedures engages various stakeholders and how artificial intelligence can be used ethically to promote human rights and sustainable development objectives in SSA countries (Mubangizi, 2024; Okonkwo et al., 2024; Opesemowo & Adekomaya, 2024). Stakeholders are civil society organizations, marginalized communities, and indigenous groups. Opesemowo and Adekomaya (2024), Palaco et al. (2019), and Patnaik and Bhowmick (2019) confirmed Akubue's (2000) findings that modern technology from developed nations is essential to advance industries, accumulate capital, build infrastructure, and acquire foreign technical expertise. Many developing countries attempted to adopt industrialization that was suitable for their country. For example, SSA countries import foreign goods for domestic consumption while exporting raw materials for foreign manufacturers in developed countries (Akubue, 2000). Irrespective of the strategy used, the application consistently needed the importation of capital goods such as machines, equipment, plants, and the construction of national infrastructure for the domestic production of industrial goods (Akubue, 2000). SSA countries must develop adequate infrastructure and establish socially sustainable policies and standards to support technology.

Technology is an aspect of physical and social infrastructure that contributes to social sustainability. Researchers tend to use the terms innovation and technology interchangeably. The United Nations High Commissioner for Refugees (UNHCR) report underscored that technology is not the same as innovation; instead, technology is physical, whereas innovation is not physical (UNHCR, 2017). Technology standards substantially differ from social ones. Ethical considerations surrounding the transformations of human perception and control of technological values in modern societies seem to be disregarded by political decision-makers (Mubangizi, 2024; Vilčinskas, 2018). A sustainable technological future entails embarking on institutionalized activities to help heighten consumer social acknowledgment of new technologies. Long-term and sustainable development could be achievable only by returning social actors to their authentic subjectivity regarding a hybrid techno-social world (Adamczyk et al., 2019; Opesemowo & Adekomaya, 2024). Technology modifies how society defines the method of evaluating the advancement issue in a progressively complex world (Adamczyk et al., 2019; Khurshid et al., 2024). The future of a technological society appears to be a scientific concept designed to encourage individual technological innovation.

Developing technology policies would mitigate the framework for technology development and encourage citizen participation and engagement in developing countries. Adamczyk et al. (2019) agreed with Amankwah-Amoah (2019) and Mensah et al. (2021) that, regardless of the increasing research on technology management and distribution, research has been scarce. Previous and current studies developed a framework of institutional-based and technology-specific elements that shed light on technological flow and scaling up (Adamczyk et al., 2019; Amankwah-Amoah, 2019). The silent technological revolution in SSA is becoming a developmental issue and challenge (Amankwah-Amoah, 2019; Khurshid et al., 2024). Information Communication Technology (ICT) could promote the environmental sustainability of smart cities (Bouzguenda et al., 2019). One of the unique qualities of 21st-century SSA is the progressive adoption of many technologies, such as mobile phones, solar energy, and drones, for developing programs for innovation (Amankwah-Amoah, 2019). Barriers to implementing technology include SSA government institutions with unestablished public policies and standards to implement socially sustainable practices, resulting in a deficiency of available financial credit and limited banking services. Challenges have emerged for technological innovations such as mobile phone-based banking, Internet services, e-gov, and m-government applications (Amankwah-Amoah, 2019). Many reports from the World Bank Group and the Food and Agriculture Organization refer to Africa as the sleeping giant (Amankwah-Amoah, 2019). Despite a superabundance of promising possibilities for businesses to prosper and for the continent to surpass some competitors, there remains limited comprehension of restraints and accompanying primitive innovation. Institutional barriers cause technological stagnation, and technology ignorance and innovation stagnation are unfortunate, considering that technology distribution has been recognized as a pillar in SSA's economic development in the 21st century.

Conversely, Africa's rising trends, technological innovations, and technology remain underexplored. The challenge to accepting new technology is establishing policies and standards for regulations by formal and informal institutions (Amankwah-Amoah, 2019). Many researchers state that institutions fail to accomplish policy objectives to implement socially sustainable practices (Adams et al., 2020). Institutions fail because individual countries in SSA do not have the required resources and capability of an institutional mechanism to handle complex regulations connected to technologies for policy applications (Adams et al., 2020; Amankwah-Amoah, 2019; Mubangizi, 2024). Technology in sustainable development is essential for understanding the importance of technology infrastructure in socially sustainable development. Adamczyk et al. (2019) examined the controversial role of technology in sustainable development for the common good. ICT plays a role in stakeholders' involvement and significantly contributes to sustainable cities. Implementing complex adaptive systems theory shows that technology could support infrastructure system difficulties (Oughton et al., 2018). Consequently, the views of Bouzguenda et al. (2019) are valuable guidelines to follow, even if they vary from those of Adamczyk et al. (2019), Khurshid et al. (2024), and Oughton et al. (2018). Three common themes emerged from Adamczyk et al., Khurshid et al., Bouzguenda et al., and Oughton et al.: (a) technology and sustainable development, (b) technological revolution and sustainable development in Africa, and (c) technology towards smart, sustainable cities.

Sustainable technology involves taking institutionalized actions to facilitate and enhance the social awareness of new technology users. Unestablished policies and standards of institutions cause unavailable financial credit and limited banking services, creating circumstances for new technological innovations (Khurshid et al., 2024). Properties of the complex adaptive system described the mechanisms of infrastructure development and conversely presented system-of-systems procedures rooted in the adaptive system theory (Bouzguenda et al., 2019; Khurshid et al., 2024). The future of sustainability and security would solve most of society's existential problems. Technology alone could not solve problems due to low awareness of the civilization threats linked with a wide range of perceived devastation of the natural environment (Adamczyk et al., 2019; Akpan-Obong et al., 2023; Khurshid et al., 2024). Technological innovation plays a crucial role in accelerating the transition to a sustainable growth model, and technology is becoming a necessary tool to enhance the flow of new concepts and next-generation commodities. The relationship between smart, sustainable cities and digital stakeholders' participation in social sustainability is crystal clear because social sustainability is a pillar of sustainable development (Bouzguenda et al., 2019; Khurshid et al., 2024). However, the relationship between sustainability and stakeholders' involvement is unclear because digital citizen participation (DCP) was not fully addressed. The need for socially sustainable policies and standards for implementing technologies is recognized. The contrasting themes of Adamczyk et al. (2019), Bouzguenda et al. (2019), and Khurshid et al. (2024) are (a) infrastructure as a complex adaptive system, (b) DCP in the smart city, and (c) the ICT role in DCP. Although the contrasting themes provided interesting viewpoints about complex adaptive systems and DCP in smart cities, the research presented could help review any perception about the contribution of technology to DCP and infrastructure as a complex adaptive system.

A society characterized by technology also operates based on a specific form of possible order, which guarantees the coordination of achieving individual and collective needs. New technologies may help develop a particular stabilization of social life experiencing interpersonal deterioration (Adamczyk et al., 2019). The challenge for a sustainable future is to resolve concerns for the safety of society's freedom and the confidentiality of a technologized world. The Internet is a crucial technological solution that will significantly change the world economy and future society, and technological waste and rubbish persist as unresolved concerns (Akpan-Obong et al., 2023; Okonkwo et al., 2024; Opesemowo & Adekomaya, 2024). National infrastructure systems, including energy, transport, digital, waste, and water, are acknowledged as complicated and interconnected. The lack of innovation has impeded the implementation of complexity-based procedures in public policy development for policymakers. Infrastructure systems globally are progressively challenging due to increasing demand, and many assets are approaching their lifespan. Technological solutions could help address infrastructure systems challenges by enhancing ICT to provide innovative supply and infrastructure demand management (Khurshid et al., 2024; Oughton et al., 2018). For example, innovation is critical for researching food systems; however, innovations are nonexistent or narrow for vulnerable communities in SSA and developing countries worldwide.

E-Government Concept

The Paperwork Reduction Act (PRA; Public Law 96-511) was passed in 1980 as the US 1977 Commission on Federal Paperwork phased out. The PRA, the Federal Government, first used electronic government to enhance service delivery through technology in 1997 (National Research Council, 2007). In the late 1990s, the federal Chief Information Officer's Council emphasized IT projects that offered services to citizens and moved away from backroom functions (Grönlund & Horan, 2005; National Research Council, 2007). The government performed the National Performance Review (or Reengineering Government) effort, accentuating the IT-enabled government (National Research Council, 2007). The government used the e-gov concept to replace information electronically with citizens, businesses, and other government agencies and facilitate government services, transactions, and integration of many standalone systems and services (Grönlund & Horan, 2005; National Research Council, 2007). E-gov was first called digital government or electronic governance in the 1990s, and e-gov was used for communal experiences between practitioners and the government, consisting of many different agencies and processes.

The terms e-gov, e-signature, e-payment, and e-commerce emerged from the Internet boom in the late 1990s. However, computing in the government went back to the early 1970s and was referred to as office automation (Grönlund & Horan, 2005; National Research Council US, 2007). The concept of e-gov is more concerned with external use, such as services to citizens. New concepts appeared to gain popularity in new technology, such as m-government, where (m) refers to mobile technology (Dhaoui, 2021; National Research Council US, 2007). Mobile communications technology transformation and the expansion of high-speed wireless internet have substantially affected economic and global social development over the past decade (Amankwah-Amoah, 2019; Dhaoui, 2021). Mobile technology expanded the public segment's ability to control ICTs to enhance their internal operation and interrelationships with citizens and businesses (Amankwah-Amoah, 2019). The expansion of communication networks and mobile technologies gives access to areas where options for internet or wired phone services are needed. Affordable, plug-and-play mobile devices remove current barriers. Mobile devices empower citizens to connect to governments to access a wide range of information and services in several policy areas such as health, legal information, education, finance, employment, transportation, and public safety (Dhaoui, 2021; Khurshid et al., 2024). On the contrary, even though mobile communication is affordable and positively affects the lives of citizens, mobile communications are still saturated, and there is still limited access to fixed internet services in SSA countries. Limited internet services are due to the high cost of the internet and inadequate infrastructure.

The m-government will extend services to remote areas and promote government services and communications to rural communities. Africa is still the least broadband adopting region, with a saturation rate of 37.3%, and m-government is not to replace e-gov; however, m-government is to enhance e-gov (Frohlich et al., 2020). The challenge is that citizens in remote areas are uneducated, and the rural regions have inadequate ICT and supporting infrastructures such as electricity, unavailable tap water, road networks, and untrained ICT skills (Frohlich et al., 2020). Citizens in rural areas cannot afford computers or internet services and have low literacy rates, perceiving m-gov as useless. Nonetheless, m-government could facilitate simple communications, such as short message services to deliver information to rural areas, and m-government is appropriate because mobile phone usage is extensive (Frohlich et al., 2020). Developing countries need a policy for implementing m-government because m-government contributes to social sustainability.

Many researchers have defined e-gov as the initiatives of government institutions to use ICT tools and mobile devices. The Internet promotes good governance, develops current relationships, and forms new partnerships with civil society or government customers (Mensah et al., 2021; Mudawi et al., 2020; Palaco et al., 2019). Using ICT, e-gov supports online government services for civil society, government institutions, and private institutions (Mudawi et al., 2020). E-gov is an ICT tool for government and private institutions that provides free information flow by simplifying citizens’ accessibility to government services for citizens or customers, government institutions, and private institutions to cut costs (Mudawi et al., 2020). E-gov uses ICTs to transmit government services and interact with civil society, government customers, government institutions, and private institutions. Inadequate ICT infrastructure challenges, including electricity, citizens' limited knowledge, awareness, and security issues. Likewise, challenges of implementing e-gov cloud services in Liberia and SSA countries include citizen distrust, defiance of change, digital divide, unskilled professionals, limited political change agents, and limited electrical infrastructure (Mensah et al., 2021; Mudawi et al., 2020). Implementing e-gov in developing countries is challenging. Each country has various challenges because each has unique problems with adopting ICTs.

Three common themes emerged from the four pieces of literature. Three common themes are (a) limited electrical power, (b) unawareness and distrust of citizens, and c) inadequate infrastructure development (Glyptis et al., 2020; Mensah et al., 2021; Mudawi et al., 2020; Palaco et al., 2019). Consequently, a country's financial status, e-readiness, adequate infrastructure facilities, and technological innovations are necessary for information communication, knowledge management, and political and legal structure to influence the degree of e-gov (Glyptis et al., 2020). Social confidence and inadequate infrastructures, such as Internet connection and electricity, are limitations that developing countries face when implementing e-gov. E-gov implementation provides easy public access to government information services and enhances government activities and decision-making reliability (Mensah et al., 2021). E-gov is essential for government institutions in developing countries because it provides alternative services, resulting in affordable and feasible transmission.

Benefits of E-Government

E-gov implementation benefits SSA countries, such as cost reductions and paying only for what they consume. Implementing e-gov is crucial to promote social justice, environmental sustainability, improve competency efficacy, decrease economic inequality, citizens' participation, citizen liability, government transparency, alleviate corruption, enhance communication, provide efficient services, and make it easier for civil servants and citizens to access information (Glyptis et al., 2020; Mudawi et al., 2020; Palaco et al., 2019). E-gov would also support services and utilities and provide the infrastructure for effective decision-making for government and policymakers (Glyptis et al., 2020; Mensah et al., 2021; Mudawi et al., 2020). Adjei-Bamfo et al.'s (2019) research is consistent with Mudawi et al.'s (2020), Mensah's (2019), and Glyptis et al.'s (2020). Specifically, in the case of business creation and usage behaviors, governments use public procurement policy to certify that suppliers' operations are environmentally and socially friendly while supporting solid economic well-being (Adjei-Bamfo et al., 2019). Sustainable public procurement practices are crucial to government and private institutions; therefore, public procurement practices are under review as part of global initiatives to encourage sustainable development results and diminish corruption. Government use of ICT accelerates sustainable buying and supply chain management practices in public segment organizations, especially in developing countries.

SSA governments adopting electronic services could significantly support the e-gov system. E-gov processes are quick, allow limited face-to-face supplier interaction, and are cost-effective (Adjei-Bamfo et al., 2019). E-gov reduces procurement corruption and supports transparency and effectiveness in public procurement. However, governments in SSA have challenges implementing e-gov due to limited access to electrical power, inadequate infrastructure, education, technology, and limited peer reviews contributing to sustainable public procurement (Glyptis et al., 2020; Mensah et al., 2021). E-gov is unavailable in SSA countries. What is unknown is how SSA government institutions could establish policies and standards to implement socially sustainable practices for facilitating social and physical infrastructure development.

Policy Concepts and Standard Theory

From the policy science movement's initial stage, the concern was the relationship between knowledge, policymaking, and power. The founding father of public policy, Harold Lasswell, first coined the term policy, believing that democratization was ongoing (Lasswell, 2003). The concept of sustainable development has numerous policies and common areas. Since the Brundtland Commission report defined the concept of sustainability, the concept has earned a prominent place in the political and scientific community and is enhanced by new dimensions across policy and standards areas. However, the concept has no framework to include those numerous concepts and approaches, and researchers have ignored social policies and standards.

The word policy is difficult to comprehend because it does not focus on one specific area or program as much as the vital component hidden in policy development.

The term policy is a broad concept that embodies several dimensions; the challenge is understanding the meaning of this term coherently and persuasively (Torjman, 2005). Nevertheless, the public policy objective is to achieve the desired goal of all society members, influence every aspect of our lives, and affect intensely and universally (Ballet et al., 2020; Hynes et al., 2020; Torjman, 2005). For example, public policy determines the quality of the air we breathe and the water we drink and affects the food we eat and how it is harvested, distributed, sold, and bought. Transport policies introduced in India are unsuccessful due to complex institutional capacities, non-monitoring, and non-governance (Verma et al., 2021). Urban cities may need policies to address challenges, alleviating transport-related problems such as overcrowding and traffic, air pollution, noise, and traffic injuries (Gössling, 2020; Hynes et al., 2020; Verma et al., 2021). Gössling (2020) proposed policies for introducing e-scooters in significant cities, and these policies may include speed limits, the number of licensed operators, mandatory use of bicycle infrastructure, and specialized parking. Transportation is another example of a domain governed by various public policies, most of which are concerned with the safety of travelers.

There are three different ways of looking at policy. The first way is through substantive and administrative policy. The sustainability policy concerns the legislation, programs, and practices that govern the critical aspects of society and community. Administrative policy focuses primarily on administrative processes that collect statistical information on neighborhoods and assess complex community programs (Kusakci et al., 2022; Liu et al., 2020; Torjman, 2005). The second way is vertical and horizontal policy.

A single organizational structure develops vertical policy and generally starts with a comprehensive overarching policy, sometimes called corporate or framework policy (Douenne, 2020; Torjman, 2005). The horizontal policy is the collaboration and incorporation of business strategies for sharing ideas and combining resources with another organization to operate on one level (Douenne, 2020). For example, two or more organizations develop horizontal policies and create integrated policies between parts or organizational components in the same hierarchical position. The third way is a reactive and proactive policy. Reactive policy emerges in response to a concern or crisis that may be addressed (Liu et al., 2020; Torjman, 2005). Three examples of reactive policy are health emergencies, environmental disasters, and national skills (Torjman, 2005). Proactive policies are deliberate choices that introduce and pursue proactive policies (Torjman, 2005). Knowledge and learning are progressively identified as vital keys that open doors to economic wealth and social well-being (Carraro, 2024; Kusakci et al., 2022; Torjman, 2005). Current policies on the public agenda, such as healthcare, usually have a high profile, whereas future policy is a formal process to modify or improve the existing arrangement.

Improving Policy Making

The difficulties facing modern democracies were guaranteeing that policymaking could be communicated in a new way, with the interrelation between knowledge producers and users. Ballet et al. (2020) attempted to develop a policy framework to support social sustainability, which is usually ignored when discussing sustainable development. Consistency with policy sciences is rising for dictatorship instead of democracy. The government should rely on science to tell the government what works, why, and what kinds of policy initiatives will likely be most effective (Parsons, 2002). The evidence-based policymaking process was perceived as a threat to the potential of acknowledging the founding fathers' vision for the policy sciences' role in modernizing the policy process (Adelle et al., 2020; Martin, 2021; Thornthwaite & O'Neill, 2019). The role of social science is to tell the government what works and why, and what kinds of policies and initiatives are likely to be most effective. Social science is required to set a clear, definite plan.

Fact-finding-based policymaking is a missed opportunity for enhancing government and tends to confuse the relationship between knowledge and policymaking in a democratic society, rather than clarifying it. Adelle et al.'s (2020), Martin's (2021), and Thornthwaite and O'Neill's (2019) studies are in harmony with Parsons (2002) in that the objective is public policy, motivated by knowledge, and researchers focus on factual findings. Evidence-based policy means getting information to thoroughly understand the policies related to programs, political concerns, agency culture, and the progression of these policies (Adelle et al., 2020; Martin, 2021; Parsons, 2002). Evidence-based policy is critical for collaborating with stakeholders and agency partners to develop trust and comprehension of policy history, context, and emotions, ask for stakeholder feedback, and engage in spreading activities beyond contracted deliverables (Martin, 2021). Developing trust is a prerequisite to introducing scientific understanding into the long-term policy procedure.

Evidence-based policymaking would be perceived as a project focused on improving management techniques. Adelle et al. (2020) and Stucki and Sager (2018) agreed with Parsons (2002) that evidence-based policymaking controls the policymaking process rather than enhancing the ability of social sciences to influence the practices of democracy or implement the type of systems thinking or complexity promoted by other researchers. Adelle et al. (2020) and Stucki and Sager (2018) also agreed with Parsons (2002) that some researchers went as far as characterizing the policy process as a swampy lowland where resolutions are perplexing messes unqualified for technical results. The belief in knowledge management and strategic guidance is the central underlying assumption of evidence-based policymaking that there is undoubtedly a firm high ground in the policy swamp, and the task is to map it out and occupy it (Adelle et al., 2020; Coblentz & Shelley, 2022; Parsons, 2002). The potential and desire to move policymaking out of the swamp sphere through the new ground where policy may be motivated by fact instead of political ideology and prejudice (Adelle et al., 2020; Coblentz & Shelley, 2022; Parsons, 2002). The swamis referred to a world of change full of complications, instability, insecurity, and ignorance, which implies a very different process to policymaking (Adelle et al., 2020; Stucki & Sager, 2018). Even though the swampy lowland is messy, it contains critical and essential problems for human beings. The conceptualization of evidence-based policymaking is that policy is a territory capable of plotting and occupied, and knowledge of evidence-based policymaking is a means of controlling the mess and cleaning the swamp (Adelle et al., 2020; Parsons, 2002). Thornthwaite and O’Neill (2019) also agreed with Adelle et al. (2020), Coblentz and

Shelley (2022), and Parsons (2002) that there is a need for knowledgeable and careful inspection of the contribution of evidence-based contributors to government policymaking, particularly regarding wicked policy problems. Continual political differences ground the methodology of research explanation and credible policy solutions. In the United Kingdom, the United States, and Australian policy communities, since 1990, evidence-based policy has been referred to as a standardizing conception (Parsons, 2002; Stucki & Sager, 2018; Thornthwaite & O'Neill, 2019). The policy may be based on the best available facts and subject to unbiased scientific evidence.

Government policy could not be directed by belief but by knowing what works and why. A policy may have a particular inevitability, a type of knowledge and evidence that policymakers need to measure the size of the effect A on B (Adelle et al., 2020; Parsons, 2002; Stucki & Sager, 2018). Parsons's (2002) findings are in harmony with those of Adelle et al. (2020) and Stucki and Sager (2018). Evidence-based policymaking is an authentic social science; trustworthy answers come from social scientists willing to engage in this effort. Adelle et al. and Stucki and Sager agreed with Parsons that the policymaking process requires A-B knowledge if policymakers are tough on problems and their causes. Expertise in the interactions between people is essential to A-B knowledge.

Policy Framework

A policy framework, policymaking, and evaluating public policy for social sustainability provided a complete understanding of the policy framework for social sustainability, public policy, social networks, policymaking, and infrastructure policy in public health. Awan et al.'s (2020) research focused on social sustainability practices in manufacturing and explored prioritizing the substantial obstacles that inhibit the successful application of social sustainability practices in manufacturing. Ballet et al.'s (2020) research distinguished the social pillar using the three standards: social unity, equality, and security. Araripe-Silva et al.'s (2018) research built a sustainable development index founded on environmental, social, financial, and institutional elements and showed a geographical evaluation of municipalities' justices in the State of Ceará. Park's (2019) research provided policy recommendations for Africa's development after evaluating the sense of nation, development mindsets, and the active role of the state. Pieper et al. (2019) presented the SOLA model based on an exhaustive review of unconventional methods. Venkataramani (2021) provided a live experience to evaluate public policy to generate accurate influences on future policy and practice. Yang et al. (2023) explored the effect of applying a new energy exhibition of city policy on the green sum element productivity of resource-based metropolitan areas in China. The ideologies by Ballet et al. and Pieper et al. are valuable guidelines to follow, even if they differ from Awan et al., Park, Parsons (2002), Venkataramani, and Yang et al. However, four common themes emerged from the various types of literature: (a) policymaking requires strong evidence, (b) policy frameworks for social sustainability, (c) social sustainability practices in manufacturing, and (d) policy recommendations for Africa's development.

SDI allows efficient communication between various stakeholders to expand public policies, urban planning, and environmental impact assessment, and organize volunteer networks and civil discussions. While Araripe-Silva et al. (2018) developed the SDI, reducing social, economic, environmental, and institutional conflicts, Venkataramani (2021) focused on evidence-based policymaking. The different themes found by Yang et al. (2023) and Ballet et al. (2020) are (a) differentiating social pillars, (b) new energy policy influence on urban cities, and (c) the SDI. Although the contrasting themes provided an entire perception of policymaking, the literature presented could help a viewpoint or methodology for establishing socially sustainable policies and standards. The socially sustainable pillar is broad and challenging without institutional policies (Awan et al., 2020). The general approach is the 3-pillar model of sustainable development (Awan et al., 2020). Social sustainability is one of the three pillars of the sustainable development concept and a critical pillar that connects sustainable development's economic and environmental pillars.

The social sustainability pillar is achievable by implementing credible institutional policies. A multiple-criteria decision-making approach is used to characterize the crucial elements that impede the application of social sustainability operations (Awan et al., 2020). The social sustainability concept perceives society as a broader residual class, and the main concepts are poorly grounded in theory. Deeming and Smyth (2017) agreed with the OECD and IIASA's framework for policy reports and Taylor's (1911) framework for diversity and inclusive growth policies, which named social elements such as norms and institutions among other motivators. Deeming and Smyth's findings contributed to the community of social standards research and the objective of social policy, including social accounting, the SDI, and social indicators, to provide a practice-oriented framework emphasizing theoretical foundations.

The SDI allows elaborate public policies on society's collaborative and associative development. Due to the changing needs of society, research exploring SDI diversity schemes for social measurements is a tool for public policymaking (Carraro, 2024). The SOLA model is an SDI within the social sustainability framework. Pieper et al. (2019) introduced the SOLA model approach, where a theory-based conceptual framework places social sustainability into a systematic context of other dimensions of sustainability and supports the comparison and interpretation of existing approaches to social sustainability. The SOLA is general enough to mediate between disciplines and theoretical approaches effectively.

Public Policy Framework

Many researchers stated that the sustainable social development policy provides a new point of view on socially sustainable practices by stressing the essential role of the social pillar in the policymaking process. Awan et al.'s (2020) research is in harmony with many researchers. Policy stimulants on international certification linked to health, safety, and labor issues are essential for manufacturers to grow their global business successfully (Awan et al., 2020). Social problems may integrate socially sustainable practices within their organizations because social issues such as security, the well-being of employees, society, health, and human rights could directly affect people and lives (Huq & Stevenson, 2020; Mani et al., 2018). There is increasing societal pressure for businesses to make drastic changes in their operations due to progressive interest in the social performance of companies. Exploiting and ignoring human and social resources and the needs of stakeholders are no longer feasible within and outside the organization (Schönborn et al., 2019). Socially sustainable public policies that meet society's needs and balance regional capacities, raising productivity levels and promoting a process of urbanization with low environmental and social impact could reduce disparity (Carraro, 2024). The UNSDGs target 2030 to encourage sustainable development, including health and social well-being, gender equality, diversity, and inclusion (Awan et al., 2020). Public health and infrastructure policies are communally supportive of public interest, with associations with all 17 SDGs (Harris et al., 2020). The movement toward senior citizens in the community changed the responsibilities of neighborhood environments in motivating individuals' adaptive behaviors and is critical in motivating their health and well-being (Choi & Matz-Costa, 2017). Consequently, establishing health and well-being as essential societal results from infrastructure decisions could help accomplish all 17 SDGs.

Barriers to Implementing Policies

Two barriers and concerns exist when implementing policies. The first barrier is the sustainable operation consequences related to governance, linking to exchanging communication, monitoring suppliers, and support from buyers-driven knowledge driver practices; the second barrier is crucial institutional policies and support (Awan et al., 2020). Institution policies focus on government institutions, and policymakers must emphasize removing these barriers to encourage social sustainability (Awan et al., 2020). Signé's (2018) finding is similar to that of Awan et al. (2020), who found that trade barriers exist in SSA countries due to inadequate infrastructure and social sustainability practices. The public and private segments in SSA countries need to enhance their economic competitiveness, diversity, ability to compete, and productivity to obtain capabilities of manufacturing and industries (Signé, 2018). AUC/OECD (2024) policy papers are similar to Awan et al.'s and Signé's research, which suggests that insufficient inter-regional trade is partially the reason for less competition in production infrastructure and many barriers. Three core impediments experienced in enforcing social sustainability practices: (a) inadequate buyer-driven social push and assistance, (b) deficiency of shared understanding and exchange of intelligence, and (c) missing the use of security equipment and practices (Awan et al., 2020). Inter-regional trade should include quality and compliance regulations, the origination of regulations, communication on commercial matters, and enforcing the current trade agreement and customs processes.

Policy for Export Market

Deregulation and tax deduction decrease friction to competition because competition stimulates the economy. The free-market economic theory focuses on market efficiency and how market efficiency may be accomplished by implementing the deregulation of businesses and reducing taxes (Hynes et al., 2020). Accomplishing market efficiency does not consider such a policy's environmental or social implications (Hynes et al., 2020). The AUC/OECD (2024) explored policies for preparing African organizations for growth opportunities through export markets and enhanced tariffs. Hynes et al.'s (2020) policy papers emphasized that many SSA countries could benefit from improved tariffs from regulations established by the World Customs Organization and implemented by the World Trade Organization. The AUC/OECD overview provided SSA decision-makers with tools for policy negotiations and restructurings at national, regional, and international levels. The overview revealed that policy interventions would make trade easier by decreasing uncertainties connected to market entry (AUC/OECD, 2024). The research is crucial because the export market would enhance government institutions' transformation for growth opportunities.

The AUC/OECD emphasized three types of policies in the systematic approach to productive transformation in SSA countries. The three types of policies are (a) developing strategic clusters of organizations, (b) facilitating regional production networks, and (c) improving the capacity of firms to flourish in emerging markets (AUC/OECD, 2024). The AUC/OECD overview also provided initiatives critical to industrialization for a sustainable economic transformation, including the single African air and sea transport market and the African single travel (passport) document (AUC/OECD, 2024). AUC/OECD overview showed that clusters allow restricted resource governments to make the most of their portfolio by investing in a specific location rather than spreading it. SSA countries may approach the global technology perimeter by inviting foreign direct investment. Organizations connected to an institution in a cluster could transfer knowledge, enhancing policy impact.

Policy could be based on a forceful approach and sound evidence. Many policymakers in developing countries have inadequate knowledge to translate policies for implementation (Adams et al., 2020). African policymakers need to follow a practical cluster-building approach to guarantee long-term benefits and productive restructuring and build interrelationships between actors in these clusters (AUC/OECD, 2024). What is unknown is how SSA government institutions could establish policies and standards to implement socially sustainable practices for facilitating social and physical infrastructure development.

Implementing Policies

Establishing policies in SSA countries to promote the productive transformation of environmental protection and infrastructure means developing many policies. The AUC/OECD's (2024) established policies are: (a) environmental risk evaluation and infrastructure development; (b) development promotion of the country's sector and credit access to enhance finances for SMEs; (c) training to improve the mismatch skills and jobs; (d) enhancing industrial competitiveness, and (e) increasing regional integration of intercontinental trading. SSA countries need policies for developing capacity in the building and infrastructure industries because inefficient workforce skills have created barriers to building housing and developing urban infrastructure. Countries need policies for risk evaluation on climate change to communicate the development of a National Adaptation Plan (NAP) to guide the decrease in disaster risk (Saunders et al., 2020). Developing countries must establish a framework for measuring living standards. New Zealand is developing an index to measure New Zealand's living standards framework and could develop and implement policies using a three-tiered governance structure, such as central government, regional councils, and territorial authorities (Saunders et al., 2020). Each of these governance structures is responsible for implementing the national legislature; however, SSA governments need behavioral change to develop frameworks for measuring standards and for institutions to implement policies and standards.

SSA's development activities can be improved by gathering evidence, testing assumptions, and spreading practical, established ideas. The challenge motivates African government institutions to make essential changes in policies and standards (Araripe-Silva et al., 2018). Nevertheless, implementing change requires behavioral change; behavioral change is complicated to sustain without government institutions and organizations' ownership in the transformation process. Even though government institutions, organizations, and stakeholders agree that changes are critical and beneficial, unless leaders and stakeholders believe changes are crucial and valuable, they are not motivated to implement and maintain changes long term (Araripe-Silva et al., 2018). Additionally, evaluating institutions to improve policy would help support the restructuring process. The effect on decision-makers at all stages provides awareness for stakeholders, such as SSA's locals, to learn about sustainable social practices, and the benefits of implementing policies would reinforce the ability of locals to accept policies (Adshead et al., 2024). The result would influence policies and programs across the development segment and encourage foreign investments. Excellent quality knowledge and reliable evidence may motivate change. Not all policies can be changed due to evidence if stakeholders do not believe the present policy is in the interest of an organization's stakeholders (Araripe-Silva et al., 2018; Lakmeeharan et al., 2020). Many policies can be changed remarkably over the long run. Multi-sectoral needs to identify stakeholders involved in decision-making to create the objectives, strategies, and significance of their sectors that serve them with policies (Araripe-Silva et al., 2018; Lakmeeharan et al., 2020). Systems thinking is essential for implementing changes and new policies. Government institutions, organizations, and stakeholders vigorously resist new policies or changes in policy because change is hard.

The word system approach is never attached to policymaking, economic, education, social, political, or financial. The OECD and IIASA have proficiency and knowledge in adopting systems thinking to recommend new approaches to comprehend systemic properties (Hynes et al., 2020). The world entails complicated systems and systems of interaction and changes the interrelationships create, and society will never comprehend the globe unless it adopts a systems approach and employs systems thinking (Hynes et al., 2020). Governments in SSA countries need to adopt systems thinking because the systems methodology may support cross-sectional, wide-ranging collaboration in policymaking (Hynes et al., 2020). The systems approach appropriately accounts for the critical connections between issues considered separately within various specializations and scientific and institutional silos. Society could comprehend the system properties of emergencies such as climate change, trends, and issues shaping the present and future world.

Standard Theory

The standard theory goes back to 1956, a philosophy by Benjamin Bloom with a taxonomy of educational objectives. The standard theory is based on the concept that students were required to develop higher-order thinking skills, a movement away from memorized learning (Bloom, 1956). Bloom's (1956) philosophy was significant in the first standard-based, outcome-based reform. Standards concerning economic and social-ecological issues have become an element of global governance. Standards are logically related tasks implemented to accomplish a defined business result; standardization is the extent to which task rules, policies, and operating processes are validated and followed (Hajian & Kashani, 2021; Yang, 2024). The four elements for defining standardization are (a) standardization is concerned with entities, (b) application of standardization is in segments, (c) standardization has a purpose, and (d) how people or parties engage in standardization (Hajian & Kashani, 2021; Yang, 2024). Standards are progressively concerned with social and environmental issues in global production networks (Strambach & Surmeier, 2018). Most standards are continuously developed in the Global North while limiting the participation of stakeholders in SSA countries. Standards could promote economic efficiency, reduce transaction costs, and promote sustainable development processes locally, and global-based standards must accommodate citizens' context-specific needs in developing countries that do not apply non-existent standards (Strambach & Surmeier, 2018). Due to finances, SSA countries face challenges in improving their product and living standards.

Developing countries are making progress in living standards, but SSA countries have not improved their living standards, causing widespread poverty. Progressing sustainable growth is critical for enhancing living standards and decreasing poverty (Obianyo et al., 2021). Azolibe and Okonkwo's (2020) research is similar to Obianyo et al. (2021). Developing infrastructure in Africa is critical for fostering economic growth and improving the living standards of Africans (Azolibe & Okonkwo, 2020). The enhanced living standard is a component of the sustainable social pillar. Broers et al. (2022) and Obianyo et al. (2021) emphasized that the low standard of living, especially for housing, is due to unestablished policy and standards formulation and application, inadequate infrastructure maintenance, bribery, corruption, and the high cost of building materials. SSA countries' government institutions could establish policies and standards to implement socially sustainable practices for facilitating social and physical infrastructure development. Citizens are not patriotic about purchasing local goods and services due to low standards and the failure of the government to promote the use of local materials and services (Obianyo et al., 2021). Fortunately, Nigeria has established organizations to monitor standards for imported goods (Obianyo et al., 2021). The Standard Organization of Nigeria and the Nigerian Society of Engineers are implementing engineering codes and standards among practitioners across Nigeria (Obianyo et al., 2021). Even though imported goods are cheaply made with unsafe materials, cheap imported goods still appeal to local consumers regardless of the low quality and safety concerns.

Setting Global Sustainable Standards

Setting global sustainability standards, enhancing living standards, and implementing socially sustainable practices provided valuable perceptions for the concepts and guidelines in socially sustainable development standards. Azolibe and Okonkwo's (2020) and Obianyo et al.'s (2021) practical guidelines are guidelines to follow, even if they differ from Huq and Stevenson (2020), Kharazishvili et al. (2020), and Strambach and Surmeier (2018). Three common themes emerged from the pieces of literature from Azolibe and Okonkwo, Huq and Stevenson, Kharazishvili et al., Obianyo et al., and Strambach and Surmeier. The common themes are (a) enhancing standards of living, (b) monitoring and improving industrial and housing standards, and (c) implementing socially sustainable practices. While Azolibe and Okonkwo (2020) and Obianyo et al. (2021) focused on infrastructure development, industrial sectors, and housing standards, Huq and Stevenson (2020) focused on enforcing socially sustainable practices in challenging institutions. While Kharazishvili et al. (2020) focused on society's social safety for developing countries to meet sustainable development standards, Strambach and Surmeier (2018) emphasized setting global sustainability standards using knowledge-intensive intermediaries. These researchers recognized the need for standards in addressing socially sustainable issues.

Although the contrasting themes provided interesting perceptions about setting standards for socially sustainable practices, the literature presented could assist in reviewing any insight on establishing policies and standards for implementing socially sustainable practices for facilitating social and physical infrastructure development. The different themes found by Azolibe and Okonkwo (2020), Huq and Stevenson (2020), Kharazishvili et al. (2020), Obianyo et al. (2021), and Strambach and Surmeier (2018) are (a) knowledge-intensive-intermediaries, (b) setting global standards for local production, and (c) setting ethical standards for suppliers. Strambach and Surmeier conducted an extensive literature review to demonstrate the approaches that knowledge-intensive intermediaries use to affect global standard-setting by examining the South African organization Fair Trade Tourism. A dynamic and knowledge-based assessment could supply a more comprehensive perception of how stakeholders from SSA countries participate in standard-setting methods.

People’s lives are affected by social issues; therefore, government institutions and organizations need to establish policies and standards and apply socially sustainable practices in their organizations. The benefit of safety standards and ethical standards could prevent fatalities in factories in developing countries (Huq & Stevenson, 2020). Buyers from developed countries must adhere to appropriate ethical and social standards and source practices to guarantee that their supply chain follows the same guidelines in the West. Huq and Stevenson (2020) agreed with Kharazishvili et al.’s (2020) findings. Even though existing labor laws and established trade unions exist, government institutions do not enforce social standards; therefore, organizations may circumvent enforcing social standards (Huq & Stevenson, 2020). Many rival Asian firms tried to improve their social standards to attract and retain workers due to the shortage of skilled laborers and increased competition from manufacturers (Huq & Stevenson, 2020). Huq and Stevenson (2020) also highlighted that employees were progressive in demanding compliance with social and ethical standards. Government institutions in developing countries may not enforce social standards due to corruption. SSA countries’ governments do not support sustainable social development.

The United Nations Global Compact requests organizations to support critical human rights and labor standards values and become Fair Labor Association members. Cultural and socioeconomic differences from Western Standards and Codes of conduct based on Western experiences are not in the same socio-economic environment as SSA countries (Huq & Stevenson, 2020; Strambach & Surmeier, 2018). On the contrary, many organizations in SSA countries could not improve social standards due to the high cost of infrastructure development (Huq & Stevenson, 2020; Strambach & Surmeier, 2018). Nonetheless, when organizations increase social standards, they may increase productivity, enhance their brand, enhance customer retention, attract new customers, and improve financial performance (Azolibe & Okonkwo, 2020; Huq & Stevenson, 2020; Kharazishvili et al., 2020). Kharazishvili et al. (2020) described three elements: the standard of living, the population element, and the quality of life. For example, (a) a decent standard of living for the demographic group, (b) security of necessary reproductive methods regardless of natural and potential internal and external dangers, and (c) the opportunity to obtain quality education without endangering human health and life.

Economic, social, and ecological standards have become essential to global governance. There is the possibility of driving organizational change and implementing sustainable practices at the micro-level if institutions create a collective comprehension of sustainable practices in global production networks (Azolibe & Okonkwo, 2020; Huq & Stevenson, 2020; Kharazishvili et al., 2020). Organizational change is possible if organizations can translate the concept of sustainability into organizational practices. Local producers in developing nations must engage with Global Product Networks while adhering to international standards (Strambach & Surmeier, 2018). The Global North imposes standards to assist multinational organizations operating in international markets without solid social, environmental, and regulatory institutions in reducing risk and protecting their brand value.

Even though many nations have adopted Northern standards from the Global South, most social and environmental standards are still set by Global North actors while limiting developing countries' participation. The Global North still prohibits the voices and demands of developing countries in the Global South, even though the Global North expects developing countries to comply with global standards (Strambach & Surmeier, 2018). Consequently, local governments are expected to promote sustainable development locally because local governments could adopt global standards to accommodate the specific needs of stakeholders in developing countries. The critique of Strambach and Surmeier's (2018) research was biased because they evaluated the strategies of high-performing companies and suppliers from the Global North with companies with fewer capacities in the Global South. Companies from developing countries are primarily laid-back and inadequate recipients of international standards, failing to acknowledge that the Global North imposes standards on the Global South without developing countries' input. In the past two decades, social sustainability concerns have grown for global governance and institution building, for example, deplorable working conditions and environmental degradation in developing countries (Azolibe & Okonkwo, 2020; Kharazishvili et al., 2020; Strambach & Surmeier, 2018). Increasing awareness of social sustainability practices and sustainable production processes has motivated the global circulation of environmental and social standards.

Few countries in SSA, such as South Africa, are committed to global governance and institution-building.

Even though various voluntary sustainability standards (VSSs) are effective, the recommendation is for further research to enhance measurements of VSSs' effectiveness and control their future potential. Fairtrade, organic, and VSSs are intended to move markets to be environmentally and socially responsible, which relates to SDG #12, responsible consumption, and production (Partiti, 2022; Ruben, 2022). The International Institute for Sustainable Development provides extensive information on the reach of VSSs concerning poverty reduction in agricultural and rural areas. The report adopted 13 broad-ranging standards regimes that looked at crucial livelihood elements that influence poverty and inequality among smallholders and are elements of social sustainability (Partiti, 2022; Ruben, 2022). A comparative research and meta-review explored various aspects of VSS performance and its influence. Researchers used an expert survey of 57 diverse value changes to distinguish facilitating aspects and critical restrictions and limitations of VSSs' effectiveness for specific stakeholders in certain circumstances (Partiti, 2022, 2023; Ruben, 2022). VSS provides tools that permit producers to comply with obligations immediately, conform with HRDD, and develop measures and regulations through audits. HRDD is a critical component of socially sustainable standards (Partiti, 2022, 2023; Ruben, 2022). VSS could support organizations in integrating standards and disseminating human rights due diligence HRDD compliant requirements among certified businesses and value chains.

Social Standards

Ballet et al. (2020) found that the problem with describing the social pillar is that the term social is infused with vagueness because its definition is logical and normalizing. Instead of assigning social a particular meaning, Ballet et al. distinguished social using a set of qualities. The set qualities may differ from one context to another, even if certain qualities happen systematically. Numerous researchers set different social qualities. Piper et al. (2019) promoted social capital and capabilities. Grum and Kobal-Grum (2020) emphasized fundamental needs, quality of life, social justice, and social togetherness. Horwood (2020) and Piper et al. (2019) argued that justice and social capital are essential determining factors of the social pillar. Eizenberg and Jabareen (2017) indicated that fairness is a critical component that would add safety because other factors are linked more to metropolitan problems. Choi and Matz-Costa (2018), Crabtree and Gasper (2020), and Huq and Stevenson (2020) agreed that safety standards, human rights, and the well-being of society are crucial social qualities.

Three Social Standards

Justice and social capital are essential determining factors of the social pillar. The problem with describing the social pillar is that the term social is infused with vagueness because its definition is logical and normalizing (Ballet et al., 2020). Instead of assigning social a particular meaning, Ballet et al. (2020) distinguished social using a set of qualities. The set qualities may differ from one context to another, even if certain qualities happen systematically. Numerous researchers set different social qualities. Pieper et al. (2019) promoted social capital and capabilities. Grum and Grum (2020) emphasized fundamental needs, quality of life, social justice, and social togetherness. Fairness is a critical component that would add safety because other factors are linked more to metropolitan problems. Safety standards, human rights, and the well-being of society are crucial social qualities (Crabtree & Gasper, 2020; Huq & Stevenson, 2020). Ballet et al. (2020) recognized that three qualities set for 'social' are necessary standards that establish the essence of the 'social' pillar; however, they do not discount other criteria. The three standards of social sustainability pillars are cohesion, social sustainability equality, and safety.

The First Social Standards

The first standard is the level of social togetherness. Social cohesiveness is vital to social sustainability. Human social sciences researchers have contended that social solidarity is the most accessible form of translating coherence in mindsets and conduct (Grum & Grum, 2020; Horwood, 2020; Pieper et al., 2019). Also, social solidarity includes individuals who are members of the same society and is a measure of the quality of this society. Some scholars use social capital and social networks instead of social cohesion despite this term's vagueness (Ballet et al., 2020; Pieper et al., 2019). Social capital may represent the social norms that influence behavior or the social network where individuals find themselves and may gain satisfaction. Social capital is individual and group oriented. When the negative consequences of social capital of inner-city gang violence are some causes for destabilizing social cohesion, it is challenging to regard social capital as interchangeable with social cohesion (Ballet et al., 2020). The explanation of a two-dimensional element is social capital and social network.

The Second Social Standards

The second standard is the socially sustainable equality standard, the level of the justness of society. Research on environmental justice has essentially recognized that the social and environmental pillars are interconnected. Society needs social inequality to understand environmental injustice better (Ballet et al., 2020; Choi & Matz-Costa, 2017; Crabtree & Gasper, 2020). Inequality cannot be ignored by looking at poverty and basic needs or contemplating if growth can decrease poverty, such as raising incomes at the top, leading to more jobs, less poverty, and higher incomes at the bottom. Inequality can negatively impact social unity and create social turmoil, encroaching upon urbanization.

Environmental justice movements promote distributive justice, procedural justice, and the inclusion of diversity in decision-making. Social violence and health also impact social cohesion and are interconnected, and the equality pillar signifies involvement (Ballet et al., 2020; Choi & Matz-Costa, 2017; Crabtree & Gasper, 2020). Social sustainability is preserving intragenerational justice (Ballet et al., 2020). Social bond equity and safety established the limits of intragenerational equity, even though in sustainable development, the communication of natural capital is the requirement for the living circumstances of future generations. Other researchers characterized socially sustainable practices as ensuring current and future generations (Ballet et al., 2020; Choi & Matz-Costa, 2017; Crabtree & Gasper, 2020). Socially sustainable practices also improve well-being through the desire for equity, as intragenerational allocation of these abilities and their communication across generations (Choi & Matz-Costa, 2017).

Socially sustainable practices enhance all social, economic, and environmental well-being.

The Third Social Standards

The third standard is the degree of safety experienced by a community, and safety as a measure of economic shocks is a vital developmental issue. Safety is the opposite of insecurity; however, insecurity is the degree to which society is likely unable to withstand disasters (Ballet et al., 2020; Choi & Matz-Costa, 2017; Crabtree & Gasper, 2020). Communities need safety to reduce instability and make communities resilient. Numerous researchers found that safety is a critical social sustainability dimension (Ballet et al., 2020; Crabtree & Gasper, 2020; Eizenberg et al., 2023). Safe neighborhoods are the interrelationship between safety, social togetherness, and individual well-being. Communities need safety to reduce instability and make communities resilient; everyone has the right to security. Development is meaningless if society cannot guarantee the safety of citizens (Crabtree & Gasper, 2020). In addition, social cohesion, equity, and safety define the limits of intragenerational equity (Ballet et al., 2020). Socially sustainable development is defined as a development that ensures, for both present and future generations, an enhancement in the capabilities of well-being, such as social, economic, and environmental, for all (Ballet et al., 2020; Crabtree & Gasper, 2020). Based on the acknowledged definition of sustainable development, social sustainability involves preserving equity within intragenerational.

Social Sustainability Standards Indicators

The significance of development and informed process is for infrastructure decision-makers to take advantage of possibilities for reaching SDGs through investments, policy, and standards. Adshead et al. (2019, 2024) adopted performance metrics in a systems model that permits measurement of present and future infrastructure needs and evaluated infrastructure investments and policies that could contribute to meeting infrastructure demands. Strambach and Surmeier (2018) characterized standards as tools used to develop a mutual understanding of socially sustainable practices and are perceived as a specific institution resulting from complex institution-building methods. Standards encourage eco-friendly and credible socially sustainable practices in the sustainable development framework. Standards affecting developing countries are created in the Global North, and these affected countries are not allowed to participate in creating global standards (Strambach & Surmeier, 2018). The Global North must get countries in the Global South involved in developing global standards. Promoting sustainable development standards locally is crucial for the Global North to include the framework-specific needs of stakeholders in emerging markets of developing countries (Ciambra et al., 2023; Guarini et al., 2022; Strambach & Surmeier, 2018). Sustainable standards are also regulations to promote eco-friendly, credible, and socially sustainable practices.

Human Development Index (HDI)

The HDI was introduced in the 1990s to measure social goals. HDI is an indicator that calculates human development by observing and comparing three elements: life expectancy at birth, education, and income (Hickel, 2020). Due to the organization's perception of integrating sustainability development as economic growth and contributing to environmental problems, development economists wanted to measure economic expansion in vital social results based on economic development, from income accounting to people-centered policies. The United Nations Development Program promoted HDI, which has become one of the most broadly used human development indicators. The increasing challenges of climate change and ecological breakdown have limited HDI in the 21st century (Hickel, 2020). SDI is an alternative index developed to correct HDI problems because HDI does not measure ecology. Conversely, HDI, Human Capital, and Social Sustainability Indicators emphasize the relationship between income and the influence of ecology, which violates sustainability standards (Adeleye, 2024; Afshari et al., 2022; Hickel, 2020). Evidence of this limitation in the research is that the Sustainable Development Index and Social Disadvantage Index decrease the complications and conflicts between socioeconomic, environmental, and institutional components (Adeleye, 2024; Afshari et al., 2022; Hickel, 2020). The United Nations Development Program designed the Inequality Human Development Index and Human Capital Indicator to improve HDI. Inequality Human Development Index and Human Capital indicators might be explained as the point of human development when disparity is reported (Adeleye, 2024; Hickel, 2020; Mitrică et al., 2020). Equality has numerous positive social results, such as happiness, access to better health, equal pay and housing, less anxiety, and less depression.

In contrast, the standard HDI indicates possible human development without equality. Nonetheless, HDI does not measure happiness or satisfaction with human needs. Various sources have criticized HDI for the limited ecological sustainability indicator. The SDI indicates solid sustainability that measures nations' environmental efficiency in human development (Adeleye, 2024; Hickel, 2020; Hickel & Kallis, 2020). SDI is effectively exchanging stakeholders for expanding public policies, municipal development, and environmental effect evaluation that integrates vital indicators such as carbon dioxide (CO2) per capita and material emissions footprint per capita (Hickel, 2020; Hickel & Kallis, 2020). The findings show social development patterns and territorial inequalities at a small-scale level by evaluating the degrees of social development on an SDI. Hickel (2020) and Mitrică et al. (2020) used SDI, Human Capital, and Sustainable Development Indicator indicators to measure unemployment, agriculture employment, housing quality, education, and well-being. Rather than promoting very high degrees of income, the SDI promotes income sufficiency while praising countries that reach high levels of human development with marginal ecological effects (Hickel, 2020). Sustainable development seeks environmental and human sustainability, broadly acknowledged and officially reflected in the SDGs. Researchers have explored the HDI, and they found that HDI indicators for leading performers are notable for high and unsustainable levels of ecological impact (Adeleye, 2024; Hickel, 2020; Mitrică et al., 2020). The SDI showed some challenges that developing nations would encounter in attaining high degrees of human development with a sustainable ecological impact.

Basic physical needs are sustainable social needs, such as access to food, electricity, enhanced sanitation facilities, housing, essential principles the SDGs seek, and social needs indicators. Investment in comprehensive social goods, such as public health and education, could encourage reaching human development goals. Researchers also found that social needs are fundamental and easily accessible in most developed countries because some developed countries provide comprehensive coverage of social needs (Adeleye, 2024; Hickel, 2020; Mitrică et al., 2020). For example, research showed that in the 100 best-performing countries measured, these countries provide 100% electricity in proportion to the average population, which achieved the nutrition 98% threshold set by the Food and Agriculture Organization (Hickel & Kallis, 2020). Numerous physical needs indicators indirectly influence the environment, such as support, employment, and democracy, which SDI may need to include. Researchers agreed that other physical needs indicators impacting ecology are education, health facilities, and life expectancy (Adeleye, 2024; Hickel, 2020; Mitrică et al., 2020). For example, the infrastructures of schools and hospitals use materials for construction and energy to run facilities.

In contrast, enhancing social support, democracy, and employment does not need additional ecological impact because social support relates to cultural phenomena (Adeleye, 2024; Hickel, 2020; Mitrică et al., 2020). By establishing policies and standards, Western countries and developing nations might increase their employment significantly without environmental impact. For example, a decreased workweek provides vacation, maternity leave, and paid overtime. There is potential for developing countries to have high social support, employment, and democracy, yet still have low performance in life expectancy and education (Hickel, 2020). Research showed that countries with inequality and low influence on ecology could theoretically improve their human development results considerably by spreading existing domestic resources more fairly without any additional ecological impact (Adeleye, 2024; Hickel, 2020; Mitrică et al., 2020). Sustainable development requires that nations achieve potential superior levels of human development at a specific grade of ecological influence.

HDI Critique of the Inclusion of the Education Index

HDI is an input measure that does not ensure consistent outcomes. Researchers have criticized the inclusion of education in the HDI index for various reasons (Adeleye, 2024; Hickel, 2020). For example, someone who may achieve higher schooling in developing countries with low schooling standards may not value their education, and those low standards would not enhance the population's education. There is a possible problem in combining the education index, an output-based metric, with life expectancy, an outcomes-based metric, because there is variation between the two. Many cultures historically value education in various approaches; the HDI education index measures education on an institutional model and discriminates against cultures that may have traditionally valued different approaches (Hickel, 2020). For example, Indigenous people living in Bolivia may have limited years of formal schooling. Nevertheless, they have mastery of botany, ecology, and many other fields essential to their framework (Hickel, 2020). Indigenous people achieved mastery through thorough training and mentorship, a kind of education that would be complicated to obtain through institutional schooling and critical to address these assessments. The SDI and the SDGs draw on a fundamental conception of sustainable development (Hickel, 2020). However, SDI integrates a narrower range of indicators than the SDG targets. SDI is the most feasible formulation and includes the three well-established indicators of human development from the HDI and two foundation standards of environmental impact. SDI is represented in SDGs #12 and #13 and still maintains the standards of durable sustainability.

SDI Contribution to Development Theory

The SDI critically contributes to development theory, interrupting the leading chain of command. Conventional development indicators built conceptual ladders of progress that place Western countries at the top and represent the rest of the world as lagging (Hickel, 2020). Representation has substantial, erratic power and forms people's perceptions about the world. The HDI's reliance on income represented countries of the Global North as automatically advanced to countries of the South, removing and legitimizing the violence to accumulate their surplus (Crabtree & Gasper, 2020**;** Hickel, 2020). For example, colonization, the slave trade, structural adjustment, land grabs, labor exploitation, resource extraction, and other methods by which nations at the core of the world system have sabotaged the periphery for their development (Hickel, 2020). Countries that rank highest on the SDI result from deliberate policies; thus, developing nations can seek to replicate them. The SDI does raise many realistic issues and challenges to this narrative and the troubling racial overtone of the HDI hierarchy (Hickel, 2020). Hence, SDI introduced ecological indicators that reflect the adverse effects of the excess extraction, consumption, and accumulation practices by rich countries and demoting them accordingly (Hickel, 2020). For example, critics may note that human development measures the countries that climb to the top due to intentional policies such as investment in public healthcare and education; developing countries may desire to imitate such policies. Ecological measurement is not straightforward; however, developing nations with low environmental impact use intentional policies to achieve low ecological impact (Crabtree & Gasper, 2020; Hickel, 2020). For example, Costa Rica invested in renewable energy infrastructure, and Cuba focused on material reuse. Likewise, Sri Lanka has no established policies, limited intensive economies, and a low ecological impact (Hickel, 2020). Many developing countries with limited economies must imitate Sri Lanka and find out what Sri Lanka does better and be more like Sri Lanka with an established model to follow.

SDI shows that no nations are yet sustainably developed because the world's top performance on social measurements and safe levels of environmental impact is not prevailing as a champion for others to follow. Middle- and high-income countries must implement ecological policies to decrease their emissions and material footprint to prevail as champions for developing nations (Hickel, 2020; Hickel & Kallis, 2020). For example, countries with high levels of human development, such as Switzerland and Chile, would invest in renewable energy. With their conformity to European standards and post-growth policies, Switzerland and Chile may climb to the top of the SDI ladder and become models (Hickel, 2020; Hickel & Kallis, 2020). Subsequently, the SDI is a measurement system ready to measure progress toward an ecological transition that needs to occur now but is not happening.

Countries at the top of the SDI had accomplished a superior level of human development with nominal gross national income per capita and marginal ecological pressure. However, countries at the top of the SDI could not provide a model for developed countries to imitate. Instead, they offer a standard for developed countries (Hickel, 2020; Hickel & Kallis, 2020). A country like Bangladesh could imitate Sri Lanka because Sri Lanka invested heavily in public healthcare and education, demonstrating that developing countries can dramatically improve their social outcomes without needing ecologically destructive economic activity (Hickel, 2020). The SDI maps out a conception of progress that allows for and promotes various development directions depending on each nation's position.

In contrast, the purpose is unambiguous under the HDI and measured in a single direction (Hickel, 2020). For example, the HDI measures countries at the bottom, which are ranked and sanctioned for success by improving gross domestic product without regard for ecological consequences while investing in healthcare and education (Hickel, 2019, 2020). In contrast, under SDI, the goal is more complex because developing countries with low levels of human development are at the bottom of the SDI ladder, and developed countries with high levels of ecological impact are at the top. For example, the United States ranked 159th for high ecological implications; therefore, developed countries at the bottom of the SDI ladder may need to reduce their emission and material footprints to build paths to success (Hickel, 2019, 2020; Hickel & Kallis, 2020). Inversely, developing countries at the bottom of the SDI ladder must establish social policies to succeed.

Developing countries must imitate Costa Rica and Sri Lanka to deliver secure social results with minimal ecological impact. The SDI provides diverse instruction for progress, disrupting unilineal regularizing paths and practical speaking to the varied circumstances of countries in the real world (Hickel, 2020). The goal that the SDI fosters is nonetheless unprecedented in achieving ecologically sustainable development. Developing countries make it easier to accomplish high levels of human development with a sustainable ecological impact by investing in universal social goods such as public health and education and having emission policies in place (Hickel, 2020; Hickel & Kallis, 2020). However, developed countries have difficulty reducing their emissions and material footprints to sustainable levels. Developed countries may require aggressive productivity improvement and a change toward alternative economic models that permit collective economic activity to be scaled down to sustain and increase their performance on social indicators.

Leadership Concept

The leadership concept is evolving. The concept of leadership is the influence a leader has on an organization and stakeholders toward identifying and accomplishing the organization's mission and objectives (Ahmad et al., 2023; Edwards, 2011; Saha et al., 2023). The concept of conscious leadership is the deliberate approach that a leader adopts. Conscious leadership must consider both short-term and long-term aspects of leadership in its activities. Many researchers have various interpretations of leadership. Leaders identify with their organizations and motivate their followers to obtain the organizational goal (van Niekerk & van Niekerk, 2013). Leadership inspires, encourages, and enables others to contribute to the organization. *Leadership* is a formal or informal contextually grounded and goal-influencing process between a leader and follower, groups of followers, or institutions (Garretsen et al., 2020). Thus, managers' leadership is an essential and required skill, and numerous leadership styles exist. The leadership style of management may determine the future of an organization. Researchers characterize leadership as processes distributed throughout society and associated with a social movement, local culture, and local history (Dasci Sonmez & Cemaloglu, 2024; Edwards, 2011; Syed et al., 2019). Distributed leadership is complex and has numerous labels, such as dispersed, institutional, shared, multidirectional, and rotated leadership. Distributed leadership is also institutional leadership in an organizational framework or shared leadership in group settings (Dasci Sonmez & Cemaloglu, 2024; Syed et al., 2019). Even though distributed leadership may sound more confusing, the term underscores the various levels of dissimulation. Distributed leadership is also institutional leadership in an organizational framework or shared leadership in group settings (Dasci Sonmez & Cemaloglu, 2024; Garretsen et al., 2020; Saha et al., 2023). Leadership is an important topic, given the impact leaders have on the achievements of organizations.

A personal capacity of leaders is power. Global leadership is exceptionally fundamental, considering that globalization is led by information and communications technology (Garretsen et al., 2020; Harris et al., 2022; Owie, 2017). The perception of power is that the need for power is a primary human motive, with some individuals motivated to fulfill the desire to influence or control others. The concept of conscious leadership is the intentional method that a leader takes, which is critical to consider the short-term and long-term elements of leadership in leadership activities (Kubátová & Kročil, 2022; Owie, 2017). Organizational leaders should be conscious of providing quality leadership and enhancing their followers' quality of life (Ahmad et al., 2023; Edwards, 2011; Garretsen et al., 2020; Saha et al., 2023). EI empowers leaders to apply effective leadership styles, such as authentic, responsible, socially conscious, and sustainable leadership. Nevertheless, organizations may engage and promote emotionally intelligent individuals as leaders. Followers have higher perceived authenticity because their leader used EI to apply effective emotional workforce approaches (Kanat-Maymon et al., 2020; Miao et al., 2018). The EI concept is two opposing mental processes, thinking and feeling, that could work harmoniously and involve mastery over self-awareness, self-regulation, social awareness, and relationship management skills.

Various Definitions for Leadership

There are many definitions for authentic, responsible, socially conscious, and sustainable leadership. The four leadership concepts are similar. Authentic leadership has a multidimensional model that entails self-awareness, relational transparency, internalized moral perceptions, and balanced processing (Miao et al., 2018). Sustainable leadership is concerned with developing an organization's current and future financial performance while enhancing the lives of internal and external stakeholders (Owie, 2017). Responsible leadership is empathetic, equitable, and forward-thinking and successfully directs sustainable development (Ahmad et al., 2023; Kagema, 2018). Responsible leadership is a relational and ethical phenomenon in social practices of interrelationship with those affected who are interested in leadership interaction's principles and vision (Shaaban, 2021). Socially conscious leadership seeks an ethical agenda for enhancing financial performance with the needs of society and the environment, employees, stakeholders, and suppliers (Garretsen et al., 2020; Owie, 2017; Saha et al., 2023). Socially conscious leadership is centered on a social mission, vision, and strategy that can guide and propel organizations to short and long-term success and is greatly sought after across industries.

Socially Responsible Corporate Actions

Many schools of thought sometimes perceive socially responsible corporate actions as risky due to the company's main goals. Socially accountable corporate action is also defined as a pursuit toward eventual corporate sustainability and profit improvements (Ahmad et al., 2023; Arora et al., 2019; Kubátová & Kročil, 2022; Owie, 2017). If one embraces socially conscious leadership as a business operation model, one masters a sensitive balancing act. Embracing socially conscious leadership will eventually result in an effective organization within a new business model geared toward the company and stakeholders' benefits. The two-fold approach to a leader (socially conscious trust, loyalty, EQ, yet business leader), if done effectively, leads to EQ, self-assessment, and self-awareness management (Arora et al., 2019; Kubátová & Kročil, 2022; Owie, 2017; Saha et al., 2023). Ultimately, stakeholders, corporations, and communities benefit from socially conscious leadership. However, if socially conscious leadership is not implemented to balance self-awareness management, self-assessment, and self-awareness, the organizational mission and corporate responsibility will lead to failure.

Socially conscious leadership goes beyond the desires of investors and the organization. Researchers indicated the relationship between societal well-being and cultural and business activities (Kubátová & Kročil, 2022). Socially aware leaders connect the goals of traditional investors, modern investors, and social objectives (Arora et al., 2019; Owie, 2017; Saha et al., 2023). Being socially responsible entails responsibility, accountability, and transparency of business activities toward investors, society, and the ecosystem. Socially sustainable leaders may use sustainability standards to increase profit while decreasing destruction to humans and the planet (Arora et al., 2019; Kubátová & Kročil, 2022; Owie, 2017; Saha et al., 2023). The organization's focus is not only on profit; conversely, the focus may also be on social wealth and environmental responsibility. Therefore, a socially conscious leadership competency framework is necessary for organizations to train their leaders to develop conscious leadership capabilities (Arora et al., 2019; Harris et al., 2020; Kubátová & Kročil, 2022). The future of the socially sustainable organization is positive and limitless, with socially conscious leaders in the driver's seat.

Socially conscious leadership is necessary, and socially conscious leadership encourages innovative business models to help the organization develop sustainability initiatives. Moreover, socially conscious leadership would lead the organization and promote global social responsibility and sustainability while producing profits (Arora et al., 2019; Harris et al., 2020; Kubátová & Kročil, 2022; Owie, 2017). Stakeholders' growing support shows businesses can solve critical problems by contributing to social change while increasing their profit margins (Arora et al., 2019; Harris et al., 2020;

Kubátová & Kročil, 2022; World Economic Forum, 2021). People run corporations, and if people are socially conscious, they may implement suitable governance mechanisms for directing corporate social responsibility and balancing satisfying all human and societal needs (World Economic Forum, 2021). The conscious leadership capability framework has not been widely researched; instead, there are capabilities specific to conscious leaders that are not in the current leadership competencies framework. Arora et al. (2019) and Kubátová and Kročil (2022) proposed a new conscious leadership capability framework with training and developing socially conscious leadership strategies. World Economic Forum (2021), Davos Agenda, showed that leaders play a fundamental role in organizations' success. Leaders play fundamental roles in the success of organizations and are responsible for reaching organizations' goals and driving force in organizational processes.

Organizations act as stakeholders along with governments and civil society, and business success in the future depends on their leadership. The World Economic Forum in Davos launched a policy statement stating that a business exists to provide its stakeholders with a mutual and sustainable value proposition (The World Economic Forum, 2021). While creating value, they provide a return on investment for their investors and fulfill all human and societal desires as part of social sustainability in an organization. Researchers' findings indicated that organizations also have extensive multinational activities serving stakeholders, such as employees, local communities, customers, and directly engaged suppliers (The World Economic Forum, 2021). The term capitalism is still evolving. Researchers defined capitalism as business practices intended to improve the world because, even though enhancing financial performance is essential, finance is not the only focus (Kubátová & Kročil, 2022; World Economic Forum, 2021). Conscious leaders are called missionary leaders, inspired by Mahatma Gandhi's concept that the people are the transformation they wish to see (Kubátová & Kročil, 2022). Conscious leadership is a critical concept that promotes leadership practices; the short-term and long-term framework model could be adopted and integrated into all types of leadership training, especially in SSA countries (Kubátová & Kročil, 2022; World Economic Forum, 2021). A conscious leadership framework is appropriate for fulfilling transformative social functions because conscious leadership is connected to the concept of conscious capitalism.

Government institutions need socially conscious leadership to establish policies and standards to implement socially sustainable practices for facilitating social and physical infrastructure development. Sustainable leadership, EQ, ethical leadership, authentic leadership, conscious leadership, and responsible leadership specify the importance of leadership behaviors for implementing socially sustainable practices Kubátová & Kročil, 2022; World Economic Forum, 2021). Researchers explored the effects of EI and authentic leadership (Ahmad et al., 2023; Kubátová & Kročil, 2022). Ethical leaders are trusted and fair; they demonstrate appropriate ethical conduct in their personal and professional lives. Kubátová and Kročil's (2022) research proposed a conscious leadership capability framework for business use in training and managerial study programs. The concept of conscious leadership concerns the factors of leadership's short-term and long-term dimensions. Research has shown that responsible leadership is suitable for addressing organizations and government institutions' challenges, such as economic growth, socially sustainable development, and environmental destruction (Ahmad et al., 2023; Kubátová & Kročil, 2022). Individuals run corporations, and if those individuals are socially conscious, they may implement social governance structures for managing corporate social responsibility and balancing diverse stakeholders' interests.

The principles are practical guidelines to follow, even if they are different. Three common themes emerged from Ahmad et al. (2023), Adigüzel and Kuloğlu (2019), Kagema (2018), Kubátová and Kročil (2022), and van Niekerk and van Niekerk (2013). The themes are (a) EQ, (b) responsible leadership, and (c) socially conscious leadership. While Arora et al. (2019) and Kubátová and Kročil (2022) focused on socially conscious leaders, Ahmad et al. focused on empowering leadership in the role of organizational culture of self-esteem and EI on creativity. Businesses and society need more socially conscious leaders to lead business and government institutions because they motivate, nurture, and mentor people. These researchers recognized that government institutions and private and public organizations need authentic, socially sustainable, conscious leaders. The different themes emerged from Arora et al., Kagema, Miao et al. (2018), Owie (2017), Saha et al. (2023), Schwepker (2019), and Shaaban (2021) are (a) authentic leadership, (b) ethical leadership ambiguity, and (c) distrust of ethical leadership. Responsible leadership is a new kind suitable for dealing with social sustainable development challenges through stakeholders. Macassa et al. (2019) introduced a conceptual framework of responsible leadership as a possible determining factor of stakeholders' health and well-being. Misguided leadership influences salespeople's use of ethics to gain trust. Even though salespeople trusted their leaders, they questioned their ethical behaviors, which affected their behavioral performance (Schwepker, 2019). Therefore, the consequence of ethical leadership is that ethical uncertainty may affect followers.

Ethical leaders nurture their followers to imitate their behavior. Socially conscious leadership is the same as authentic leadership, ethical leadership, and responsible leadership because they bear more moral responsibility for the activities of their organizations (Owie, 2017). The elements of authentic leadership have a relationship with EI, and EI influences authentic leadership. Ahmad et al. (2023) and Shaaban (2021) agree with Kagema (2018) and Macassa et al. (2019). They emphasized that relational leadership is concerned with sustainable values, positive changes, environmental and social issues, and is concerned with internal and external stakeholders.

The principal factors for responsible leadership are followers, personal organization, and community (Shaaban, 2021). Socially conscious leadership is critical to socially sustainable practices because it builds trust and individualized relationships with open communication, motivating citizens in creativity and innovation. Citizens could perceive their leader as supportive, pleasant, and caring, encouraging citizens to trust and become patriotic (Liu & Gumah, 2020; Shafique et al., 2019). Leaders of government institutions and private and public organizations need to master self-awareness management, self-awareness assessment, and EI. Socially conscious leaders will effectively establish policies and standards to implement socially sustainable practices for facilitating social and physical infrastructure development. Thorgren and Omorede (2018) defined socially conscious leadership as leaders demonstrating passion and EI by instilling trust and empowering citizens. Empowering citizens enhances self-efficacy and personal or political power between individuals, families, and communities.

Leaders with passion and high emotional intelligence are critical for gaining trust in social enterprises and missions. The influence of emotional intelligence positively relates to the concept of socially conscious leadership and identifies elements that may strengthen socially conscious leadership behaviors (Liu & Gumah, 2020; Shafique et al., 2019; Thorgren & Omorede, 2018). Even though Africa is rich in natural resources, African leaders are unconscious of social sustainability needs and unconcerned with the welfare of their citizens. Africa's unconscious leadership has created horrible conditions for citizens because African leaders desire to gain power and acquire wealth at the expense of their citizens (Kagema, 2018). Sustainable development is not possible if leaders are irresponsible and unable to lead. Emerging economies need socially conscious leaders who demonstrate emotional intelligence and are concerned with developing current and future sustainable development for government institutions while improving the lives of their citizens (Ahmad et al., 2023; Kagema, 2018). What is unknown is how SSA government institutions could establish policies and standards to implement socially sustainable practices for facilitating social and physical infrastructure development.

Summary and Conclusions

The current literature review was conducted to explore how a panel of 16 purposively selected global experts on the UNSDGs in multinational organizations in the

United States and Africa view the desirability, feasibility, and importance of forward-looking strategies for establishing policies and standards to implement socially sustainable practices for facilitating social and physical infrastructure development. Chapter 2 is a comprehensive review of academic and professional literature to support the current research and to comprehend other researchers' work and how researchers described and evaluated concepts and methods. The chapter introduced the problem that prompted the current study: unestablished policies and standards for implementing socially sustainable practices. Limited infrastructure development has caused slow economic growth in Liberia and SSA countries. The current study filled a gap in infrastructure development, with experts providing opinions on strategy statements that lead to ideas for establishing policies and standards to implement socially sustainable practices for facilitating social and physical infrastructure development in Liberia and SSA countries. The chapter included the literature search strategies. The literature review extended the knowledge of the conceptual framework and themes. The main themes identified were SSA government institutions, policies, and standards for implementing socially sustainable practices and social and physical infrastructure development. The chapter concluded with a summary. Chapter 3 focuses on Delphi's qualitative policy design, methodology, and rationale. Chapter 3 also includes an introduction with a brief description of the chapter's significance, the role of the researcher, instrumentation, data collection procedures, data analysis, trustworthiness issues, and summary.

Chapter 3: Research Method

The purpose of Chapter 3 is to describe the research methodology for the current study and its appropriateness to address the research question. The purpose of the qualitative policy Delphi study was to determine how a panel of 16 purposively selected global experts on the UNSDGs in multinational organizations in the United States and Africa view the desirability, feasibility, and importance of forward-looking strategies for establishing policies and standards to implement socially sustainable practices for facilitating social and infrastructure development. Inadequate social and physical infrastructure development in SSA countries is due to unestablished policies and standards. Chapter 3 provides in-depth information on research design and the rationale for using the policy Delphi approach to achieve the research purpose and the data to answer the research questions. Chapter 3 also provides an overview of the rationale for choosing the qualitative policy Delphi research design, the participant selection process, the data collection procedures, and the analysis method. In Chapter 3, the role of the researcher is identified, and detailed information about the methodology is provided. The methodology covers instrumentation, field study, participant recruitment procedures, data collection, and evidence of trustworthiness and summary.

Research Design and Rationale

In the current study, the qualitative policy Delphi research method was used because the policy Delphi is an acceptable and reliable research method that helps resolve disagreements among experts and interpret opinions. The response categories for policy Delphi research do not allow neutral answers (Ametepey et al., 2019; Bajwa et al., 2024).

The policy Delphi research design is primarily qualitative; however, it may have quantitative elements depending on the specific implications and is used when it is necessary to formulate strategies to deal with specific problems (Avella, 2016). Nonetheless, I used qualitative policy Delphi for the current study because of its uniqueness. Delphi's policy develops consensus to feed into forecasting exercises exploring underlying concepts and theories or information leading to varying opinions (Kattirtzi & Winskel, 2020). Delphi's policy also displays options and different points of consensus, clarifies arguments, and exposes the strength of evidence related to diverse opinions distributed by region, role, and discipline (Kattirtzi & Winskel, 2020). The researcher in qualitative policy Delphi research is permitted to accurately document how policy or policy could change the procedures of the systems, institutions, and individuals that the policy or change was structured to influence society (Bastas & Liyanage, 2018; Hall et al., 2018; Manley, 2013; Solangi et al., 2020). The qualitative policy Delphi approach is cost-efficient because expert panelists do not meet face-to-face; they often respond to online questionnaires for each policy Delphi round.

The Delphi method originally came from the Rand Corporation between 1940 and 1960 and was developed in the 1940s to solve problems in the U.S. Air Force based on the Rand Corporation's research and development. Delphi got its name from a town in ancient Greece where forecasters communicated the projections of the god Apollo on Earth; therefore, Delphi is often related to forecasting (Bajwa et al., 2024; Zartha Sossa et al., 2019). There are different types of Delphi research designs, such as (a) classical (original) Delphi, (b) modified Delphi, (c) policy Delphi, (d) decision Delphi, (e) real-time Delphi, (f) e-Delphi, (g) technological Delphi, and (h) disaggregative Delphi. A qualitative policy Delphi research design was selected because it produces the most definitive opposing opinion on the prospective resolutions of policy issues and ensures the discussion of all necessary options. The policy Delphi questionnaires align with the research questions. I chose the qualitative policy Delphi research method for expert panelists to collaborate and use their expert judgment to generate ideas for establishing policies and standards to implement socially sustainable practices for facilitating social and physical infrastructure development. In alignment with the purpose of this study, the primary research question is as follows: How does a panel of global experts on the UNSDGs in multinational organizations in the United States and Africa view the desirability, feasibility, and importance of forward-looking strategies for establishing policies and standards to implement socially sustainable practices for facilitating social and infrastructure development?

The qualitative policy Delphi research design creates ideas and explores opinions about the current and future policies for social sustainability practices. The Delphi technique allows diversity inclusion because it permits the discussion to include overlooked populations for past or current policy results that could impact future policies to promote social change (Bastas & Liyanage, 2018; Franklin & Hart, 2006). An appropriate number of samples for qualitative policy Delphi research design is 10 to 15 expert panelists (Bajwa et al., 2024; Musa et al., 2019; Renthlei & George, 2024). For the current study, I adopted the 16-sample size model of Musa et al. (2019). I selected 16 participants who specialized in establishing policies and standards for sustainable development and worked on one or more elements of the UNSDGs.

Initially, I considered a qualitative phenomenology research design, and I found the qualitative phenomenology research design unsuitable for this research. A qualitative methodology allows researchers to progress and apply their interpersonal and subjective skills to their exploratory research processes (Gephart, 2018; Vaismoradi & Snelgrove, 2019). Phenomenology has evolved over the years and is an umbrella term incorporating a philosophical movement and a selection of research methods (Alase, 2017; Gephart, 2018; Kafle, 2013; Tomkins & Eatough, 2018). The initial movement was a radically new way of conducting philosophy. Later, theorists moved from the philosophical discipline emphasizing consciousness and a sense of phenomena toward empirical, hermeneutic, and interpretive dimensions (Kafle, 2013). Phenomenology has various approaches divided by different phenomenology perceptions and grouped into descriptive (ethnography) and interpretive (hermeneutic) research designs. The hermeneutic phenomenology science approach focuses on interpreting and comprehending lived experiences, meanings, and processes, how people see their world, and what it means to them. A hermeneutic phenomenological analysis approach helps researchers to bond with their research participants and allows them to understand the innermost deliberation of their lived experiences (Alase, 2017; Gephart, 2018; Tomkins & Eatough, 2018). The hermeneutic phenomenological analysis approach allows the interviewees to express themselves about lived experience stories they see fit without distortion and prosecution.

Ethnography comes from anthropology and sociology. Ethnographic phenomenology describes and interprets a group with the same culture (Gephart, 2018; Kafle, 2013). Researchers may mainly use observations and interviews while gathering other sources during an extended time in the field and analyze data descriptions of a group of the same culture and theme (Gephart, 2018; Kafle, 2013). Ethnography focuses on a group with the same culture, and the analysis of culture, patterns, and research may describe themes with verbatim quotes. Researchers may use a cultural portrait to describe how a culture-sharing group works, and the descriptions across phenomenology and ethnography are widespread and different (Gephart, 2018; Kafle, 2013). Inversely, research may use ethnography phenomenology, a chronology for telling stories, and hermeneutic phenomenology, which may use meaningful statements as the organizing structure for reporting how participants experienced the phenomenon (Gephart, 2018; Kafle, 2013). An interpretative phenomenological research design approach could also produce rules and standards. Moreover, I chose not to use interpretative phenomenology. Interpretative phenomenology focuses on describing and understanding life experiences, and the current study is not about life experiences. Conversely, the current qualitative policy Delphi study focuses on generating ideas from expert panelists to establish policies and standards for the future, which may result in positive life experiences.

Since the traditional Delphi method's inception, there have been changes in the methodology, and researchers have developed various methods. A classical (original) Delphi forecasts future developments (Davidson, 2013). The modified Delphi is a modification of the classical Delphi method. An example of modification entails having face-to-face interviews or focus groups in the first rounds. Policy Delphi differs from traditional Delphi techniques, such as expert panel composition and research goals (Bajwa et al., 2024; Renthlei & George, 2024; Zartha Sossa et al., 2019). The decision Delphi objective is for group decision-making about future developments. The real-time Delphi has different processes and designs and may be called a consensus conference (Davidson, 2013). The e-Delphi is like the real-time Delphi duplicate of the process of classical Delphi, except that the e-Delphi feedback and participation of the expert panel are conducted through online surveys and by email (Davidson, 2013). However, the technological Delphi is also like the real-time Delphi, with some differences. The main difference between the two is that technology uses handheld devices to give feedback immediately to the questions posed by the researcher (Davidson, 2013). The disaggregated Delphi uses cluster evaluation to disaggregate feedback of crucial variables and is critical of the classical consensual Delphi (Davidson, 2013). Although there are many types of Delphi, only policy Delphi was suitable for the current study. Instead of using the conventional Delphi method to obtain consensus through open collaboration, I selected qualitative policy Delphi. There are four significant differences between the traditional Delphi and the policy Delphi. Turoff (1970) and Manley (2013) presented four unique differences between traditional Delphi and policy Delphi. The first difference is within the participants. In a conventional Delphi, the objective is to form a consensus about a technical issue. Conversely, researchers use a policy Delphi to produce more varying perspectives of consensus points of agreement and disagreement on all aspects of policies and standards issues. The second difference is that the conventional Delphi objective is to obtain consensus, while the policy Delphi objective is to identify and analyze different perspectives on a policy issue, even if there is substantial disagreement.

The third difference is that conventional Delphi responses are increasingly refined to reach a mutual understanding, while in a policy Delphi, the researcher actively encourages participants to communicate and back their opposing opinions. The fourth difference is that traditional Delphi is usually used for technical issues where a clear expert opinion is necessary, whereas policy Delphi is used for complex policy issues where various expert panelists may have opposing interests. A policy Delphi shows options and alternative points of agreement and disagreement, clarifies arguments, and exposes the strength of evidence related to diverse opinions (Kattirtzi & Winskel, 2020; Turoff, 1970; Zartha Sossa et al., 2019). The researcher may not encourage consensus among expert panelists; nevertheless, the researcher could allow an opportunity for expert panels to reassess their ratings after reviewing the ratings and consensus (Turoff, 1970; Zartha Sossa et al., 2019). The researcher could also offer expert panels a path to criticize or comment on other participants' comments concerning the consequences of the policy in question.

Role of the Researcher

I adopted a qualitative, policy Delphi research design with a narrative literature review. A narrative literature review is principally used in qualitative research (Roth, 2017; Xiao & Watson, 2019). Policy Delphi research is suitable for establishing policies and standards for socially sustainable practices. The researcher acts as a principal data-gathering source and an instrument in qualitative research. I assumed the duties of a facilitator and planner in this policy Delphi study. The plan began with identifying the research problem, including the expert panelists, creating the questionnaires with related information about the research, and soliciting participants to request participation through email. The email ensured the privacy of each participant and included instructions and a timeline for the comments and submissions. As a facilitator, I monitored and controlled feedback from expert panelists, analyzed the feedback, summarized the results, and confirmed the aspects where panelists presented all sides of the arguments to develop a concept for establishing policies and standards. I updated the expert feedback and re-shared the analyzed feedback with the expert panelists until all aspects of the issues were satisfied. The policy Delphi enables researchers to document accurately how policy or policy change can modify the operations of the programs, institutions, and individuals that the policy or policy change is designed to influence.

Professional and personal relationships with participants in any research may corrupt the integrity of the research outcome. Using the Delphi methodology helped to manage biases and power relationships with expert panelists (Avella, 2016). The role of a researcher is not to be opinionated and to act non-judgmentally. The researcher cannot promote consensus among expert panels (Zartha Sossa et al., 2019). Instead, the researcher permitted expert panelists to re-evaluate their ratings and reflect after reviewing the ratings from their responses. Additionally, the researcher encouraged expert panelists to comment or critique other expert panelists' comments regarding the consequences of the policy in question.

I have had no personal relationship with participants and have never been involved with supervisory or instructor relationships pertaining to managing organizations with participants. I did not conduct this research in my work environment. I am a native Liberian and a naturalized American. I have lived in the United States for more than 45 years and have no relationship with the government or organizations in Liberia. I am passionate about sustainable development, and the initial research was on sustainable marine transportation and alternative energy products for SSA countries. I never considered policies and standards until I developed my research question to align with my research problem. Many types of literature revealed that the low economic growth was due to the SSA government institutions and unestablished policies and standards for implementing socially sustainable practices. I solicited participants from my LinkedIn sustainable development groups and leaders in one or more elements of the UNSDG, whom I contacted to participate in the expert panel. I have no direct relationship with these group members.

The selection of qualitative policy Delphi panelists was based on their experience, knowledge, and diversification of the core research orientations, backgrounds, segments, and insights in the field. The disadvantage of the qualitative policy Delphi panelists is the difficulty in detecting the participants' degree of expertise. Obtaining a high level of data using expertise as a solid filter is essential because a high degree of knowledge, cognitive abilities, and similar experiences of experts in the issue under study create a three-bias reduction effect (Zartha Sossa et al., 2019). The three biases made the expert panelists less susceptible to anchoring bias, desirability bias, and bandwagon, even though a group of high heterogeneity reduces the three-bias evaluation. The willingness and interest of experts to participate were crucial components for fruitful outcomes because the quality of policy Delphi studies depended on these measures.

Methodology

The appropriate choice of research methodology is critical to the research and is the structure and strategy of exploration to obtain answers to research questions or research problems. I used the methodology as a blueprint for providing processes to conduct the research, giving validity to the research. The methodology involved an in-depth description, sampling, and how data were collected, coded, cleaned, and analyzed. The methodology also provided objectivity and accuracy and showed how the researcher completed the research, providing readers with detailed descriptions of the research approach. Methodology is the piece that holds the research together and is used to reach conclusions. The qualitative policy Delphi research design was appropriate because the policy Delphi is suitable for generating ideas for SSA government institutions to establish policies and standards to implement socially sustainable practices for facilitating social and physical infrastructure development. Flexibility is the strength of the qualitative policy Delphi method (Brady, 2015; de Loë et al., 2016); however, there are inconsistencies in the application, which undermine the ability of evaluators to create straightforward insights (de Loë et al., 2016). Potential new researchers using policy Delphi could struggle to comprehend what a policy Delphi survey and questioning is; therefore, involving experts to participate in the panel can benefit the researcher (de Loë et al., 2016). The current study used a qualitative policy Delphi to clarify the questioning procedures.

Participant Selection Logic

The policy Delphi technique is a critical part of the research because it depends on experts' judgment of the specific study. Therefore, choosing a panel of participants is crucial; the population of the current qualitative policy Delphi study was identified as experts from LinkedIn. Identifying the policy Delphi panel participants and processing the first policy Delphi technique supports a whole group dimension that requires experienced experts with a specific research background. I selected experts by searching for knowledgeable and current individuals on socially sustainable practices with international recognition and credibility based on their knowledge and application of the topic and representation of diverse perspectives to include a broad range of opinions. Selected panelists were aggregated experts from various social sustainability sectors, such as scholars and practitioners with experience and sustainability knowledge. Zartha Sossa et al. (2019) characterized petitions as industrial management, decision-makers, scholars with a research background, 4 years of decision-making, and implementation of socially sustainable practices.

The specific criteria I used to purposefully select participants were (a) industrial management, (b) 2 years of decision-making, (c) scholars with a research background in sustainable development, (d) experts engaged in one or more elements of the UNSDGs, (e) expert's recent experience working on UNSDGs in developing countries, (f) leaders involved in establishing policies and standards for socially sustainable practices in their organizations, (g) experts who had two or more years of experience working with one or more elements of UNSDGs, and (h) experts who were passionate about one or more elements of the UNSDGs. Also, the criterion that determined an expert was consistent with those criteria and the individuals' backgrounds. The experts' specific backgrounds also included current knowledge of social sustainability practices, international recognition, and credibility based on their understanding of the topic and representation of diverse perspectives that fall under the UNSDGs. Experts were expected to meet one or more of the required criteria. I facilitated dialogue among 16 aggregated expert panelists who were not interacting face-to-face for the planned qualitative policy Delphi research design. Panelists from similar backgrounds have worked and engaged in one or more elements of the UNSDGs. The participants were selected from LinkedIn.

Participant Numbers and Rationale

I sent 260 individual invitations, anticipating receiving interest from 20 experts. Of the 260 participants invited, 16 accessed the survey URL and opted to complete Round 1. I gathered data for the primary research from 16 selected expert panelists. Expert panelists work in organizations with one or more elements of the UNSDGs, with headquarters in the United States and Africa, that specialize in establishing policies and standards for sustainable development in developing countries. An adequate number of expert panels for a Delphi study is 10 to 16 (Musa et al., 2019). The expert panels and the research focus must be similar, and selected expert panels could come from similar disciplines (Bajwa et al., 2024; Olakitan Atanda, 2019; Renthlei & George, 2024). A minimum of 12 respondents is manageable and sufficient to reach a consensus and address the research question (Shetty, 2018; Vogel et al., 2019). Researchers agreed that a sample of 16 participants is appropriate for a homogeneous study because it may yield satisfactory results, and a larger sample size of over 30 is suitable for heterogeneous research (Musa et al., 2019; Shetty, 2018; Stitt-Gohdes & Crews, 2004). On the contrary, a sample size larger than 16 could provide weaker returns regarding the validity of the findings. In a qualitative policy Delphi study, with a sample of 16, saturation is reached when enough data has been collected to characterize the phenomenon being studied to answer the research question (Shetty, 2018). In a Delphi study, sample size depends on the study's purpose and the diversity of the target group, and more on group dynamics in reaching consensus than on their statistical power (Shetty, 2018; Vogel et al., 2019). A large sample size risks redundant data due to saturation and provides diminishing returns regarding the validity of the findings.

Even though no clear guidelines suggest the number of participants included in policy Delphi questionnaire studies, the sample is purposively selected and varies depending on the problem under exploration. Manley (2013) agreed with Musa et al. (2019) that no clear guidelines suggest the number of participants included in policy Delphi questionnaire studies. There is very little empirical evidence on the influence of the number of participants on the reliability or validity of consent processes (Manley, 2013; Musa et al., 2019). The qualitative policy Delphi approach addresses the issue adequately. First, one needs to address and understand the implementation of the model solution and the ideas and concepts associated with the problem. A minimum of 10 is smaller, which does not produce good ideas. A maximum of 50 participants is a large sample, resulting in high costs due to the iteration process (Manley, 2013; Musa et al., 2019; Olakitan Atanda, 2019). Some studies have had 15 participants, while others have had 60. However, the current study adhered to Musa et al.'s recommendation for a sample size of 16, suitable enough to substantiate the valuable feedback and fulfill a policy Delphi survey criterion for reaching a consensus.

Instrumentation

Instruments are tools to collect data about the research topic by researching various literature reviews. I used the qualitative policy Delphi research to collect primary data suitable for establishing policies and standards. The Rand Corporation initially developed the Delphi method from 1940 to 1960. RAND also created the Delphi method to anticipate the impact of technology on warfare and address issues within the U.S. Air Force based on the Rand Corporation's research and development (Bastas & Liyanage, 2018; Solangi et al., 2020). The Delphi method has since been applied to healthcare, education, management, and environmental science. The qualitative policy Delphi is unlike the traditional research design because it involves various iterations of questionnaires to collect primary data, and participants are expert panelists who will respond to three rounds of written questionnaires.

I used the Google Form platform to answer questionnaires and Excel Analyze Data for data analysis. The researcher was an active participant in the research process; therefore, the researcher is the fundamental instrument in qualitative research, consistent with previous and current researchers (Soh et al., 2020; Wa-Mbaleka, 2020). A demographic question was included after the consent form in the email in the Round 1 questionnaire (see Appendix C). The demographic questions included experience in (a) carbon reduction, alternative energy, forestry management, sustainable infrastructure development, clean water, climate change, social change, and socially sustainable practices; (b) establishing policies and standards; (c) socially sustainable practices; (d) experts who are involved in social change; (e) scholars and practitioners, and (f) education and at least 2 years of experience in any element of the UNSDGs. I used email to communicate with expert panelists.

A Round 1 qualitative policy Delphi research questionnaire was created initially based on extensive literature reviews of policies and standards for implementing socially sustainable practices for facilitating social and physical infrastructure development (see Appendix D). Round 1 included open-ended and closed-ended questionnaires. The Round 2 questionnaire was based on feedback from Round 1 and included a closed-ended questionnaire (see Appendix E). Round 3 questionnaire was based on feedback from Round 2, which included a closed-ended questionnaire (see Appendix F).

The qualitative policy Delphi research questionnaires were open-ended and closed-ended. Open-ended questionnaires are appropriate for highlighting fundamental elements of the topic that the researcher forgot, and closed-ended questionnaires stimulate expert panelists’ reactions (Barrett & Heale, 2020; Belton et al., 2019; Nasa et al., 2021). Participants responded to structured questionnaires called rounds using Google Forms platforms and email for communication. Structured questionnaires are appropriate for the qualitative policy Delphi rounds because the policy Delphi research design contains several iterations. The researcher develops questions from the analysis of the results of each round until panelists have reached about 50% or more varying perspectives of consensus, points of agreement, and disagreement on all aspects of policies and standards issues.

Procedures for Recruitment and Participation

Participant Numbers and Rationale

A Knowledge Resources Nomination Worksheet is a guideline that helps to categorize the experts before identifying them to prevent overlooking any vital class of experts. All prospective experts were knowledgeable about establishing policies and standards for socially sustainable practices. Delbecq et al. (1986) provided detailed guidelines on seeking qualified expert panelists for Delphi research, which applies to qualitative policy Delphi research. The guideline outlined a thorough procedure to verify the identification of valid experts and offer them the chance to participate in the study. Qualitative policy Delphi research does not depend on a statistical sample that tries to be representative of any population. Instead, the qualitative policy Delphi research is a group decision process requiring qualified experts who understand the issues in-depth. Expert panelists are chosen based on their knowledge of the problem under study. Expert panelists for the current study were experienced in establishing policies and standards to implement socially sustainable practices for facilitating social and physical infrastructure development. Qualifications included (a) a commitment to participate until the end, (b) interest in the topic under exploration, (c) experience in working with one or more elements of the UNSDGs, (d) experience working in SSA countries and other developing countries, (e) decision maker in their organization, (f) a participant in LinkedIn sustainable development group, (g) literature review publications, and (h) participants at sustainable development conferences and symposium.

Participation of Expert Panelists

Expert panelists are chosen based on their knowledge of the problem under study. The current qualitative policy Delphi followed Musa et al.'s (2019) 15-sample size guideline. Expert panelists for the current study were experienced in establishing policies and standards to implement socially sustainable practices for facilitating social and physical infrastructure development. I created current information regarding the expert panelists to guide me in deciding whom to include in the study. Also, due to the nature of the policy Delphi questionnaires, creating a database of participants' contacts was critical.

I identified potential expert panelists by leveraging LinkedIn and Twitter networks and scanning conference lists and Literature Reviews. I contacted participants via published email or direct mail from my LinkedIn and Twitter networks (public records. I asked experts to participate in the qualitative policy Delphi and to provide their opinions as experts in developing socially sustainable development policies and standards. I confirmed if the contact information on LinkedIn and Twitter was current by comparing information on their organization's websites and looking at the last date they posted. I compared qualifications on the Knowledge Resources Nomination Worksheet and ranked them as a priority for the invitation to the study. An expert taking on multiple roles was placed on numerous lists. After receiving an approval code from the Walden University Institutional Research Board (IRB) and confirming the correct email addresses and experts' qualifications, I sent an initial email via my Walden email on Outlook with a link to the Google Forms survey (see Appendix A). The email included my contact details, the objective of the interview, a list of questionnaires about the demographics of participants, and knowledge in establishing policies and standards in socially sustainable practices. The email also included information on the usage and storage of data and a request to complete the enclosed Informed Consent Statement (see Appendix B). The demographic questions were also part of Google Forms in Round 1. Email is cost-effective, provides faster platforms, and is a more straightforward approach to communication than the conventional posted mail approach. The qualitative policy Delphi method consisted of three rounds. I emailed experts as friendly reminders for slow responses to complete questionnaires for each round.

Saturation of Data

In qualitative research, saturation is when the researcher does not find new themes or patterns in their data. Researchers could reach saturation under two conditions: first, continued analysis does not provide new information, and second, there are no phenomena that researchers cannot describe (Chitac, 2022; Rahimi & Khatooni, 2024). Qualitative research looks for saturation, and a qualitative policy Delphi with a sample size of 15 is big enough to define research phenomena and answer research questions adequately (Okoh et al., 2024; Shetty, 2018). Repeated data is likely due to saturation with large sample sizes. The second condition must be met to reach saturation, and to meet the second condition, the data collection needs to be enough to answer the research question (Chitac, 2022; Rahimi & Khatooni, 2024). The research question is critical in saturation because data saturation involves how researchers know that they can speak back to the fundamental structure of the objects of their research questions (Chitac, 2022; Rahimi & Khatooni, 2024; Ravitch & Carl, 2016). The current study provided an exhaustive literature review that supported the research question, and the qualitative policy Delphi method provided enough data to answer the research question. Subsequently, I used peer reviews to determine whether this concept is relevant to the current study or if a study had reached saturation. I used the qualitative policy Delphi research design, suitable to reach saturation, and collected data from 16 participants who were experts in establishing policies and standards for implementing socially sustainable practices.

The policy Delphi method involves using experts with similar experiences in the field under study to get a high degree of data as a solid filter. The distinct strength of the policy Delphi research design is that it integrates knowledge and arguments of expert panelists to agree or disagree with an issue (Okoh et al., 2024). The high degree of understanding and cognitive abilities of expert panelists with comparable experiences produces a three-bias reduction effect: (a) anchoring, (b) desirability, and (c) bandwagon biases (Avella, 2016; Zartha Sossa et al., 2019). The current study included experts from diverse sustainability organizations with specialties in sustainable development, policies, and standards, as well as 2 years or more of decision-making experience in implementing socially sustainable practices.

The numerous rounds of questionnaires in the qualitative policy Delphi research continued until saturation was reached. In the current qualitative policy Delphi research, I used three rounds of questionnaires to ensure saturation. I permitted expert panels to reconsider their opinions regarding the views of other expert panelists and criticism or comments on other expert panelists' opinions concerning the consequences of the policy in question (Nasa et al., 2021). After the first Delphi round, expert panelists' opinions, comments, and criticism helped the researcher discover all the positions advocated and the main arguments for those disagreements that reached saturation. I repeated the process in subsequent rounds until all aspects of the issue were addressed and reached saturation, ensuring trustworthiness and providing a rigorous evaluation of credibility, transferability, dependability, and confirmability.

Relationship Between Saturation and Sample Size

The policy Delphi method involves using experts with similar experiences in the field under study to get a high degree of data as a solid filter. The distinct strength of the policy Delphi research design is that it integrates knowledge and expert panelists' arguments for disagreeing with an issue (Nasa et al., 2021; Zartha Sossa et al., 2019). The current study included experts from diverse sustainability organizations with specialties in sustainable development, policies, and standards, as well as more than 2 years of decision-making experience in implementing socially sustainable practices. The numerous rounds of questionnaires in the qualitative policy Delphi research continued until saturation was reached. In the current qualitative policy Delphi research, I used three rounds of questionnaires to ensure saturation. I permitted expert panels to reconsider their opinions regarding the views of other expert panelists and criticism or comments on other expert panelists' opinions concerning the consequences of the policy in question. After the first Delphi round, expert panelists' opinions, comments, and criticism helped me discover all the positions advocated and the main arguments for those disagreements that reached saturation. I repeated the process in subsequent rounds until all aspects of the issue were addressed and reached saturation, ensuring trustworthiness, and providing a rigorous evaluation of credibility, transferability, dependability, and confirmability.

Duration of Study

Typically, a Delphi study takes anywhere from 45 days to 3 months. The average Delphi study could take 45 days to 5 months (Delbecq et al., 1986). On the contrary, the duration would be 1-3 months (Okoli & Pawlowski, 2004). I tried to follow the recommendation of Okoli and Pawlowski (2004) of 2 months or less due to advanced technology. However, that did not work because it took 7 months. I asked expert panelists to answer questions on five factors that took approximately 15 minutes each, totaling 1.5 hours for Round 1. Round 2 took about 30 minutes or less due to the reduced number of questionnaires with the two 4-point Likert-type scales, and Round 3 took 15 minutes. I asked the expert panelist to return completed questionnaires within 3 days of receipt. Instead, some were completed in 3 months. There were problems with some emails, and some could not access the link even though I confirmed that panelists can access their emails and the web to receive and return questionnaires.

Content Validity

The policy Delphi research design is crucial for content validity. The policy Delphi ensures validity by including expert panelists and iterative rounds (Barrett &

Heale, 2020). Careful assessment of data from the first questionnaire enhanced content validity. Rounds 2 and 3 further confirm the content validity because I allowed the expert panelist to review their opinions, which implied that the outcome is high in content credibility (Barrett & Heale, 2020). The policy Delphi research design accelerates group communication and sharing of information among expert panelists anonymously, allows independent thinking, and prevents influential individuals' dominance, group tension, and groupthink. The anonymity among the panelists encouraged openness to express honest opinions, and multiple iterative rounds allowed the participants to re-evaluate their ideas, leading to increased content validity.

The Delphi technique allows expert panelists to concentrate on critical issues within the questionnaire, preventing them from getting distracted. Anonymity enables expert panelists not to fear possible ramifications and humiliation, forcing them to publicly agree to others' viewpoints after the researchers present and resubmit viewpoints from other expert panelists (Belton et al., 2019; Kattirtzi & Winskel, 2020). Even though anonymity among the panelists is the distinctive feature of the policy Delphi research, recent researchers were innovative in using a multi-method study design. The multi-method study design consisted of other methods, such as post-survey, workshops, or focus groups, along with the stand-alone policy Delphi method (Belton et al., 2019; Kattirtzi & Winskel, 2020). The multi-method research design for policy Delphi research could reveal limited use of validity and reliability tests in their analysis, which may result in ambiguity in reporting the approach (Belton et al., 2019). Many new policy Delphi researchers have difficulty comprehending a policy Delphi survey. Clear and comprehensive reporting is a fundamental research practice for validity and reproduction for other researchers. Empirical research using the policy Delphi may present: (a) research purpose and format, (b) degree of anonymity, (c) channel of communication for survey questions, (d) strategy for selecting experts, (e) several rounds and detailed continuity of rounds and completion rates, (f) validity, and (g) data collection and techniques used for analysis (Belton et al., 2019). Thus, I used a qualitative policy Delphi research design to ensure clarity and validity and included a detailed attrition plan.

Attrition Plan

Unlike traditional survey questionnaires, the qualitative policy Delphi research design has multiple iterations and is complex; therefore, the process is time intensive. Expert panelists skipped questions due to limited time and fatigue or may drop out (Ametepey et al., 2019, 2023). Participation was voluntary, and withdrawal was voluntary without penalty. Expert panelists withdrew from participating at any time while completing the survey by closing their browsers or emailing the facilitator (Hall et al., 2018; Toma & Picioreanu, 2016). However, once the survey was submitted, it was not withdrawn from the data. I used any information recorded before the expert panelist withdrew from the study; however, information was only collected after the expert panelist withdrew their permission. When an expert panelist withdrew during the research, I registered drop-out rates (Hall et al., 2018; Toma & Picioreanu, 2016). If an expert panelist did not submit a response to the questionnaire, I would not invite that expert panelist to participate in the subsequent questionnaire rounds. Emails were sent to the expert panelists to thank them for showing initial interest in the study, and they were informed that they would no longer receive information about the study.

The current study included Toma and Picioreanu's attrition plan (2016) to manage expert panelists' attrition. Drop-out before Round 1: while receiving the questionnaire, I considered that the withdrawer did not affect the study, and the expert was replaced. Drop out before Round 1 and after receiving the questionnaire: I considered that the response did not affect the study. Drop-out before Round 2 while receiving the questionnaire: I analyzed the data and considered how they affected reaching a consensus (Hall et al., 2018; Toma & Picioreanu, 2016). The nonexistence of ratings does not suggest that the response to referred issues in Round 1 is unimportant. I assumed that an expert panelist mentioned in Round 1 and not evaluated in the following rounds could reach a higher rating at the end of the study. Subsequently, I may suggest a positive intermediate rating for issues set forth by the expert. I conducted the review with and without considering such opinions to have a clear image of the effect on the opinions and judgments. After receiving the second questionnaire for Round 2, drop-outs were perceived as leaving the study, representing the effect of the cognitive load caused by the questionnaire design. I assigned a favorable rating to the topics approached by the expert in Round 1 and a neutral response or slight disagreement to the issues not covered by the expert in Round 1. Panelists dropped out before Round 3, and while receiving the questionnaire, I considered opinions expressed during Round 2. Drop-outs before Round 3, after receiving the questionnaire: I considered opinions expressed in the previous round.

Retention Plan

One of the challenges of conducting qualitative policy Delphi research with multiple rounds of questionnaires and maintaining low attrition is keeping participants engaged after recruitment. A significant attrition rate could directly affect the level of consensus amongst the expert panelists, which could impede the results of the opinions. Even though some researchers suggested using monetary and social recognition as incentives for expert panelists to complete the process, Hall et al. (2018) and Toma and Picioreanu (2016) cautioned against financial incentives because of ethical biases. Using monetary payment or moral encouragement to retain participants may introduce bias in the research results (Hall et al., 2018; Toma & Picioreanu, 2016). I used various reminder methods, such as email, to maintain experts' engagement in completing each round and between rounds.

During the data collection, I maintained constant communication with each expert panelist to emphasize the significance of their participation in the study. I sent friendly reminders for feedback, which resulted in high returns. The researcher should build rapport with all expert panelists and send email and social media updates about the study's progress (Bajwa et al., 2024; Hall et al., 2018; Okoli & Pawlowski, 2004). The report should also include announcements of the date to expect the following survey round, subsequently to inform expert panelists (Franklin & Hart, 2006; Hall et al., 2018). The email contained information on how many experts have completed the round as encouragement to complete the round. I thanked the panelists for contributing to the study and used constant personalized reminder emails to encourage expert panelists to complete each survey round. In the email, I emphasized that the expert panelists' participation contributed to social change in SSA countries. When participants could not complete the survey round by the deadline, I reminded expert panelists about the significance of meeting the deadlines. In addition, I extended the deadlines as much as possible to accommodate expert panelists' schedules while encouraging them to meet the deadline. Upon completion, each expert panelist received a certificate thanking them for completing and committing to the research.

Participants interested in the specific research topic, willing to participate in a multi-round qualitative policy Delphi, and willing to allow sufficient participation time are inclined to stay until the research is completed. Although participants interested in the topic may be biased, researchers must ensure that the expert will be relatively impartial in extracting current knowledge when selecting experts. Questionnaires that are well-written and unambiguous will entice participants and reduce dropouts. The researcher can minimize expert panelist fatigue by ensuring that no single question will take more than 30 minutes; therefore, a thorough analysis of each round is critical. Expert panelists' clear understanding of the research topic is crucial for retention. My careful analysis is required to identify repeated data and delete redundant data where expert panelists provided repeated negative responses on the same topic before developing new questions to avoid confusion and attrition.

Qualitative Policy Delphi Rounds

The qualitative policy Delphi research design is appropriate and reliable because it supports the resolutions of expert panelists' disagreements with policy issues. The qualitative policy Delphi approach supports a public policy initiative and provides policymakers with policy ideas and a comprehensive understanding of how to design and implement policies (Thompson et al., 2024). The policy Delphi follows four fundamental principles. The first fundamental is anonymity and asynchrony. Anonymity among the panelists decreases outside influences and is crucial to the success of any Delphi technique, as well as certifying that other expert panelists will not identify other responders (Manley, 2013; Thompson et al., 2024). Even though expert panelists present anonymous judgments without direct interaction with other expert panelists, they are not anonymous to the researcher. Ethically, providing information about the experts' qualifications to the panel participating in this research is crucial. Researchers identified the professional roles of other participants during the recruitment process (Manley, 2013; Thompson et al., 2024). Asynchronous provides options for expert panelists to respond to questionnaires and allows them to participate at their leisure and in natural settings; they may respond via email or printed, mailed versions of the Delphi survey instruments.

The second principle is iteration. Researchers perform Delphi surveys over several iterative rounds and require expert panelists to complete a succession of questionnaires until they reach a consensus (de Loë et al., 2016; Manley, 2013; & Msibi et al., 2018). In the case of policy Delphi, expert panelists provide opposing views and opinions on policy questions or topics under research, stimulating intellectual arguments (de Loë et al., 2016; Manley, 2013; Msibi et al., 2018). The current study followed Vogel et al.'s (2019) guidelines of three rounds. There are no guidelines on the correct number of rounds for Delphi surveys. Various literature has shown two and four rounds;

however, extending the rounds beyond the third one is unnecessary (de Loë et al., 2016; Manley, 2013; Vogel et al., 2019). The third principle is controlled feedback, which means the researcher takes the results from one round of questions to inform and generate the following questions and prepare expert panelists before asking for their opinion regarding policy impact. Therefore, I provided expert panelists with crucial elements, background information, and operational criteria.

The background information is vital because it provides information about issues surrounding the policy's passage, its effect, and the operational framework. The framework helped expert panelists establish their perceived policy or policy change concerns. The fourth principle is a statistical response. Statistical response takes experts' judgments on a specific area and converts responses into quantitative data (de Loë et al., 2016; Manley, 2013; & Msibi et al., 2018). When generating a statistical reaction, it is crucial to comprehend that all data are analyzed thoroughly and dependably to determine if the policy is effective. A key element differentiating policy Delphi research design from conventional Delphi research designs is the focus on comprehending disagreement among expert panelists (Kattirtzi & Winskel, 2020; Manley, 2013). There is no agreed-upon procedure for presenting them to expert panelists with opposing views in the literature (Kattirtzi & Winskel, 2020). Nonetheless, many researchers do not report the diversity of expert panelists' disagreement (Kattirtzi & Winskel, 2020; Manley, 2013; Msibi et al., 2018). Instead, they focus on their agreement; therefore, paying attention to the diversity of expert panelists' disagreements and their fundamental assumptions about why expert panelists have opposing views instead of agreement is critical (Kattirtzi &

Winskel, 2020; Manley, 2013; Msibi et al., 2018). Sometimes, a group of experts may agree on a short list of essential factors for shaping future development and establishing standards, yet they may disagree on the value of those factors.

Subsequently, it is essential to use factor analysis or similar tools to place expert panelists in various categories who reach opinions of agreement or disagreement for different reasons for analysis, showing their diverse fundamental reasons for agreeing or disagreeing. Kattirtzi and Winskel (2020) underscored that it is helpful to use quotations to show points of expert agreement and disagreement and perceived circumstances to provide a comprehensive summary of various issues and perspectives that emerged in the responses. Policymakers prefer a presentation of a summary of various positions and assessments on a specific problem, revealing the complexity and full extent of opportunities and implications (Kattirtzi & Winskel, 2020; Manley, 2013; Msibi et al., 2018). The current study involved summarizing various categories and assessments of each concept for SSA government institutions, establishing policies and standards to implement socially sustainable practices to facilitate social and physical infrastructure development. The researcher created a plan to ensure interpretation and coding; expert panelists submitted comments and decided three things: (a) the primary idea of the comment, (b) if the comment is usable, and (c) where the comment fits within the operational framework. Evaluating whether the comment is usable usually comes from four issues: (a) general comments, (b) effect comments, (c) uninterpretable comments, and (d) redundant comments. The researcher deletes redundant comments.

Data Collection Plan

The current qualitative policy Delphi consisted of three rounds. The Round 1 survey served as brainstorming for the Round 2 questionnaire. The Round 1 questionnaire was created based on extensive literature reviews of policies and standards for implementing socially sustainable practices for facilitating social and physical infrastructure development. The Round 1 questionnaire was open-ended and closed-ended. Expert panelists answered a closed-ended questionnaire and provided additional comments and ideas regarding five categories. The categories were: (a) sustainable development practices, (b) socially sustainable practices, (c) social infrastructure, (d) physical infrastructure, and (e) leadership influences. On the closed-ended questionnaire, experts were also asked to rate the importance of establishing policies and standards to implement socially sustainable practices and provide rationale, additional comments, and ideas regarding the five categories. Experts used a 4-point Likert-type scale where 1 = very unimportant and 4 = very important to rate each question on establishing policies and standards to implement socially sustainable practices (see Appendix C). The Committee Chair evaluated the Round 1 questionnaire to confirm the suitability for inclusion in the importance phase of the survey activity. The Round 1 questionnaire was sent to the IRB for approval. The questionnaire was immediately distributed to expert panelists via Google Forms online upon approval. The Round 2 questionnaire was based on feedback from Round 1 (see Appendix D).

Expert panelists could revise their initial response and provide a rationale, comments, and recommendations for revisions after reviewing aggregated responses from other panelists. Experts used two 4-point Likert-type scales to rate each question on desirability and feasibility, where 1 = unreliable (great risk of being wrong); 2 = risky (substantial of being wrong); 3 = reliable (some risk of being wrong); and 4 = certain (low risk of being wrong). Round 3 was the final round. In Round 3, the participants were asked to provide a single response to rate their confidence in the top 10 strategy statements list from the Round 2 survey using a 4-point Likert-type scale (see Appendix E). The confidence scale was 1 = unreliable (great risk of being wrong); 2 = risky (substantial of being wrong); 3 = reliable (some risk of being wrong); and 4 = certain (low risk of being wrong).

I used Google Forms for surveys and emailed to communicate with panelists directly from Google Forms. The data collection process is challenging and time-consuming because it could take up to 6 months or more; the researcher is a factor in the research timelines (Kattirtzi & Winskel, 2020). One of the goals of Round 2 is to reduce the amount of information that panelists produce and develop the second set of questions based on the responses to the first set of questions (Bajwa et al., 2024; Belton et al., 2019; Okoli & Pawlowski, 2004). Another goal of Round 2 is to understand the rating of the importance of the factors based on the differing perspectives of various expert panelists (Bajwa et al., 2024; Beiderbeck et al., 2021; Okoli & Pawlowski, 2004).

After verifying the relative accuracy of the summarized information, expert panelists were asked to rate factors in each category generated by the summarized information and anonymously divergent opinions from Round 1. I requested expert panelists in Round 2 to validate accurate interpretations of their responses for a place in the appropriate category. During that time, experts could change their initial responses or suggest additional items they did not consider previously. Panelists were allowed to see aggregated anonymous responses from other panelists and were also allowed to provide suggestions and recommendations on future alterations. Additionally, expert panelists were asked to comment on other panelists' aggregated responses without peer pressure (Turoff, 1970; Zartha Sossa et al., 2019). Certain groups of experts may assess the problems and opportunities for establishing policies and standards to implement socially sustainable practices differently. The differences could have crucial implications for government policies and standards, private sector policies and standards, and leadership activities. Thus, the qualitative policy Delphi rounds allow expert panelists with similar backgrounds to collaborate on factors most crucial to the research question instead of reconciling significantly different perspectives. In Round 2, two Likert-type scales were created based on factors in each category generated by the summarized feedback from Round 1. The Round 3 questionnaire was created after panelists rated the top 10 strategies leading to ideas for establishing policies and standards to implement socially sustainable practices.

Data Analysis Plan

Qualitative policy Delphi questionnaires are designed to provide conflict and argument. The current study followed the recommendation of Vogel et al. (2019) of three rounds. In the current study, I also used Bajwa et al. (2024), Belton et al. (2019), Okoli and Pawlowski (2004), and Turoff (1970) guidelines of a 4-point Likert-type scale to rate expert panelists' opinions. The 4-point Likert-type scale is designed to determine the judgment of the expert panelists on the topic under study and is appropriate for gathering information about their degree of agreement or disagreement. The Likert-type scale is one of the most used ordinal scales and is used in attitudinal studies. A researcher may use the Likert-type scale in content analysis to allow the measurement of the degree difference and not the specific difference between the measured quantities. Subsequently, content analysis is usually used in qualitative data analysis to identify themes appearing in the data. Researchers need to obtain satisfactory information and compare the different respondents. A Likert-type scale is a reasonable option for securing data of a satisfactory level and allows the researcher to compare the different respondents to all the items selected for the questionnaire. Additionally, the Likert-type scale enables researchers to calculate the median from the results.

In the first stage, policy Delphi questions typically include four categories of items: forecast, issue, goal, and options. The four categories involve: (a) forecast items provide the participant with a statistic or estimate of a future event, and participants are asked to judge the reliability of the information presented; (b) issue items, respondents rate issues in terms of their importance relative to others, (c) goal items elicit opinions about the desirability of specific policy goals, and (d) options items, respondents identify the likelihood that specific options might be feasible policy goals (Beiderbeck et al., 2021; de Loë et al., 2016). The response categories do not usually allow neutral answers because policy Delphi questionnaires are designed to provoke conflict and disagreement and clarify opinions. The response choices of the four categories are often rated on a 4-point scale. I distributed questionnaires to all selected expert panelists and asked them to identify and rate the importance of each criterion and indicator item on a 4-point Likert-type scale. The first round of response choices for Forecast Items ranges from 1 = certainly reliable, 2 = reliable, 3 = unreliable, and 4 = certainly unreliable. The response choices for Issue Items range from 1 = very important, 2 = important, 3 = unimportant, and 4 = very unimportant. The response choices for Goal Items range from 1 = very desirable, 2 = desirable, 3 = undesirable, and 4 = very undesirable. The response choices for Option Items range from 1 = very likely, 2 = likely, 3 = unlikely, and 4 = very unlikely.

Round 1 Data Analysis

Upon receipt of responses from Round 1, data were exported from Google Forms into an Excel spreadsheet (XLS file), a copy was made, and two Excel spreadsheets were generated on the desktop. The initial Excel spreadsheet held the raw data, while the second featured a transferred version more suitable for data analysis. All comments were copied into a Word document to manage modifications of statements from feedback. First, the demographic data obtained in the Round 1 survey were analyzed using fundamental descriptive statistics to characterize the panelists' expertise. Frequency counts and percentages were used to indicate the distribution of years of service in one or more elements of the UNSDGs. I coded every short phrase, sentence, or word by highlighting the ones that matched those codes until all feedback statements were exhausted. Data were assessed by calculating the frequencies in percentages and median scores of statements for desirability and feasibility, and evaluated for opinions of agreement and disagreement.

I carefully read each panelist's statements, recommendations, and rationale and identified recurring patterns and terms assigned as keywords that summarized the experiences and opinions of expert panelists. Keywords are critical in coding since they establish the foundation of the analysis and help translate raw data into insightful, manageable units (Braun & Clarke, 2023; Naeem et al., 2023). I coded every short phrase, sentence, or word by highlighting noted phrases and sentences that captured the data's core message, significance, or theme until all feedback statements were exhausted. I collated all the data into groups identified by code. The code helped me obtain a consolidated overview of the mean points and common themes repeated throughout the data. I identified patterns among the codes and developed themes by combining several codes into themes.

Data were assessed by calculating the frequencies in percentages and median scores of statements for desirability and feasibility and evaluated for opinions of agreement and disagreement. Codes that were vague or irrelevant were deleted, while other codes became themes. I reviewed all themes to ensure they were helpful and accurately represented the data by re-evaluating the data set and comparing my theme against the data. At this point, I was looking for missing items, accurate presentation of data, and themes, as well as whether I needed to make changes to make themes work better. If the themes were too long, I split them up. I created a final list of themes by naming and defining each one. The name of the theme was succinct and easy to comprehend. Statements with similar redirection were modified to match the nature of the comments provided. Statements with dissimilar or conflicting comments were modified to reflect the concerns identified. The source documents or other pertinent literature helped to inform the statement modifications. Comments reflecting divergent opinions were presented in multiple ways to reflect the variance in views among the experts. From a compilation of 176 statements, I generated 233 items. I carefully analyzed the 233 items and removed 118 repetitive elements, resulting in 115 elements. I modified the 115 elements to develop the Round 2 survey questionnaire and advanced to the Round 2 survey.

Round 2 Data Analysis

Round 2 was a closed-ended questionnaire. The panelists were asked to rate the desirability and feasibility of each of the 115 policy idea statements using two separate 4-point Likert-type scales, one for desirability and another for feasibility; the introduction page comprised descriptions for desirability and feasibility. After completing the survey, in Round 2, panelist response data were exported from Google Forms into an Excel Spreadsheet (XLS file); Two Excel spreadsheets were generated on the desktop. The initial Excel spreadsheet held the raw data, while the second featured a transferred version more suitable for data analysis. All comments were copied into a Word document to manage modifications of statements from feedback. The researcher followed the six steps of the thematic method. Data were assessed by calculating the frequencies in percentages and median scores of statements for desirability and feasibility and evaluated for opinions of agreement and disagreement. The top 10 strategy statements formed the Round 3 survey questionnaire. The Committee Chair evaluated the Round 2 statements to confirm the suitability for inclusion in the desirability and feasibility phase of the survey activity. The top 10 most desirable, feasible, forward-looking strategies among the panel were sent to the Walden University Institutional Review Board for approval. Upon approval, the questionnaire advanced to Round 3.

Round 3 Data Analysis

In Round 3, the participants were asked to provide a single response to rate their confidence in the top 10 strategy statements list that emerged from the Round 2 survey using a 4-point Likert-type scale (Appendix E). The confidence scale was 1 = unreliable (great risk of being wrong); 2 = risky (substantial risk of being wrong); 3 = reliable (some risk of being wrong); and 4 = certain (low risk of being wrong). I exported all Round 3 data from Google Forms to an Excel spreadsheet (XLS file) and created a second Microsoft Excel spreadsheet to analyze the raw data. The first spreadsheet contained the raw data from Google Forms, and the second spreadsheet contained a transposed version suitable for data analysis. The confidence rating of Round 3 was included in all Round 3 calculations, completed in Microsoft Excel, to include the frequencies for the confidence ratings. Central tendency and median measures were used to determine panel members' confidence in the prioritized list of items. Although the mean score showed an overall average, it lacked further clarity when analyzing the frequency count, percentages for each rating, and the median across the scale. Analysis of the frequency percentages for the confidence rating of each of the top 10 strategy statements yielded a confidence rating that ranged from 33% to 83%. Finally, I developed the conceptual model, which was guided by theories and concepts of the current study that answered the research question.

Policies and standards for socially sustainable practices form the basis for infrastructure development, leading to economic growth and positive social change.

Issues of Trustworthiness

A qualitative researcher could abide by a different set of principles when assessing trustworthiness in qualitative research. The variation in values between the concepts for standards includes credibility, transferability, dependability, and confirmability. The challenge is rigorously achieving these standards in most qualitative research; however, there are many ways to evaluate them if researchers do not mirror their assessment to quantitative standards (Ravitch & Carl, 2016). Nevertheless, I developed trustworthiness that aligns with the research questions, purpose, and framework. The importance of defining fundamentally acceptable trustworthiness for rigorously evaluating credibility, transferability, dependability, and confirmability in qualitative research is that these standards assist researchers in conceptualizing, engaging with, and planning for numerous elements of trustworthiness (Mackieson et al., 2019; Ravitch & Carl, 2016). I acknowledged researcher bias because it is critical to the credibility and trustworthiness of data gathering and evaluation in qualitative research designs.

A qualitative policy Delphi research design was the methodology used for the current study. In qualitative policy Delphi research, the element of trustworthiness is relevant to the integrity of the research procedures and the final product of the qualitative policy Delphi research. The primary rigor control is the capability of expert panelists to critique aggregated comments and responses of other panelists, make changes to their opinions, and add comments. Consequently, I enhanced the trustworthiness of content in Rounds 2 and 3 and allowed expert panelists to review their opinions and make changes and suggestions, and I further confirmed its trustworthiness and credibility.

Credibility

Credibility is a researcher's ability to acknowledge complexities in research and how they deal with ambiguous patterns. In qualitative research, credibility is closely related to the research design and the instrument and data the researcher may use (Ravitch & Carl, 2016). I successfully established credibility by constructing research that looks for complexity throughout the search process and the credibility of cohesive methods and findings. Credibility is critical to recursive research design (Mackieson et al., 2019; Ravitch & Carl, 2016). Also, I accomplished credibility by applying trustworthy saturation strategies, verifying public profiles of participants who have extended engagement in the field, and using peer debriefers and external auditors. The reflexive practice made me aware; consequently, I discussed and documented the interpretation and related social interactions in my knowledge frameworks across various research phases. Nonetheless, I used reflexivity to establish and communicate the arguments for the rigor and trustworthiness of the current study. Credibility is when the researcher certifies and communicates to the reader supporting evidence that the results precisely represent what was studied (Johnson et al., 2020). Therefore, credibility is the framework of trustworthiness.

The qualitative policy Delphi research is credible because the qualitative policy Delphi process includes several rounds of iteration and feedback from expert panelists in the field under investigation, who could not meet face-to-face to collaborate with researchers. Furthermore, questionnaires and summaries from each round are sent to the IRB for approval before processing, giving the research high credibility. The qualitative policy Delphi questionnaires improve credibility because members are anonymous and do not meet face to face, which diminishes group bias or group thinking, panel size, and iterative rounds (Kattirtzi & Winskel, 2020). In subsequent rounds, I collaborated with each expert panel and used responses to confirm with expert panelists to generate the most definitive agreement and disagreement judgments on the perceived resolutions of policy and standards issues. My analysis confirmed responses from each round, strengthening the results and making them credible. The Kantian inquiry system philosophy was used in the current qualitative policy Delphi research design, which gives credibility to the current study and is the truth inside theoretical and empirical elements (Manley, 2013; Zartha Sossa et al., 2019). Also, the Kantian inquiry system derives from assessing a model's capability; therefore, truth is credibility.

Transferability

Transferability is when the researcher provides comprehensive contextual information that enables readers to determine if the results could apply to their situation or an alternative situation. Transferability refers to specific findings that could transfer to a comparable alternative framework of conditions while conserving the completed study's meanings and beliefs (Johnson et al., 2020; Ravitch & Carl, 2016). Transferability is compared with external validity, which means it is not generalized because qualitative research is attached to context specific (Ravitch & Carl, 2016). The objective of qualitative research is not to create a true statement that could be universal to other people or settings; instead, it produces descriptive framework-relevant statements (Ravitch & Carl, 2016). Qualitative research is focused on making sense of participants' experiences and views and studying phenomena in a precise context with specifically chosen individuals instead of trying to generalize from the sample to the population (Johnson et al., 2020). Hence, transferability is how qualitative research could be implemented into a broader framework while maintaining its strength.

Qualitative research prioritizes loyalty to the experiences of participants. Understanding qualitative research is essential to achieving the research's goal and is not intended to produce findings that can be directly applied in various settings and contexts (Johnson et al., 2020; Ravitch & Carl, 2016). However, qualitative research may be adaptable to other frameworks. The qualitative policy Delphi questionnaires could incorporate participants with relevant expertise from geographically diverse locations and large panel sizes, which may validate transferability in various geographical locations (Kattirtzi & Winskel, 2020). For example, I could implement the current qualitative policy, the Delphi study results, in multiple government institutions in SSA countries. I may establish policies and standards to implement socially sustainable practices, to facilitate social and physical infrastructure development. Transferability is associated with external validity and applying the results to other settings. I used detailed descriptions to document the qualitative policy Delphi research, enabling readers to evaluate the transferability to different settings (SSA countries), situations (developing social and physical infrastructure development), and people. I provided clear steps to take in the current study and an in-depth explanation to provide future researchers with enough information to evaluate the study.

Dependability

Dependability refers to the consistency and strength of the data. The qualitative policy Delphi study establishes consistency of research findings through saturation, peer review, and collaboration with panelists and researchers (Franklin & Hart, 2006; Johnson et al., 2020; Ravitch & Carl, 2016). The qualitative policy Delphi study also generates the most definitive judgment on the perceived resolutions of policy and standards issues. To accomplish dependability, I engaged a wide range of diverse industry experts using the Delphi research design survey with two samples for triangulation for data gathering, with the confidence that the outcomes coincide and provide dependability in the results drawn. Nonetheless, Delphi's qualitative policy is dependable because participants are experts in the topic under exploration.

I followed appropriate research practices to guarantee dependability; future researchers could replicate the research (Johnson et al., 2020). Dependability involves researchers having a reasoned argument of how they gathered data and the consistency of data with their argument. Subsequently, data are dependent on the perception that they are answering research questions. Hence, the qualitative policy Delphi is an appropriate method to answer fundamental structures and concepts of the research (Zartha Sossa et al., 2019). The procedures for accomplishing dependability are triangulation and sequencing of processes (Ravitch & Carl, 2016). In addition, creating well-articulated reasoning for these selections confirms that the creation is a suitable data collection plan that aligns with the research questions. Therefore, a descriptive framework research design is critical to achieving dependability.

Expert panelists further support dependability in the field under study. In the current qualitative policy Delphi study, I used expert panelists in policies and standards for socially sustainable practices to bring dependability to the research. Expert panelists also had access and confirmed that the data generated their most definitive judgment on the perceived resolutions of policies and standards issues. Consequently, establishing which data to evaluate is highly dependent on the objectives of the specific research questions and involves a vital part of the evaluation plan (Johnson et al., 2020; Ravitch & Carl, 2016). Hence, research questions and methods are influenced by the qualities and amount of available critical data in an evolving iterative process (Johnson et al., 2020; Mackieson et al., 2019; Ravitch & Carl, 2016). The current study used a qualitative policy Delphi, which involves several evolving iterative rounds of questions.

Confirmability

Confirmability is characteristic of trustworthiness in qualitative research. Confirmability is also the capability of other researchers to acknowledge that the research agrees with their research results (Fefer et al., 2016; Johnson et al., 2020; Ravitch & Carl, 2016). I confirmed the results of another researcher. Keeping a journal of processes helped me achieve confirmability and maintain a comprehensive description of the qualitative policy Delphi collection and data analysis processes. The approach for establishing the trustworthiness of qualitative research must be built into the qualitative research process. The audit trail and reflexivity are two common approaches that qualitative researchers use to establish confirmability (White et al., 2012). Researchers have yet to adopt these approaches widely; implementation guidance must be provided. An audit trail happens when the researcher provides transparency of the research design and accounts for detailed data collection, analysis, reduction, and synthesis processes. When an interviewer invites an independent third-party researcher to conduct a peer review to evaluate a comprehensive audit trail, the research is maintained.

More importantly, the audit trail also provides in-depth analytical steps that I took in moving from raw data to final interpretation and shows that the analysis followed a rational path based on the data collected. The audit trail helped me characterize the step-by-step processes and decision-making throughout the research before developing a manuscript to improve research confirmability. Other researchers and stakeholders benefit from a researcher's fair trial of the process because they can trace details and confirm what the original researcher did (Johnson et al., 2020; Ravitch & Carl, 2016). Subsequently, an audit trail helped me to maintain and show reflexivity. Reflexivity is a method used to monitor and control a researcher's findings (Johnson et al., 2020; Ravitch & Carl, 2016). I used a reflexivity journal to document the repetitive nature of qualitative research and the need for the data to mandate that qualitative researchers reflect on their conclusions and basis to explain the rationale for interpreting the material. A reflexive commentary helps researchers assess what was done and evaluate alternative plans. The qualitative policy Delphi research design provides confirmability through various rounds of questioning with expert panelists and researchers. Qualitative policy Delphi generates the most definitive agreement and disagreement judgments on the perceived resolutions of guidelines and standards issues (Brady, 2015; Johnson et al., 2020; Ravitch & Carl, 2016). The current qualitative policy Delphi study design involved several iterative rounds of questioning, and I supported the confirmability of expert panelist opinions by allowing them to reflect on their responses and to change or confirm their responses.

Ethical Procedures

Ethical behavior refers to how moral beliefs and values are part of the research procedure. Participants' perceptions of ethical behavior are significant to a relationship that can generate high-quality data (Johnson et al., 2020; Ravitch & Carl, 2016). I protected the participants' confidentiality and safeguarded them from harm relating to issues of respect and dignity in sexual misconduct. Researchers respected participants' contributions, quotes, and results and reported accurately and fairly (Johnson et al., 2020). Trustworthiness is a vital element of the researcher-participant relationship during the researcher's distinctive and sensitive nature of data gathering. The researcher concealed the identity of the participants in all documents resulting from the research.

The Delphi survey's key feature is anonymity among the panelists, which serves four important purposes: first, it assures the expert panelists' rights; second, it avoids dominance by influence or high-profile individuals; third, it avoids groupthink; and fourth, it promotes independent decision-making. The Delphi technique guarantees that expert panelists' responses are anonymous and are never known to other expert panelists (Kattirtzi & Winskel, 2020; Zartha Sossa et al., 2019). Also, expert panelists did not credit responses to any individual, and the researcher did not reveal their identities. Even though the panelist may deduce who the others are in a highly specialized area, their opinions and comments remain anonymous. The current process is called quasi-anonymity. In the Delphi questionnaires, the researchers follow up with the expert panelists, which avoids total anonymity and is considered quasi-anonymity. Experts created a unified PIN for identification instead of using their names (Kattirtzi & Winskel, 2020; Zartha Sossa et al., 2019). I maintained confidentiality by delinking the data from each expert panelist and using a PIN to return questionnaires.

The proposed research study was submitted to the IRB for ethical clearance to ensure the proposal meets high ethical standards. IRB approved Round 1, 2, and 3 questionnaires before their administration; therefore, I obtained approval for each questionnaire. The objective of the IRB is to confirm that the advantages of the study compensate for the risks involved. The IRB approval certifies that the researcher complies with international, federal, state, and university ethical principles (Walden University Catalog, 2019, Institutional Review Board Approval Process section, para. 1) (see Appendix B). Based on Walden's regulations, the data collected from expert panelists and all other documents related to the study will be kept for 5 years after the dissertation's completion and destroyed by deleting them from my computer. The confidentiality of expert panelists will be protected by following these guidelines.

Summary

Chapter 3 provided the research design, which began with an introduction and an overview of the research design. Chapter 3 included detailed information on the research design and rationale for using a qualitative policy Delphi method to meet the research purpose and data to answer the research questions. Chapter 3 also entailed the participants' selection process, data collection, and analysis procedure. The participants of this qualitative research were identified as experts from multinational organizations in the United States and Africa. Chapter 3 also identified the role of the researcher as the planner and facilitator for monitoring and controlling feedback from expert panelists, analyzing the feedback, updating, summarizing the results, and confirming the aspects that panelists may suggest. The role of the current study's researcher included accurately documenting how policy or changes have modified the operations of the programs, institutions, and individuals that the policy or changes are designed to influence. The role of the researcher followed the methodology, which provided the reader with a comprehension of the approach used. The methodology was the blueprint for providing processes that I used to conduct the current study, giving validity to the research. The methodology section included sampling strategies, population selections, participant numbers and rationale, identifying, contacting, and recruiting participants, and the relationship between saturation and sample size.

The instrumentation of the research design was included in the methodology. The instrumentation identified tools to collect data about the research topic through written questionnaires for implementing the qualitative policy Delphi method. Instruments include questionnaires that involve three rounds of questions. Data was analyzed using a Microsoft Excel Spreadsheet and Microsoft Analyze Data in Excel to present patterns of responses, which could help determine if various positions of argument agreed or disagreed with the policies and issues. Chapter 3 included content validity in the qualitative policy Delphi to ensure validity, and the use of expert panelists ensured validity. The methodology also included trustworthiness issues, including a rigorous evaluation of credibility, transferability, dependability, confirmability, and ethical procedures, including clearance from the IRB to ensure the proposal meets high ethical standards. Chapter 3 concluded with a summary. The results appeared in Chapter 4, which includes discussions about the findings and their implications.

Chapter 4: Results

The purpose of the qualitative policy Delphi study was to determine how a panel of 16 purposively selected global experts on the UNSDGs in multinational organizations in the United States and Africa view the desirability, feasibility, and importance of forward-looking strategies for establishing policies and standards to implement socially sustainable practices for facilitating social and infrastructure development. The results provided credible strategies for establishing policies and standards to implement socially sustainable practices for facilitating social and physical infrastructure development.

Chapter 4 contains the research setting, demographic information on the expert panel, data collection, data analysis, and evidence of trustworthiness. I provided the results of three iterated rounds of data collection analyses, which were used in the current study. The Round 1 data includes ratings of statements on a 4-point Likert-type survey, and the expert panel proposed modifications. Round 2 was collected via Likert-type surveys to refine participants' perceptions of the desirability and feasibility of establishing policies and standards to implement socially sustainable practices for facilitating social and physical infrastructure development. Round 3 includes confidence ratings in the final lists of factors revealed in the analysis. Chapter 4 concludes with a summary of the answers to the primary research question.

Research Setting

Data in the current study were collected electronically through Google Forms. The nature of the data collected from the survey participants consisted of ratings for importance, desirability, feasibility, and participants' confidence in the policy statements.

The electronic survey environment did not permit in-person or direct interactions with any panelists; therefore, I did not monitor or observe any personal, professional, or organizational conditions that might have influenced the opinions and experience of the panelists. Expert panelists were asked to provide their email addresses in each survey so they could be invited to subsequent rounds of questioning. Expert panelists who did not include their email addresses did not receive an invitation to participate.

Demographics

The expert panel included 16 individuals who met the selection criteria identified in Chapter 3. The expert panelists self-selected based on having both the following experience and knowledge, which was consistent with the eligibility criteria: (a) experience in carbon reduction, alternative energy, forestry management, sustainable infrastructure development, clean water, climate change, social change, and socially sustainable practices; (b) experience in establishing policies and standards; (c) experience in socially sustainable practices; (d) experts who are involved in social change; (e) scholars and practitioners, and (f) education and at least 2 years of experience in any element of the UNSDGs. The demographics of the panelists who completed Round 1 of the current study were N = 16 unless otherwise noted.

I also collected demographic data from the panel of experts. The demographic characteristics included (a) gender, (b) age range, (c) highest education, (d) years in current title, (e) type of organization, (f) expertise title, (g) number of employees at the corporation, (h) employment status, and (i) interest of expert. I ensured transparency in the study procedures and processes among all panelists. The initial combined demographic traits of the panelists are shown in the tables below. Table 1 highlights gender identity. The demographic information revealed a disproportionately high number of male panelists compared to female ones. The gender gap in the UNSDGs program may be reflected in these findings.

Table 1

Gender Identity of Expert Panelists (N = 16)

Self-reported gender	*n*	%
Female	3	18.8
Male	13	81.3
Others	0	0.0

The second demographic feature of the experts on the panel I assessed was their age range. These findings could indicate the generation proposition in the sustainable development sector. I determined that around half of the experts were Gen X and Millennials based on the age range and age group, as seen in Table 2.

Table 2

Age Range of Expert Panelists (N = 16)

Age group	*n*	%	Age group	*n*	%
26-30	4	25.0	46-50	3	18.8
31-36	4	25.0	51-55	0	0.0
36-40	1	6.3	56+	2	12.5
41-45	2	12.5	No answer	0	0.0

The level of education of the expert panelists was the third attribute. Most professionals stated that the highest degree they held was a master’s degree. The data imply that expert panels continuously explore sustainable development goals due to the shifting nature of sustainable development goals. The education of expert panelists is displayed in Table 3.

Table 3

Education of Expert Panelists (N = 16)

Type of degree	*n*	%
High school diploma or GED	3	18.8
Associate	1	6.3
Bachelor	3	18.8
Master's	6	37.5
Doctorate	3	18.8

The experience was the focus of the fourth characteristic. The information pertains to the criteria for participation and expertise in supporting the UNSDGs. The number of experiences each panelist has is shown in Table 4.

Table 4

Years in Current Title

Year range	*n*	%	Year range	*n*	%
2-5	11	68.8	16-20	1	6.3
6-10	1	6.3	21-25	2	12.3
11-15	1	6.3	25 or more	0	0.0

The kind of organization in which professionals operate is the fifth attribute. The table shows that climate change-related groups and NGOs in Africa employed the most professionals. Table 5 shows the breakdown of the organization in which the panelists work.

Table 5

Work type of Organization of Expert Panelists (N = 16)

Industry sector	*n*	%
Alternative energy	0	0.0
Carbon reductions	1	6.3
Clean water	0	0.0
Climate change	3	18.8
Establishing policies and standards	2	12.5
Forestry management	0	0.0
Sustainable infrastructure development	0	0.0
United Nations Sustainable Goals (UNSDGs)	0	0.0
International NGO in Africa	4	25.0
Social accountability	1	6.3
Public policy	1	6.3
Non-profit 501c3	1	6.3
Non-profit	1	6.3
Others	0	0.0

The career title of expert panelist was the sixth attribute. Most team leaders and project managers are experts in the field. Due to time constraints, most CEOs declined. The distribution of career titles of the expert panelists is listed in Table 6.

Table 6

Categories of Career Titles of Expert Panelists (N = 16)

Region	*n*	%
Chief executive officer (CEO)	1	6.3
Vice president (VP)	0	0.0
Chief operations officer (COO)	0	0.0
Managers	3	18,8
Project managers	4	25.0
Supervisors	1	6.3
Team leaders	3	18.8
Loss and damage working group member	1	6.3
Office assistant	1	6.3
Founder and executive director	1	6.3
Specialist	1	6.3

For expert panelists, the seventh feature was the total number of workers in an organization. Small companies employ numerous professionals with 0 to 50 workers. The distribution of expert panelists employed by the firm is shown in Table 7.

Table 7

Number of Employees at Corporation of Expert Panelists (N = 16)

F/T employees	*n*	%	F/T employees	*n*	%
0-50	8	50.0	301-400	0	0.0
51-100	0	0.0	401-500	1	6.3
101-200	1	6.3	501- 1,000	2	12.5
201 - 300	1	6.3	1,001 or more	3	18.8

The employment status of expert panelists was the eighth characteristic. Most experts were employed full-time. Table 8 depicts the expert panelists' employment status.

Table 8

Employment Status of Expert Panelists (N=16)

Status	*n*	%
Full-time	10	62.5
Part-time	3	18.8
Unemployed	2	12.5
Retired	0	0.0
Others	0	6.3

The interest of expert panelists was the ninth characteristic. However, those who participated were mainly concerned with socially sustainable practices, and many who stated they were enthusiastic about the UNSDGs did not agree to join. The interests of specialists are listed in Table 9.

Table 9

Interes*t of Expert Panelists (N = 16)*

The interest of expert panelists	*n*	%
Socially sustainable practices	6	37.5
Social change	5	31.3
Passionate about elements of the USDG	5	31.3
Others	0	0.0

Data Collection

Data collection details are included in this section. Upon receiving approval from Walden University's IRB (approval number 03-22-24-1021836), I launched recruitment and data collection by sending an invitation email to 260 individuals. Of the 260 participants invited, 16 opted to complete Round 1 and accessed the survey URL. At the beginning of Round 1, there were two opportunities to agree or decline participation and affirm eligibility for participation in the study. The characteristics for participation were identified, and the participants responded to the closed-ended and open-ended questions. In the previous paragraph, they were asked if they met the requirements of the characteristics of the five criteria. Participants who answered “no” were automatically excluded from the study. All participants indicated that they met the requirements for participation. The only personal contact information I collected from the expert panelists was their email address, which was used to contact them for the next round.

Participation Overview

The current study included three iterative rounds of data collection, analysis, and results. Data collection for all three rounds occurred between April 13, 2024, and November 25, 2024. Experts who met the selection criteria totaled 16 and consented to participate in the study by agreeing to the procedures described in the informed consent form. All 16 participants completed the Round 1 survey. The panelist attrition rate between Rounds 2 and 3 was 18.75% based on the initial number of 16 expert panelists who finished the Round 1 survey. One assumption for the drop-off rate without a clear cause was that Round 1 was too lengthy. The survey completion and response rates for each round of the current study are shown in Table 10. Participants who withdrew because they were concerned about the survey were not given any special follow-up; it might be assumed that they were busy with other things or forgot to provide an email address.

Table 10

Survey Response Rate

Round	Invitation sent	*n* surveys completed	Response rate %
1	16	16	100.0
2	15	12	80.0
3	12	12	80.0

Location, Frequency, and Duration of Data Collection

Electronic data collection occurred from April 13, 2024, to November 25, 2024. Google Forms, a secure online survey provider, distributed the three data collection instruments employed in the current Delphi study. I used my Walden email account to send expert invites to all three surveys. Although I allotted a week to allow sufficient time for data analysis, it took over 2 weeks; I could not complete it quickly since I did not use SPSS to compute descriptive statistics for the rating data. The schedules for the data gathering and analysis for all three rounds are listed in Table 11. The study results discussion appears in this chapter's study results section. For all survey rounds, survey start dates were the distribution dates of the survey link to the expert panelists.

Table 11

Data Collection and Analysis Timeline

	Survey dates		Analysis dates	
Rounds	Date started	Date finished	Date started	Date finished
1	04/13/2024	07/14/2024	07/14/2024	08/11/2024
2	09/25/2025	10/10/2024	10/10/2024	10/20/2024
3	11/15/2024	11/25/2024	11/25/2024	11/30/2024

Round 1 Data Collection

The current policy Delphi study commenced simultaneously with the panelists' recruitment after the approval of the Walden University Institutional Review Board was received. All the surveys were administered online using Google Forms. The study email invitation with a survey link was sent to identified expert panelists upon IRB approval. The panelists electronically indicated the terms of informed consent before participating in this study by clicking agree or disagree. Panelists who consented to participate needed to click agree to confirm they met the survey eligibility criteria. The panelists were asked to provide their email addresses for invitations for Round 2 and to send reminders to the panelists to complete the survey. I only saw the email addresses. The demographic questions were included in the Round 1 survey after the Informed Consent Form.

The Round 1 survey questionnaire had five open-ended questions and five sub-closed-ended questions. Panelists were asked to provide three to five comments or recommendations for each question. Panelists were also asked to rate and provide a rationale for the importance of establishing policies and standards for each item in the closed-ended questions using a 4-point Likert-type scale where 1 = very important, 2 = important, 3 = unimportant, and 4 = very unimportant. Round 1 data collection began on April 13, 2024, and ended on July 14, 2024. Out of the 16 participants who self-selected and agreed to the informed consent, 16 completed the Round 1 survey, 15 provided their email addresses, and one did not provide an email address. In Round 2, three individuals did not finish the survey. The 12 experts who completed the survey provided their email addresses, and 118 policy opinion statements were generated from the data collected and were used to create a Round 2 survey instrument questionnaire of 115 (see Appendix E).

The Round 2 instrument consisted of 115 statements of forward-looking strategies leading to establishing policies and standards to implement socially sustainable practices based on the feedback from Round 1. Round 2 began after the data analysis process from Round 1 was completed, and the IRB approval of the Round 2 survey instrument was obtained. Round 2 data collection cycles were extended by 1 week to allow participants more time to complete the survey. The Round 2 survey questionnaire was sent to the expert panelists through my Walden University email account using their email addresses provided in the Round 1 data collected through Google Forms. The panelists were asked to confirm their email addresses in Round 2 to invite them to the Round 3 survey.

Round 2 Data Collection

In Round 2, the panelists were asked to rate the desirability and feasibility of each of the 115 strategy statements leading to establishing policies and standards using two separate 4-point Likert-type scales to indicate the desirability of the policy and standards and the feasibility of the said socially sustainable practices. Panelists used ratings of 1- 4 for both scales. The desirability scale was: 1 = highly undesirable, 2 = undesirable, 3 = desirable, and 4 = highly desirable. The feasibility scale was: 1 = highly unfeasible, 2 = unfeasible, 3 = feasible, and 4 = highly feasible. The expert panelists could explain their low ratings of 1 and 2 on the desirability and feasibility scales. Out of the 15 panelists sent the Round 2 survey, 12 completed the survey, and three panelists did not respond to the Round 2 survey. Data collection for Round 2 began on September 25, 2024, and ended on October 10, 2024.

Round 3 Data Collection

Round 3 The Round 3 data collection started on November 15, 2024, and ended on November 25, 2024. The final list of the 10 most highly rated strategies leading to developing policies and standards created from Round 2 data collected was used to create the Round 3 instrument (Appendix F). The Round 3 data collection process commenced following the data analysis from Round 2 and the IRB's approval of the Round 3 survey instrument. The expert panelists were sent the Round 3 survey questionnaire through my Walden University email account using their email addresses provided in the Round 2 data collected through Google Forms. The panelists were asked to confirm the email addresses provided in Round 2, which were collected through Google Forms, and to send them a summary of the results. In Round 3, the expert panelists were asked to rate their confidence in the top 10 strategy statements forwarded based on Round 2 feedback using the 4-point Likert-type scales. Confidence was the degree of certainty the member had in the collective panel's view of the rating on a scale of 1 = unreliable (great risk of being wrong); 2 = risky (substantial of being wrong); 3 = reliable (some risk of being wrong), and 4 = certain (low risk of being wrong). I allotted 2 weeks for data collection; however, expert panelists completed the survey in 5 days.

Data Recording Procedures

I conducted all three rounds of data collection through Google Forms. After each Round, I exported the survey data to an Excel spreadsheet and saved the raw data. I then developed a second spreadsheet with a transposed version of the raw data for data analysis, allowing me to create a matrix of solutions based on the expert panel responses. I deleted email addresses from the second spreadsheet. I saved all raw data from Rounds 1, 2, and 3 and analyzed data files in a secure folder on my computer's external hard drive, which is password-protected. When not in use, I store the hard drive in the locked filing cabinet where other physical materials or data are stored. I used Dropbox and Google Docs, secure sites that require passwords to access and store study data from any computer.

Variations in Data Collection

Many differences existed between the original and actual data collection plans, (a) Using the initial opinion threshold of 80% for the top two responses for desirability and feasibility in Round 2, I would have advanced only 3 due to the low rating of desirability and the lower rating of feasibility, (b) Reducing the primary measure from a minimum of 80% frequency to a minimum of 65% frequency for strategies scoring a 4 or 5 on both the desirability and feasibility Likert-type scale. Adjusting the primary and secondary measures for the most diverse opinions resulted in 10 top strategy statements for the most desirable and feasible strategies, advancing to Round 3.

Data Analysis

The expert panelists participating in the current qualitative policy Delphi study completed three rounds of surveying over 7 months. The iterative 3-round policy Delphi approach led to a large amount of data to analyze using Google Forms, Microsoft Excel Spreadsheet, Microsoft Analyze Data in Excel, and Microsoft Word Tools. The raw data from Rounds 2 and 3 underwent a numerical analysis to determine the frequencies for the items measured for the most diverse opinions for establishing policy and standards in Round 2 and the weighted average for the Round 3 ratings.

Round 1 Data Analysis

In the Round 1 questionnaire, I had a large amount of data to analyze before commencing a new round across all rounds. Round 1 data analysis began on July 14, 2024, and ended on August 11, 2024. I used Google Forms, Microsoft Excel (XLS file), Analyze Data in Excel, and Microsoft Word. The input from respondents was exported from Google Forms to an Excel Spreadsheet for an analysis of the overall opportunities to provide responses and the breakdown of the type of response. The data analysis approach aligned with the data collected in each round. The 16 participants who completed the Round 1 survey responded to five categories of open-ended and 5 closed-ended questions. Experts were asked to provide two to five comments and recommendations for the five open-ended questions and to rate the five closed-ended questions on the importance of establishing policies and standards for implementing socially sustainable practices. After analyzing the panelists' responses, I had a list of 176 statements, from which I created 233 items. I carefully studied the 233 items and removed 118 repetitive elements, resulting in 115 elements. I modified the 115 elements to develop the Round 2 survey questionnaire (see Appendix E).

Round 2 Data Analysis

Round 2 survey data analysis started on October 10, 2024. I began by exporting the entire Round 2 data from Google Forms to an Excel spreadsheet (XLS file) and created a second Microsoft Excel spreadsheet to analyze the raw data. The first spreadsheet contained the raw data from Google Forms, and the second contained a transposed version suitable for data analysis. In Round 2, the panelists were asked to rate the desirability and feasibility of each of the 115 policy idea statements using two separate 4-point Likert-type scales, one for desirability and another for feasibility; the introduction page comprised descriptions for desirability and feasibility. The Round 2 data analysis used a threshold of at least 65% ratings for desirability and feasibility on a 4-point Likert-type scale for the top 10 most diverse opinion statements that met policy and standards ideas. The expert panelists were allowed to change their response or provide rationale or comments related to any of the items, particularly those with ratings of 1 or 2 on the desirability and feasibility scales, where there was disagreement. Out of the 15 panelists who sent the Round 2 survey, 12 completed the survey, and three did not respond to the Round 2 survey. Data analysis for Round 2 ended on October 20, 2024. The top 10 strategy statements formed the Round 3 survey questionnaire (see Appendix F).

Round 3 Data Analysis

The Round 3 data analysis started on November 25, 2024. I began by exporting the entire Round 2 data from Google Forms to an Excel spreadsheet (XLS file) and created a second Microsoft Excel spreadsheet to analyze the raw data. The first spread contained the raw data from Google Forms, and the second spreadsheet contained a transposed version suitable for data analysis with emails deleted. For the Round 3 survey, the data analysis tool on Google Forms offered analyzed aggregated data such as frequency outputs (in percent) of the confidence ratings of the panelists on a 4-point Likert-type scale. The frequency percentages for the confidence assessment of each of the top 10 strategy statements yielded a confidence rating that ranged from 58% to 83%. The frequency output was based on the ratings for confidence that the 12 expert panelists provided for each of the 10 strategies. The data analysis for Round 3 concluded on November 30, 2024.

Evidence of Trustworthiness

Credibility

The researcher strengthened credibility by designing a study that looks for the complexity of the entire application process and the reliability of consistent methods and findings (Ravitch & Carl, 2016). The current research supported credibility through iterative rounds of reevaluating items in the surveys. Including the Round 2 rating survey allowed expert panelists to share additional measures of the desirability and feasibility of policies and standards. The study process also enabled expert panelists to report their confidence in the final list of strategy statements. In Round 3 of the current study, expert panelists rated their confidence level in the final 10 strategy statements of the most diverse opinions for establishing policies and standards, indicating compliance with the self-reported measure of credibility related to Delphi studies. Round 3 signified the level of confidence each of the 12 expert panelists has in the four most desirable, feasible, and essential forward-looking policies that contributed to helping government institutions identify factors in establishing credible policies and standards to implement socially sustainable practices and the controlled feedback on confidence rating responses enhanced and provided credibility to the current study.

Transferability

Transferability is when the researcher provides comprehensive contextual information that enables readers to determine if the results could apply to their situation or an alternative situation. Transferability is compared with external validity, which means it is not generalized because qualitative research is attached to context-specific (Johnson et al., 2020; Ravitch & Carl, 2016). I provided clear descriptions of data analysis to facilitate transferability in this study and make transferability judgment possible for future researchers and potential applicants, especially those in other nations and cultures. An opinion-based list of policies and standard statements could be a launchpad for future researchers to aid government agencies in establishing policies and standards to implement socially sustainable practices.

Delphi qualitative policy questionnaires include participants with expertise from geographically diverse locations and large panels that confirm transferability across geographic regions (Kattirtzi & Winskel, 2020). In the current study, I applied qualitative policy Delphi research results to answer the research question. Transferability is associated with external validity and applying the results to other settings (Brady, 2015; Fefer et al., 2016; Johnson et al., 2020). I used detailed descriptions to document the qualitative policy Delphi research, enabling readers to evaluate the transferability to other settings (sub-African countries), situations (developing social and physical infrastructure development), and people. I provided clear steps taken in the current study and an in-depth explanation that provided future researchers with enough information to evaluate the study.

Dependability

I maintained an audit trail to guarantee dependability. Dependability is the stability and constancy of research findings and the strength of the data, as it should provide precise alignment and consistency in the study, allowing for the study to be repeated (Johnson et al., 2020; Ravitch & Carl, 2016). In the current study, the dissertation committee feedback, IRB approval, and an audit trail throughout the three iterative rounds helped to ensure the dependability of the methods of listing, analysis, and calculation of statistical data, including overall interpretation of each round and in-depth study results. The dependability of the current study ensured detailed reporting to enable future researchers to repeat the study and possibly gain the same results. Dependability involves researchers having a reasoned argument of how they gathered data and the consistency of data with their argument; data are dependable on the perception that they are answering research questions (Zartha Sossa et al., 2019). Hence, the qualitative policy Delphi is an appropriate method to answer fundamental structures and concepts of the research (Zartha Sossa et al., 2019). To accomplish dependability, I engaged a wide range of diverse UNSDGs industry experts in the topic under exploration using the Delphi research design survey. The expert panelists provided all the data in the current study without my input to lead the panelists on specific perceived resolutions of policy and standards issues from the literature or my opinions.

Confirmability

I used qualitative policy Delphi research design and several iterative rounds of questioning to obtain confirmability of expert panelist opinions by allowing them to reflect on their responses and to change or confirm their responses. Confirmability is the capability of other researchers to acknowledge that the research agrees with their research results and the researcher's comparable concern for objectivity (Franklin & Hart, 2006; Johnson et al., 2020; Ravitch & Carl, 2016). Researchers must ensure that the research findings are based on the ideas and experiences of expert panelists.

The audit trail and reflexivity are two common approaches that qualitative researchers use to establish confirmability. The audit trail characterizes the step-by-step processes and decision-making throughout the research before developing a manuscript to improve research confirmability (Johnson et al., 2020; Ravitch & Carl, 2016; White et al., 2012). I used a reflexivity journal to document the repetitive nature of qualitative research and the need for the data to mandate that qualitative researchers reflect on their conclusions and basis to explain the rationale for interpreting the material. I also used the audit trail to provide transparency of the current research design and details on data collection, analysis, reduction, and synthesis processes. The audit trail associated with the current study can be attributed to the study's conformity findings. In addition, the Committee chair and IRB reviewed and approved all communications regarding the current study.

Study Results

The primary research question that guided the current qualitative policy Delphi study is, “How does a panel of global experts on the UNSDGs in multinational organizations in the United States and Africa view the desirability, feasibility, and importance of forward-looking strategies for establishing policies and standards to implement socially sustainable practices for facilitating social and infrastructure development?” Round 1 served as a brainstorming session for developing Round 2 questionnaires; panelists rated the importance of Round 1. In Round 2, panelists rated desirability and feasibility to create the final top 10 list of strategy opinions. Panelists rated their confidence in the final strategy opinions in Round 3. The results of each round are presented in this section, which consists of three rounds of data collection, analysis, and results, as well as the answer to the primary research question. The results for Rounds 1, 2, and 3 are shown in Figure 1.

Figure 1

Data Reduction Results

Round 1

- A questionnaire containing 5 open-ended questions was given to the panelists to provide comments and recommendations.
- A questionnaire containing closed-ended questions for the panelists to rate the importance of establishing policies and standards for five categories.
- 118 forward-looking strategies leading to developing policies and standards to implement socially sustainable practices to facilitate social and physical infrastructure development in Liberia and sub-Saharan Africa.

Round 2

- Survey questionnaires contain 115 strategy statements characterized by five major sections.
  - Category A: Sustainable Development Practices
  - Category B: Socially Sustainable Practices
  - Category C: Social infrastructure
  - Category D: Physical infrastructure
  - Category E: Leadership influences
- Based on the panelists' ratings, the top 10 highly rated strategies in Round 2 were flagged for inclusion and confidence ratings in Round 3. The strategies lead to developing policies and standards to implement socially sustainable practices to facilitate social and physical infrastructure development in Liberia and sub-Saharan Africa.

Round 3

- Survey instruments containing 10 strategies from 5 categories of elements.
- Confidence scale: frequencies of panel's confidence in the 10 forward-looking strategies for establishing policies and standards to implement socially sustainable practices for facilitating social and physical development in Liberia and sub-Saharan Africa.
  - S1 – Certain (66.7%), Reliable (25%), Risky (8.3%), Unreliable (0%)
  - S2 – Certain (41.7%), Reliable (58.3%), Risky (0%), Unreliable (0%)
  - S3 – Certain (83.3%), Reliable (8.3%), Risky (8.3%), Unreliable (0%)
  - S4 – Certain (75%), Reliable (25%), Risky (0%), Unreliable (0%)
  - S5 – Certain (63.6%), Reliable (36.4%), Risky (0%), Unreliable (0%)
  - S6 – Certain (75%), Reliable (25%), Risky (0%), Unreliable (0%)
  - S7 – Certain (83.3%), Reliable (16.7%), Risky (0%), Unreliable (0%)
  - S8 – Certain (58,3%), Reliable (41.7%), Risky (0%), Unreliable (0%)
  - S9 – Certain (58.3%), Reliable (41.7%), Risky (0%), Unreliable (0%)
  - S10 – Certain (58.3%), Reliable (41.7%), Risky (0%), Unreliable (0%)

Round 1 Study Results

Several expert panelists provided comments and recommendations as responses to questionnaires and rationale for the rating of importance for establishing policies and standards to implement socially sustainable practices. The result of the analysis of data collected in Round 1 is presented in this section. Expert panelists provided crucial responses, recommendations, and rationales for Round 1 feedback in each category. For the environment, Panelist 1 recommended, “The wellbeing of all humanity is intricately linked to sustainable development and climate action. When we improve people’s quality of life, we foster greater social consciousness.” Panelist 2 commented, “With abundant solar and wind resources, SSA is primed to transition to renewable energy.” Panelist 3 recommended, “By implementing policies that incentivize investment in renewable projects, governments can reduce fossil fuel dependence, mitigate climate change, and expand electricity access for rural communities.” Panelists gave rationales for scoring 87%. Panelist 4’s rationale was, “Implementing sustainable development policies and standards in Sub-Saharan Africa is essential for addressing climate change, reducing poverty, and securing the region’s long-term prosperity.” Panelist 5’s rationale was, “With such fragile economies, if policies are not put in place, many outside factors can easily hinder development.”

Social Sustainable Practices

Panelist 6 recommended, “Implementing Social Protection Programs: Implement comprehensive social safety nets including cash transfers, food assistance, and health insurance to reduce poverty and inequality, ensuring that vulnerable populations have access to necessities.” Panelist 7 recommended, “Promoting gender equality and empowering women and girls through equal access to education, economic opportunities, and political participation can contribute to social cohesion, reduce discrimination, and foster inclusive development.” Panelist 8’s recommendation was, “Investment in Education and Healthcare: Prioritize education and healthcare services to improve human capital and reduce disparities.” Panelists gave rationales for scoring 100%. Panelist 9’s rationale was: “Investment in Education and Healthcare: Education and healthcare are fundamental rights that significantly impact the quality of life and social mobility.” Panelist 10’s rationale was: “Promotion of Gender Equality: Gender equality is not only a matter of social justice but also essential for economic development.”

Social Infrastructure Development

Panelist 11 recommended that the SSA government should note that creating a socially sustainable Sub-Saharan region will not just help the country but will set standards for developing potential youth who can sustain the area for years. According to Panelist 12, “It is crucial to invest in (a) the education sector,” (b) “the government in developing the young minds,” and (c) “the government prioritizing every sector that contributes to the upbringing of potential young people.” Panelists gave rationales for scoring 80%. Panelist 13’s rationale was: “Strengthening Institutional Capacity: Building strong institutional capacity ensures that governments have the expertise and resources to engage effectively in global standard setting.” Panelist 14’s rationale was: “Active Participation in International Forums: Engaging in international forums allows

SSA countries to shape global standards that impact their economies and societies, which is very important because developed countries control almost everything, like technology, trade, economy, security, and other sectors. Sub-Saharan countries would wish to have their voice heard and recognized. Therefore, the SSA Governments need to establish policies and standards."

Physical Infrastructure Development

Panelists gave these recommendations. Panelist 15 recommended, "The provision of housing units as a means of providing a conducive living environment is very important in the region, so the government is to focus on making sure the numbers of Africans in the sub-region can be able to have somewhere nice to rest." Panelist 16 recommended,

> "By implementing green building standards and regulations, governments can promote energy-efficient housing that utilizes sustainable materials and renewable energy technologies. This, in turn, can reduce environmental impact, lower energy costs for residents, and enhance overall living conditions."

Panelists gave rationales for scoring 86%. Panelist 5's rationale was: "Integrated Urban Planning: Comprehensive urban planning reduces sprawl and promotes efficient land use, which can lower infrastructure costs and enhance access to essential services like housing, energy, and transportation." Panelist 1's rationale was: "Promotion of renewable energy: Sub-Saharan Africa has abundant renewable energy resources."

Panelist 2's rationale was: "Investment in mass transit: efficient public transit systems reduce congestion, air pollution, and transportation costs for residents."

Leadership

Panelists provided Recommendations: Panelists 3 recommended, "Integration into education curriculum: embed leadership and management training into the primary education curriculum." Panelist 4 recommended, "SSA governments are to set standards and policies that will encourage the act of practical leadership by including leadership training in schools' curriculum, from primary to secondary up to tertiary." Panelist 5 recommended, "SSA government should empower young Africans with knowledge in time management and prioritization for a leader to leader a team, understand the leader's role in staff welfare, wellbeing and engagement and disciplinary procedures and grievance handing." Panelist 5 also highlighted that "Although governments led by dictators will fear to introduce such kind of education, thinking that they might get exposed and lead to the downfall of their government." Panelist 6 recommended, "SSA government should organize different leadership engagement with emerging leaders." Panelist 7 recommended, "SSA government should make sure leadership training has been practiced throughout every sector of government." Panelist 8 recommended that the "SSA government should encourage the practice of those leadership skills acquired in their life."

Panelists gave rationales for scoring 93%. Panelist 9 recommended: "Youth empowerment initiatives: launch initiatives that empower young leaders through leadership programs, internships, and community engagement." Panelist 10 recommended:

> "By investing in vocational training programs that provide tailored leadership development courses, the government can equip managers and young workers with the practical skills, technical knowledge, and leadership competencies needed to excel in their careers and drive economic growth across diverse industries and sectors."

Panelists 11 recommended, "empowering locals NGO involved in organizing leadership training and symposium that they will be able to help in providing necessary skills required." Panelist 12 recommended, "Teaching from more of a global or regional view may be kept to the development of young leaders. This encourages young leaders to aspire to global standards and promote sustainable development goals nationally."

Round 2 Study Results

The panelists rated 14 items as the second most desirable, scoring 83. 3%. These items include: (a) Category B: Socially Sustainable Practices, (a) Category B: Socially Sustainable Practices, (S39): Sub-Saharan African government institutions should ensure citizens meet basic needs like shelter, clean water, food, education, and medical care regardless of socioeconomic status or geographic location. The rating for feasibility was 63.3%, (b) Category B (S40): Sub-Saharan African government institutions should prioritize healthcare services. The rating for feasibility was 63.3%, (c) Category B: (S41): Sub-Saharan African government institutions should invest in healthcare services to improve human quality of life. The rating for feasibility was 63.3%, (d) Category B (S43): Sub-Saharan African government institutions should ensure citizens meet basic needs like shelter, clean water, food, education, and medical care regardless of socioeconomic status or geographic location. The rating for feasibility was 63.3%, (e) Category B (S46): Sub-Saharan African government institutions should prioritize healthcare services. The rating for feasibility was 63.3%, (f) Category C: Social Infrastructure Development, (S58) Sub-Saharan African government institutions should provide affordable, high-quality healthcare to all citizens to reduce mortality rates. The rating for feasibility was 63.3%, (g) Category C, (S75): Sub-Saharan African government institutions should tailor global standards to the unique needs of their countries. The rating for feasibility was 66.7%, (h) Category D: Physical Infrastructure, (S76): Sub-Saharan African government institutions should focus on infrastructure development, such as road networks to support trade.

The rating for feasibility was 66.7%, (i) Category E: Leadership, (S94): Sub-Saharan African government institutions should continuously develop young leaders. The rating for feasibility was 66.7%, (j) Category E: (S97) Sub-Saharan African government institutions should provide leadership education from primary to advanced levels. The rating for feasibility was 66.7%, (k) Category E: (S102) Sub-Saharan African government institutions should allow young leaders to host and travel to leadership conferences and symposiums in the global north and south countries. The rating for feasibility was 66.7%, (l) Category E: (S110) Sub-Saharan African government institutions should ensure that leadership education is accessible to all students, regardless of socioeconomic background. The rating for feasibility was 66.7%, (m) Category E: (S114) Sub-Saharan African government institutions should include soft skills, essential communication skills, and technology to prepare young people for future leadership roles. The rating for feasibility was 66.7%, (n) Category E: (S115) Sub-Saharan African government institutions should implement STEM programs (science, technology, engineering, and mathematics) in high schools to prepare students for job markets. The rating for feasibility was 66.7%. Round 3 Study Results Table 12 displays data reduction from Round 2 to Round 3.

Table 12

Data Reduction From Round 2 to Round 3 by Category

Category	Round 2 statements	Round 3 statements
A: Sustainable development practices	17	2
B: Socially sustainable practices	30	2
C: Social infrastructure	28	2
D: Physical Infrastructure	18	2
E: Leadership	22	2

Round 3 Study Results

Round 3 data analysis revealed the 4 most desirable, feasible, and important forward-looking strategies in which the panelists had the highest confidence according to their rating on a Likert-type scale. The points on the confidence scale were (a) 4 = certain (low risk of being wrong), (b) 3 = reliable (some risk of being wrong), (c) 2 = risky (substantial of being wrong), (d) 1 = unreliable (great risk of being wrong). The sum of the top two confidence scale frequencies (reliable and certain in percent) for each of the five most desirable, feasible, and important forward-looking strategies with the highest confidence includes items in Category B, C, and D. The first item was (a) in Category B, please rate your confidence in this final list of strategies leading to the development of policies and standards to implement socially sustainable practices to facilitate social and physical infrastructure development in Liberia and sub-Saharan Africa. The confidence rating was 4 = certain (low risk of being wrong) at 83.3%. The rationale was: “All of the above are basic fundamental needs for every citizen, if citizens are unable to provide the above for a safe Life, the government should automatically come in.” “Providing basic necessities for citizens has the propensity to promote valuable living expenses and secure a practical lifestyle.” (b) In Category C, please rate your confidence in this final list of strategies leading to the development of policies and standards to implement socially sustainable practices to facilitate social and physical infrastructure development in Liberia and sub-Saharan Africa.

The confidence rating was 4 = certain (low risk of being wrong) at 83.3%. The rationale was: “Let the region focus on strengthening the African continent before engaging in an international forum to discuss.” “This will enable the African continent to attend international forums with a defined goal. “It’s important for sub-Saharan African governments to focus on the intercountry forum to discuss how best they can better the sub-Saharan area due to the many crises other countries face.” “The sub-Saharan African government should focus on solving the sub-Saharan problem and focus on important policies to benefit the region.” (c) In Category D, please rate your confidence in this final list of strategies leading to the development of policies and standards to implement socially sustainable practices to facilitate social and physical infrastructure development in Liberia and sub-Saharan Africa. The confidence rating was 4 = certain (low risk of being wrong) at 83.3%. The rationale was: “Infrastructure development is important for all sub-Saharan African countries.” “This will help the region provide the needed logistics for African governments to fight against poverty and help citizens have easy access to the smooth movement of goods and services.” “Infrastructure development for every country is important and should be prioritized highly.” “Infrastructure development is one way to open doors for economic development, hence, improving the standards of living for African people.”

Answering the Research Question

The current policy Delphi study comprised three rounds of data collection, analysis of each round of data, and results. The goal of each policy Delphi round was to move toward a strategy that would lead to establishing policies and standards to implement socially sustainable practices. The strategies fit the five categories identified in the UNSDGs for socially sustainable practices. This section covers the study results by research and the overarching research question. The overarching research question pertained to how a panel of global experts on the UNSDGs in multinational organizations in the United States and Africa views the desirability, feasibility, and importance of forward-looking strategies for establishing policies and standards to implement socially sustainable practices for facilitating social and infrastructure development. The 10 most desirable, feasible, and important forward-looking strategies that met the threshold of opinions for confidence ratings emerged from the three data collection and analysis rounds. The 10 strategy statements addressed the research question. These 10 strategies are presented in Figure 1 above and constitute the answer to the primary research question. Further discussion on the top 10 strategy statements is presented in the interpretation of findings section of Chapter 5.

Summary

Chapter 4 contains the results of a qualitative policy Delphi study consisting of three data collection and analysis rounds. The purpose of the qualitative policy Delphi study was to determine how a panel of 16 purposively selected global experts on the UNSDGs in multinational organizations in the United States and Africa view the desirability, feasibility, and importance of forward-looking strategies for establishing policies and standards to implement socially sustainable practices for facilitating social and infrastructure development.

In Round 1, panelists provided their opinions or recommendations based on open-ended questions and rationales based on closed-ended questions that resulted in 115 opinion statements and ideas establishing policies and standards for desirability and feasibility. The Round 2 data analysis resulted in 10 solution items passing the primary measures when the opinions threshold was decreased to 65% with rating scales for 4 and 5. Ten solution items emerged in Round 2. In Round 3, 12 expert panelists rated their confidence in each of the 10 most desirable, feasible, and important forward-looking strategies advanced from Round 2. The sum of the top confidence ratings frequencies for the 10 most desirable, feasible, and important forward-looking strategies ranged from 91% (Strategies 15) to 66% (Strategies 8). Chapter 5 contains the interpretation of findings and their relationship with literature, study limitations, recommendations for further research, implications of the study, and conclusions.

Chapter 5: Discussion, Conclusions, and Recommendations

The purpose of the qualitative policy Delphi study was to determine how a panel of 16 purposively selected global experts on the UNSDGs in multinational organizations in the United States and Africa view the desirability, feasibility, and importance of forward-looking strategies for establishing policies and standards to implement socially sustainable practices for facilitating social and infrastructure development. The fifth limitation was consistent with Delphi's studies: the dimension of anonymity among panelists that resulted in the absence of face-to-face interaction, exemplified by the lack of potential debate, or brainstorming during the survey rounds. There was no opportunity for expert collaboration because panelists had to channel their responses through Google Forms, an electronic online survey tool. The absence of debate might have suppressed reasons for opposing expert responses, as the panelists could not share their opinions and clarifications for ratings and the quality of those clarifications. The study results indicated that the opinion-based list of recommended policy and standards factors was grouped into five categories. The five categories matched the policies and standards identified in implementing socially sustainable practices to facilitate the development of social and physical infrastructure. The panelists considered these five categories the most important, desirable, and feasible, indicating their confidence in the final list. Chapter 5 includes the interpretation of findings, recommendations, and implications.

Interpretation of Findings

The focus of this section is the interpretation of the results of the study, which comprises the top 10 forward-looking opinion-based solutions statements that panelists rated as desirable, feasible, and important elements of a framework for evaluating the establishment of critical policies and standards to implement socially sustainable practices for facilitating social and physical infrastructure development in Liberia and sub-Saharan Africa. The interpretation section discusses how the current study's findings confirm, disconfirm, or extend knowledge regarding elements of a framework for evaluating success in infrastructure development in Liberia and sub-Saharan Africa. The findings are compared with the peer-reviewed literature reviewed in Chapter 2.

Sustainable Development Practices

The expert panel provided diverging opinions on sustainable development practices for establishing policies and standards as a desirable, feasible, and important element in evaluating socially sustainable practices for infrastructure development in Liberia and SSA countries. The panelists believed that SSA government institutions should (a) mitigate the impacts of climate change, (b) implement economic development to address poverty and climate change, and (c) provide comprehensive policy frameworks prioritizing and incentivizing investment. Implementing the SDGs will enhance the lives of people and their environment, which benefits citizens in various ways, such as (a) health, (b) environment, and (c) economy (Grum & Grum, 2020; Latham & Layton, 2019). Expert panelists give opinions on how African government institutions should seek participation in shaping international regulations like trade, technology, and environmental protection (Ajmal et al., 2018; Eizenberg & Jabareen, 2017). Seeking participation in shaping international relations and enhancing the reputation of SSA nations paves the way for greater collaboration and influence in global affairs.

Sustainable Sustainability Practices

The expert panelists provided opinions demonstrating socially sustainable practices of importance, desirability, and feasibility. Researchers have based the concept of social sustainability on societal change and interdependence with environmental change based on sustainable theory (Mani et al., 2018; Pieper et al., 2019; Schönborn et al., 2019). Leaders of SSA government institutions should ensure citizens meet basic needs like shelter, clean water, food security, education, and medical care regardless of socioeconomic status or geographic location, promote gender equality, and create a more prosperous and harmonious future for their nations. Sustainability has four elements: (a) fairness and equity (The SSA government institutions must balance and consider the socioeconomic implications of stringent regulations); (b) diversity, which includes low-income communities and various diversity; (c) quality of life in society and opportunities for all demographics (The SSA government institutions must provide affordable and high-quality healthcare to all citizens to reduce mortality rates), and (d) democracy, in which the community provides economic and social benefits (The SSA government institutions must invest in clean water infrastructure and guarantee universal access to clean water).

Researchers found that people's lives are affected by social issues; therefore, government institutions and organizations need to establish policies and standards and apply socially sustainable practices in their organizations. The benefit of safety and ethical standards could prevent fatalities in factories in developing countries. Buyers from developed countries are expected to obey appropriate ethical and social standards and sourcing practices to guarantee that their supply chain follows the same guidelines (Huq & Stevenson, 2020). Government institutions in Liberia and SSA countries do not enforce social standards due to unestablished policies and standards, leading to corruption (Huq & Stevenson, 2020). Therefore, establishing policies and standards to implement socially sustainable practices is critical for Liberia and the SSA Countries.

Social Infrastructure

The expert panels on social infrastructure provided opinions for SSA government institutions to actively engage in international forums with international organizations to reflect their interests in international standards with local impacts and seek participation in shaping international regulations like trade, technology, and environmental protection. There are many elements of social infrastructure. For example, (a) sewage removal and treatment, (b) clean water, which affects health positively, (c) transportation, (d) environment which includes carbon-intensive, (e) energy, and (f) communication (Grum & Grum, 2020; Harris et al., 2020; Inderst, 2020; Latham & Layton, 2019). Social infrastructure is essential to people's everyday lives. Collective spaces' functioning depends on creating and preserving a sense of trust, and commercial spaces also have a public character that allows citizens to interact with friends and strangers (Grum & Grum, 2020; Harris et al., 2020; Inderst, 2020; Latham & Layton, 2019). Examples of commercial spaces are (a) covered markets, (b) laundry marts, (c) health spas, (d) barber shops and hair salons, and (e) restaurants. Infrastructure is also a component of social infrastructure in metropolitan areas that impacts societal walking behaviors, traffic safety, noise, and air quality. Social infrastructure also magnifies group relationships and aligns people’s interactions across differences (Grum & Grum, 2020). Social infrastructure provides different services necessary for cities to operate as a social sphere, and social infrastructure delivers vital functions and creates affordances for urban inhabitation.

Policymakers and government institutions have paid little attention to social structures and how they benefit the well-being of diverse groups in communities and cities. Many disadvantaged groups, such as seniors, children, and people with disabilities, are the most affected. Justice awareness is essential for policy and standards to implement socially sustainable practices (Harris et al., 2020). In contrast, despite the importance of social infrastructure and the growing calls for organizations to integrate social sustainability practices into their operations, no coherent policies address the SDGs’ economic, social, and environmental challenges (Harris et al., 2020). Although many researchers discussed the many different definitions for social infrastructure, they all agreed on one collective theme: social infrastructure is the glue that holds society and communities together (Atkins, 2022; Grum & Grum, 2020; Inderst, 2020; Klinenberg et al., 2020). Establishing policy and standards in decision-making and planning processes is critical for social development.

Physical Infrastructure

The panelists’ recommendation on physical infrastructure was that the SSA government institutions focus on infrastructure development. Infrastructure includes road networks, prioritized investment in efficient and affordable mass transit and marine transport, supporting trade, and building solid institutional capacity to attract tourism and foreign business. Researchers classified physical infrastructures as (a) roads, (b) railways, (c) bridges, (d) tunnels, (e) water supply, (f) sewers, (g) electrical grids, and (h) telecommunications. Also, physical infrastructure is the structure of economic and social activity. Researchers contend that many governments make significant investments in infrastructure because infrastructure is critical to economic growth and the welfare of citizens. Advancing the scope of what social sciences consider physical infrastructure has been a feature of work on infrastructure, such as public health and education, which are infrastructure work (Bogart, 2022; Delanka-Pedige et al., 2021; Latham & Layton, 2019). Affordable housing is significant to citizens by providing shelter and safety. Affordable housing will also directly benefit economic growth, health, education, and gender equality. Housing development programs will create jobs in the real estate market ecosystem, producing economic development. Affordable housing will broaden local value chains and increase business and residential infrastructure. Another recommendation the panelists made on physical infrastructure was that the SSA government institutions should invest in green infrastructure and effective institutional frameworks. The government should develop affordable housing units, expand opportunities for urban and rural communities by providing comprehensive urban planning to reduce residential congestion and air pollution, and invest in e-gov to create a zero-corruption ecosystem.

M-government would extend services to remote areas and promote government services and communications to rural communities. Various researchers have defined m-government as the initiatives of government institutions to use ICT tools and implications, mobile devices, and the Internet to encourage good governance (Mensah et al., 2021; Mudawi et al., 2020). ICT tools can develop current relationships and form new partnerships with civil society or government customers. Researchers suggest that Africa is still the least broadband region, with a saturation rate of 37.3%, and that m-government is feasible and is not to replace e-gov; instead, m-government enhances e-gov (Frohlich et al., 2020; Mensah et al., 2021; Mudawi et al., 2020). The challenge is that citizens in remote areas are uneducated, and the rural regions have inadequate ICT to support infrastructures such as electricity, unavailable tap water, road networks, and untrained ICT skills (Frohlich et al., 2020). Citizens in rural areas cannot afford computers or internet services and have low literacy rates; therefore, they perceive m-government as useless (Frohlich et al., 2020). Nonetheless, researchers explained that m-government could facilitate simple communications, such as short message services, to deliver information to rural areas, and m-government is appropriate because mobile phone usage is extensive. Researchers also stressed that developing countries need policies and standards for implementing m-government because m-government contributes to social sustainability (Frohlich et al., 2020). Researchers contend that many African countries have established institutional reforms that have transformed their governance infrastructure and provided new leaders (Frohlich et al., 2020; Mbaku, 2020, 2021; Park et al., 2022). The fundamental factors for good governance are transparency, diminishing corruption, citizens' involvement, equality, social justice, and the rule of law.

Leadership

The expert panelists also provide opinions on leadership; SSA government institutions should continuously develop young leaders by providing primary and advanced education. Training should include (a) public speaking on local and global issues in leadership curricula, (b) soft skills, (c) communication skills, and (d) technology skills to prepare young people for future leadership roles. International institutions and researchers contend that people run corporations; therefore, if people are socially conscious, they may implement suitable governance mechanisms for directing corporate social responsibility and balancing satisfying all human and societal needs (Owie, 2017; World Economic Forum, 2021). International institutions' research papers state that a business exists to provide stakeholders with a mutual and sustainable value proposition (Owie, 2017; World Economic Forum, 2021). While creating value, they provide a return on investment for their investors and fulfill all human and societal desires as part of social sustainability in an organization.

Panelists also provided this recommendation: SSA government institutions should allow young leaders to host and travel to leadership conferences and symposiums in the Global North and Global South countries, and enable young leaders from SSA countries to engage with other leaders in the Global North and Global South countries. An organization should focus on making a profit, social wealth, and environmental responsibility (Arora et al., 2019; Kubátová & Kročil, 2022). Therefore, a socially conscious leadership competency framework is necessary for organizations to train their leaders, especially young leaders, to develop conscious leadership capabilities (Arora et al., 2019; Kubátová & Kročil, 2022). Socially conscious leadership encourages innovative business models to help the organization develop sustainability initiatives. Many researchers agree that socially conscious leadership would lead the organization and promote global social responsibility and sustainability while producing profits (Kagema, 2018; Macassa et al., 2019; Shaaban, 2021). Researchers contended that African leaders are unconscious of social sustainability needs and unconcerned with the welfare of their citizens because they desire to gain power and acquire wealth at the expense of their citizens (Kagema, 2018). Africa's unconscious leadership has created horrible conditions for citizens, and sustainable development is impossible if leaders are irresponsible.

Limitations of the Study

Several limitations are apparent in the current study. First, due to the iterative nature of Delphi studies, the modifications of responses from Round 1 to Round 2 were a risky process that could have been encumbered by researcher bias, given my limited background in some elements of the UNSDGs. To preserve the trustworthiness of the result, I relied on my understanding of the UNSDGs on socially sustainable practices issues from literature reviews and international institutions' conference papers. The second limitation was due to the iterative nature of Delphi studies, which could affect the attrition of participants between rounds and hamper the depth of data collection (Choi & Matz-Costa, 2017; Franklin & Hart, 2006). The attrition rate was 25% in the three rounds of data collection and analysis based on the original count of 16 panelists who completed the survey Round 1 (n = 15) and Rounds 2 and 3 (n = 12) panelists who completed the study.

The third limitation of the current study was the self-selection of expert panelists. The expert panelists self-reported that they met the inclusion criteria without verifying the integrity of their selection. No background checks were performed to confirm the panelists' expertise or the honesty of the responses because the expert panelists were expected to be truthful in the survey and their responses. The resources necessary for the background checks on expert panelists were unavailable; the assumption was that they would be truthful about their qualifications for the study. Another possibility is that if expert panelists failed to take the survey seriously or unknowingly based their responses on current social desirability or their own biases, it would affect the accuracy of their responses.

The fourth limitation was that recruiting through LinkedIn presented challenges because the invitation was sent to only people involved in one or more elements of the UNSDG projects. UNSDGs cover three pillars: the environmental, economic, and social. People working in single aspects of the UNSDGs were unwilling to participate because they were not confident about their qualifications. Using LinkedIn as a sole recruitment source presented additional challenges; I could have avoided multiple recruitment sources. The fifth limitation was consistent with Delphi's studies: the dimension of anonymity among panelists that resulted in the absence of face-to-face interaction, exemplified by the lack of potential debate, or brainstorming during the survey rounds. There was no opportunity for expert collaboration because panelists had to channel their responses through Google Forms, an electronic online survey tool. The absence of debate might have suppressed reasons for opposing expert responses, as the panelists could not share their opinions and clarifications for ratings and the quality of those clarifications.

The sixth limitation was the delayed response rate that resulted in the attrition of one panelist during Round 1 and three panelists during Round 2 due to expert panelists not providing their email, resulting in four panelists dropping out. Collecting data throughout the three survey rounds might have affected the expert panelists' commitment to providing a timely response. The snowball sampling approach was used through a referral from experts to acquire a supplement of three potential participants to make up the required sample size of 16 for Round 1. The seventh limitation was that the panelists may have brought their biases to the current study; therefore, the UNSDG expert panelists may have a different conclusion. The framing of the questionnaire was nontraditional and may have influenced the opinions of expert panelists. Moreover, the lengthiness of Rounds 1 and 2 questionnaires may have encumbered the expert panelists, causing fatigue, and making them poorly responsive to crucial issues.

Recommendations

The panelists commented throughout the study that Liberia and SSA countries must establish policies and standards to implement socially sustainable practices for facilitating social and physical infrastructure development. Recommendations are suggestions that are considered after the completion of the current study. There are multiple recommendations from the current research that future researchers should consider, which come from the limitations, findings, strengths, and weaknesses, as reflected in Chapter 2 of the literature review. The results may provide strategies and ideas for establishing policies and standards to implement socially sustainable practices.

Recommendations for Future Research

Unlike traditional survey questionnaires, the qualitative policy Delphi research design entails multiple iterations, features a delayed response rate that leads to attrition, presents a complex questionnaire, and the process demands considerable time. Due to time limitations and fatigue, expert panelists may overlook questions or decide to withdraw. Participation was discretionary, and opting out was also voluntary with no repercussions. A recommendation would be to conduct follow-up qualitative research involving focus group discussions and immediate feedback from experts with experience in one or more aspects of the UNSDGs. Immediate feedback concerning the results obtained from the present research to gain a better understanding of developing policies and standards to implement socially sustainable practices will be essential.

There is limited peer-reviewed literature regarding socially sustainable and infrastructure development policies and standards for developing countries. The UNSDGs have recently incorporated social dimensions into sustainability; hence, socially sustainable practices are relatively new (Grum & Grum, 2020). Sustainable development is inherently complex yet essential for developing nations. Each social sustainability and sustainable development component are vital for implementing policies and standards across international, local government institutions, and businesses. The current study did not address all facets of policies and standards for diverse industries; thus, a recommendation is to conduct further research on various industries and knowledge-intensive intermediaries across different sectors.

Faster sustainable growth is critical for enhancing living standards and decreasing poverty. International Issued Brief showed that even though developed countries are making progress in living standards, sub-Saharan Africa has not improved their living standards, causing widespread poverty (Azolibe & Okonkwo, 2020; International Monetary Fund, 2024; Obianyo et al., 2021). Developing infrastructure in Africa is critical for fostering economic growth and improving the living standards of citizens in African countries. Developing infrastructure in Liberia and SSA countries is essential for advancing economic growth and improving the living standards of their citizens. Meanwhile, literature reviews suggest that the social aspect of sustainability is widely accepted, but the definition is ambiguous; research showed that its ambiguity severely compromises its importance and utility (Dempsey et al., 2011). Nevertheless, very little attention has been paid to the linkages between integrating sustainable development's social and environmental pillars. Thus, a recommendation is to conduct further research to develop theoretical frameworks to define the importance of the social dimension of sustainable development, enforce the importance of socially sustainable practices, and link and integrate social and environmental dimensions.

There are 17 GOALS of the UNSDGs, and each goal has multiple elements; therefore, the UNSDGs are complex. Also, establishing policies and standards to implement socially sustainable practices for all 17 GOALs in each SSA country is challenging. The current research study's findings showed that the opinions of expert panelists about the desirability, feasibility, and importance of the top 10 forward-looking solutions confirmed and extended knowledge in the peer-reviewed literature. The opinion-based strategy statements are elements of ideas that establish policies and standards to implement socially sustainable practices to facilitate social and physical infrastructure development in Liberia and sub-Saharan Africa. One area in which the expert panelists in the current research study extended the literature pertains to enhancing poverty reduction, including improving the quality of life. Adopting socially sustainable practices as an essential, practical, and valuable framework for creating policies and standards to implement socially sustainable practices that support social and physical infrastructure development in Liberia and SSA nations. The outcome of these studies could be helpful in the region by ensuring the improvement of citizens' quality of life. The recommendation is for future research on socially sustainable practices tailored to each of the UNSDGs elements that SSA government institutions can establish and implement.

Recommendations Based on the Conceptual Framework

The two major concepts that framed the current study were establishing policies and standards and sustainable development practices. Sustainable development comprises three pillars: environmental, social, and economic. The relationship among these elements is assumed to be compatible and mutually supportive. Researchers found that policymakers endorse sustainable development; nonetheless, the human aspect garners less attention and is particularly difficult to realize and operationalize. Even though the concept of sustainable development initially included a defined social mandate, this human dimension has been ignored for 2 decades. More references are made to sustainability, focusing on biophysical environmental issues (Dempsey et al., 2011). Environmental concerns are no longer the only discussion of sustainability; the debate now includes economic and human factors.

According to the International Issued Brief, sub-Saharan Africa has not improved its living standards, resulting in widespread poverty, even though developed nations are advancing in this area (Azolibe & Okonkwo, 2020; International Monetary Fund, 2024; Obianyo et al., 2021). Faster sustainable growth is essential for improving living standards and reducing poverty. A component of the socially sustainable pillar of sustainable development is enhanced living standards (Broers et al., 2022; Obianyo et al., 2021). Unestablished policies and standards have resulted in low living standards, especially for housing, inadequate infrastructure maintenance, bribery and corruption, and the high cost of building materials. The recommendation is to invest in improving the lives of their citizens and fostering economic development by building social infrastructure in Liberia and other SSA nations.

The current study revealed that SSA government institutions would benefit if they established policies and standards for the three areas that exhibit the most significant infrastructure shortfall in Liberia and SSA nations: energy, telecommunications, and transportation. For technology policy, the recommendation is for SSA government institutions to establish trade and technology policies to help bridge the gap between the poor and the rich and reduce poverty. Social issues such as telecommunications, security, the well-being of citizens, society, health, and human rights could directly affect people and their lives. Thus, government institutions and SMEs may integrate socially sustainable practices into their organizations. Regarding transportation policy and standards, the recommendation is that leaders should develop infrastructure to enhance transportation networks such as roads, bridges, and railways, which could help reduce poverty. As SSA countries become more urbanized, efficient transport will make it easier and cheaper to deliver public goods and services to a more geographically concentrated population, enhancing human and social capital, increasing access to markets and employment, and stimulating trade and investment, all of which can increase gross domestic product and employment. The recommendation for energy is for the SSA government to develop energy infrastructure to help reduce poverty, which will increase farmers' crop yields and income, as well as generate business and industrial activity, create jobs, and enhance the economy (Koçak & Çelik, 2022; Zhao et al., 2018). Water and sanitation infrastructure, for example, can also help reduce poverty through improved health and disease prevention, leading to increased productivity and earnings.

Recommendations on Methodology and Design

The Delphi design, by nature, poses a limitation to panelist participation due to the experience and expertise of panelists, as well as the iteration rounds of the questionnaire, resulting in attrition across rounds. The application limitation may be addressed by implementing a design different from the Delphi approach or a quantitative or mixed methods Delphi approach. A quantitative or mixed methods approach for the current Delphi study could expand the panel's scope to a more heterogeneous group and may provide additional insight into implementing socially sustainable practices throughout the implementation lifecycle. A qualitative case study is another opportunity for further research. A follow-up case study like the current study could be an option for future research. Researchers can apply a case study approach to a population of the UNSDGs. The qualitative case study could include descriptions of the perceived effectiveness of institutional and organizational governance policies and standards for implementing socially sustainable practices.

Another option is a focus group approach with a just-in-time response. Employing a focus-group approach among homogeneous groups will be suitable for exploring how to identify factors for establishing policies and standards for implementing socially sustainable practices. In the focus group methodology, participants openly interact, discuss issues, and provide open collaborations instead of answering specific survey questions, allowing expert panelists to conduct in-depth assessments of all five categories. A recommendation for future research on methodology and design using one round of questioning in a focus group will provide a just-in-time response. The researcher can combine questions with a four-point Likert-type scale for importance, desirability, feasibility, and confidence level. The researcher obtains study results in one setting; more importantly, the opinions and disagreements of expert panelists will be readily available. A just-in-time response method eliminates participants' fatigue and dropout rates.

The current study focused on the opinions and judgments of an expert panel that met specific criteria with different backgrounds and professional experience. Socially sustainable practices are adopted across numerous fields of the UNSDGs, and government institutions and professionals apply governance practices in ways that suit each goal. Consistent with the UNSDGs policies and standards, an opportunity for further research might be relevant to conduct this type of study to explore the efficacy of policies and standards in implementing socially sustainable practices for each of the UNSDGs. Each goal would be similar; however, diverse variations would also be specific to how institutional governance implements socially sustainable practices in each field. Comparing those similarities would produce a complete list of institutions and organizations' governance of socially sustainable practices relevant to sustainable development. A recommendation for future research is to conduct a Delphi study for each element of the UNSDGs to identify factors for establishing policies and standards for implementing socially sustainable practices. In one round of questioning, the researcher would combine, rephrase, and ask questions with a four-point Likert-type scale for importance, desirability, feasibility, and confidence level with just-in-time responses.

Recommendations for Leadership Development

The current study supported and expanded the literature on leadership development in Liberia and SSA countries. International institutions and researchers contend that organizations must develop young people as socially conscious leaders to implement suitable governance mechanisms for directing corporate social responsibility and balancing satisfying human and societal needs (Owie, 2017; World Economic Forum, 2021). The need for effective leadership and socially responsible leadership development in Africa is increasing more than ever due to a lack of future leaders. Due to limited support, talented leaders in sub-Saharan Africa fail to reach their potential, leading to the underdevelopment of institutions in several African nations. Researchers contended that African leaders are unconscious of social sustainability needs; therefore, sustainable development may be unattainable (Macassa et al., 2019; Saha et al., 2023; Shaaban, 2021). The recommendation is that the SSA government institutions should continuously develop young leaders through basic and higher education. As a result, a socially conscious leadership competency framework is necessary for Liberia and SSA government institutions and organizations to train their leaders, especially young leaders, to develop conscious leadership capabilities.

Recommendations Stemming from the Findings

The discussion in the recommendation section is for SSA governmental organizations to establish policies and standards for implementing socially sustainable practices evolving from the current study's findings. The discussion on the recommendation is particularly in sectors, outlining different areas of agreement and disagreement and clarifying arguments to meet consensus in Round 2. The qualitative policy Delphi research could prove beneficial in determining how SSA government institutions exercise governance to implement socially sustainable practices by balancing and considering the socioeconomic implications of stringent regulations, thereby creating a more prosperous and harmonious future for their countries and ensuring diversity and inclusion. The current study's result may indicate that the expert panelists' differing points of agreement and disagreement, clarified arguments, revealed the strength of evidence related to their diverse opinions regarding the desirability, feasibility, and importance of the top 10 forward-looking strategy statements, and expanded on knowledge confirmed in the peer-reviewed literature, as reflected in Chapter 2. The result may provide valuable insights into reducing the effects of climate change. The recommendation is to create climate change awareness programs by offering workshops for communities and young people, providing carbon credit programs for farmers, developing mechanized farming, and implementing environmental protection programs for local people.

Implications

Positive Social Change

The findings have several positive social change implications. The current problem is unestablished policies and standards for implementing socially sustainable practices to facilitate social and physical infrastructure development. The 10 strategies the expert panelists viewed across the various categories as having the highest desirability, feasibility, and importance will lead to developing policies and standards to implement socially sustainable practices. These socially sustainable practices may facilitate social and physical infrastructure development in Liberia and sub-Saharan Africa. The recommended strategies identified in the current study may inform the implementation of socially sustainable practices in SSA government institutions to ensure that citizens meet basic needs. Access to clean water is also considered a fundamental human right and can be a matter of life and death, depending on how water is managed (Pointet, 2022). Expert panelists recommended that the SSA government invest in education and healthcare and prioritize education and healthcare services to improve human capital and reduce disparities. They also recommended promoting gender equity and empowering women and girls through equal access to education and economic opportunities.

Adopting the recommendations and strategies proposed by the study panelists could benefit Liberia and the SSA nations. Establishing policies and standards for implementing socially sustainable practices will create a pathway for economic advancement. As Liberia and SSA countries adopt socially sustainable practices, they can promote the development of social and physical infrastructure in Liberia and SSA nations. They can promote energy, transportation, telecommunication, healthcare, housing, and agriculture development, enhancing economic growth and leading to positive social change.

Implications for Theory

The results of the current study could influence the interpretation and application of existing theories or inform the creation of new theories about establishing policies and standards to implement socially sustainable practices. The current study contributes to a greater understanding of how SSA institutions could establish policies and standards to implement socially sustainable practices. The current study may inform research regarding establishing socially sustainable policies and standards in Liberia and SSA countries as a critical process that must incorporate the most desirable, feasible, and important strategies that emerged from the current study. The current Delphi study helped to reduce the gap in the existing body of literature by providing scholars and practitioners with opinion-based strategies and elements leading to ideas for establishing socially sustainable policies and standards.

The study's findings supported a conceptual framework for evaluating all the pertinent elements and strategies related to the issues associated with establishing policies and standards to implement socially sustainable practices. The study results regarding sustainable development practices indicated that African government institutions need to reduce the effects of climate change and promote economic development to address poverty and climate change. The idea of socially sustainable practices was the primary basis for the current research. The five concepts derived from the 10 sustainable strategies detailed in the study's final list correspond with the principles of sustainable development. The UNSDGs seek to foster beneficial, sustainable social transformation that impacts all three pillars: environment, social development, and economy. The results provided strategies that contributed to comprehensive policies and standards frameworks to prioritize and encourage investment and also support the argument that the social dimension of sustainable development goals is essential, as it influences both environmental and economic development. Implementing the SDGs will enhance individuals' lives and surroundings, allowing citizens to gain advantages in health, the environment, and the economy, all of which contribute to social change.

Implications for Practice

A recommendation is that leaders of SSA government institutions use the current study's findings to adopt various strategies to establish policies and standards to promote socially sustainable practices for facilitating social and physical infrastructure development in Liberia and SSA countries. The first recommendation is that SSA leaders focus on developing social and physical infrastructure to increase their economy through road construction, housing, healthcare, education, electricity, capacity building, employment, and enhancing living standards. The second recommendation for SSA leaders is to actively participate in forming international standards and regulations catering to local populations' needs. Ongoing involvement in standards development will afford SSA leaders a voice and prevent the Global North from imposing standards on SSA countries. The third recommendation is for SSA leaders to engage in open dialogues and cooperative efforts among countries in the region to find solutions to the challenges posed by various crises each country encounters, which will fortify each nation. The fourth recommendation is facilitating open dialogues to encourage interregional trade by constructing road, rail, and ferry networks. The fifth recommendation is to ensure that every household has access to clean and safe drinking water and to establish running water as a requirement for every new housing construction. Adopting and implementing these 10 strategies will enhance road development, housing development, and capacity building, create jobs, and improve living standards. A healthy economy will allow citizens to help their government fight climate change.

Conclusions

The purpose of the current qualitative policy Delphi study was to determine how a panel of 16 global SDG experts views the desirability, feasibility, and importance of elements of a framework for evaluating the establishment of policies and standards to implement socially sustainable practices. The study findings may contribute to forward-looking strategy statements for establishing policies and standards for implementing socially sustainable practices. The study addressed specific social problems: low standard of living, poor economy, and unsafe environmental conditions due to unestablished policies and standards to implement socially sustainable practices for facilitating social and physical infrastructure development.

The current study's result was an opinion-based list of 10 rating forward-looking strategy statements that are desirable, feasible, and essential to make up the elements of a framework for evaluating the establishment policies and standards of socially sustainable practices. The 10 recommended statements are grouped into five categories. The five categories matched the strategic drivers identified in the UNSDGs strategic plan: (a) Sustainable Development Practices, (b) Social Sustainable Practices, (c) Social Infrastructure, (d) Physical Infrastructure, and (e) Leadership. Leaders of SSA countries' government institutions and multinational organizations could use the results of the current study to implement socially sustainable practices, which will help facilitate infrastructure development.

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Appendix A: Email Invitation

Establishing Policies and Standards to Implement Socially Sustainable Practices

You are invited to participate in a research study that may identify factors that could inform sub-Saharan African government institutions in establishing credible policies and standards to implement socially sustainable practices.

For this study, you are invited to participate in qualitative policy Delphi research as an expert panelist to answer three rounds of questionnaires. Your expert opinion will generate the highest probable opposing and favorable views to produce ideas, commentary, and assessments for identifying factors in establishing policies and standards. You will provide a factual basis for a debate favoring or opposing the issue.

About the study

- The study may take up to 30 days or less due to three rounds of questionnaires, and depending on how fast people submit their responses,
- The first round may take up to an hour or less for panelist responses.
- Due to the rating on the Likert-type scale, the subsequent two rounds may take 15 to 30 minutes.
- Expert panelists may comment on responses or change your response during this time.
- To protect the panelists' privacy, the published study will not have any names or details identifying them.

Volunteers must meet these requirements:

- Advocates for social justice

- Have 2 years or more of work experience in one of the following: carbon reduction, alternative energy, forestry management, sustainable infrastructure development, clean water, climate change, social change, and socially sustainable practices.
- Have experience in establishing policies and standards.
- Have experience in socially sustainable practices.
- Experts involved in social change.
- Experts who hold the following positions in their organization, for example: Chief Executive Officer (CEO), Vice President (VP), Chief Operations Officer (COO), Managers, Project Managers, Supervisors, or Team Leaders.
- A Leader who is passionate about the UNSDGs elements.
- Scholars and practitioners with UNSDG elements.

This questionnaire is part of the doctoral study for Josephine Wiles-Warner, a PhD student at Walden University. Round 1 Questionnaire was distributed on April 13, 2024.

Online Survey Format and Time Commitment:

If you are interested in participating as an expert panelist, you will be asked to complete three rounds of online surveys hosted on Google Forms over approximately 4 weeks.

Participation and date of Commencement:

By self-selecting to be a panelist via the link provided on Google Forms, you have confirmed that you have met the criteria for inclusion. The survey link can be shared with other eligible individuals. Please use the survey link below to start the survey:

https://forms.gle/dwVTjotNUqeVjVeMA

If you have questions or need clarification, please contact me at 571-839-6907 or (email redacted).

Sincerely,

Josephine Wiles-Warner

PhD Candidate

REMINDER EMAIL ROUND 1

Subject: Reminder: Josephine WilesWarner needs your feedback – Round 1.

Dear [FIRST_NAME] [LAST_NAME

This is a friendly reminder that the deadline for submitting a response to the Round 1 survey is [SURVEY_CLOSE_DATE] before midnight Eastern Time.

I recently sent you a link to participate in the Round 1 research questionnaire for a study that may benefit sub-Saharan African government institutions to identify factors that could aid in establishing social development practices. I will launch the Round 2 questionnaire after closing and analyzing responses from Round 1. Please access the Round 1 questionnaire at [www.---].

Thank you very much for your help.

Josephine WilesWarner

PhD Research

Walden University

Email: (email redacted)

REMINDER EMAIL ROUND 2

Subject: Josephine WilesWarner needs your feedback – Round 2.

Dear [FIRST_NAME] [LAST_NAME

This is a friendly reminder that the deadline for submitting a response to the Round 2 survey is [SURVEY_CLOSE_DATE] before midnight Eastern Time.

I recently sent you a link to participate in the Round 2 research questionnaire for a study that may benefit sub-Saharan African government institutions to identify factors that could aid in establishing social development practices. I will launch the Round 3 questionnaire after closing and analyzing responses from Round 2. Please access the Round 2 questionnaire at [www.---].

Thank you very much for your help.

Josephine WilesWarner

PhD Research

Walden University

Email: (email redacted)

REMINDER EMAIL ROUND 3

Subject: Reminder: Josephine WilesWarner needs your feedback – Round 3.

Dear [FIRST_NAME] [LAST_NAME

This is a friendly reminder that the deadline for submitting a response to the Round 3 survey is [SURVEY_CLOSE_DATE] before midnight Eastern Time.

I recently sent you a link to participate in Round 3 research questionnaire for a study that may benefit sub-Saharan African government institutions to identify factors that could aid in establishing socially development practices. Round 3 is the final round of the questionnaire. Please access the Round 3 questionnaire at [www.---].

Thank you very much for your help.

Josephine WilesWarner

PhD Research

Walden University

Email: (email redacted)

Social Media Invitation

Establishing Policies and Standards to Implement Socially Sustainable Practices

Courtesy of Bartosz Hadyniak

There is a new study that may benefit sub-Saharan African government institutions in identifying factors that could aid in establishing credible policies and standards to implement socially sustainable practices.

For this study, you are invited to participate in a qualitative policy Delphi research study as an expert panelist to answer three rounds of questionnaires. Your expert opinion will generate the highest probable opposing and favorable views to produce ideas, commentary, and assessments for establishing policies and standards. You will provide a factual basis for a debate favoring or opposing the issue. Your expertise could also benefit Sub-Saharan African government institutions in establishing credible policies and standards to implement socially sustainable practices. Additionally, the results from your participation could benefit social change by establishing policies and standards to help improve the quality of life.

About the study:

- The study may take up to 30 days or less due to three rounds of questionnaires and depending on how fast people submit their responses,
- The first round may take up to an hour or less for panelists' responses.
- Due to the rating on the Likert-type scale, the subsequent two rounds may take 15 to 30 minutes.
- Expert panelists may comment on responses or change your response during this time.
- To protect the panelists' privacy, the published study will not have any names or details identifying them.

If you agree to participate in this study, you will be asked to complete three rounds of questionnaires. The duration of the study will be 30 days or less. The first round should take about an hour, the second round about 30 minutes, and the third round about 15 minutes.

In Round 1, you will complete a qualitative policy Delphi research questionnaire based on extensive literature reviews from conceptual framework elements. You will also complete a demographic questionnaire. I will email you the links to subsequent rounds (Round 2 and Round 3) when new questionnaires are approved by the IRB. You are welcome to forward it to others who might be interested.

Volunteers must meet these requirements:

- Advocates for social justice
- Have 2 years or more of work experience in one of the following: carbon reduction, alternative energy, forestry management, sustainable infrastructure development, clean water, climate change, social change, and socially sustainable practices.
- Have experience in establishing policies and standards.
- Have experience in socially sustainable practices.
- Experts involved in social change.
- Experts who hold the following positions in their organization, for example: Chief Executive Officer (CEO), Vice President (VP), Chief Operations Officer (COO), Managers, Project Managers, Supervisors, or Team Leaders).
- A Leader who is passionate about the UNSDGs elements.
- Scholars and practitioners with UNSDG elements.

This questionnaire is part of the doctoral study of Josephine Wiles-Warner, a PhD. Student at Walden University. The distribution date of the questionnaire will be announced soon.

Please email (email redacted) to let the researcher know of your interest. You are welcome to forward it to others who might be interested.

Appendix B: Background/Demographic Questionnaire

Dear Study Participant:

Please answer all the following questions as they describe to you.

1. What is your gender?
2. What is your age group?
    - ❑ 26-30
    - ❑ 31-36
    - ❑ 36-40
    - ❑ 41-45
    - ❑ 46-50
    - ❑ 51-55
    - ❑ 56+
3. What is the highest degree you have earned?
    - ❑ High School diploma or GED
    - ❑ Associates
    - ❑ Bachelors
    - ❑ Masters
    - ❑ Doctorate
4. What type of organization do you work for?
    - ❑ Alternative energy
    - ❑ Carbon reductions
    - ❑ Clean water

- ❑ Climate change
- ❑ Establishing policies and standards
- ❑ Forestry management
- ❑ Sustainable infrastructure development
- ❑ United Nations Sustainable Development Goals (UNSDG)
- ❑ International NGO in Africa
- ❑ Manufacturing
- ❑ Disability Rights and Advocacy
- ❑ Restaurant/Hospitality
- ❑ Legal
- ❑ Education
- ❑ Other – explain: ________________________

5. What is your organization's size based on the number of employees?
    - ❑ 0-50 employees
    - ❑ 51-100 employees
    - ❑ 101-200 employees
    - ❑ 201-300 employees
    - ❑ 301-400 employees
    - ❑ 401-500 employees
    - ❑ 500-1,000 employees
    - ❑ 1,001 or more employees
6. What type of job do you hold at your current organization?

- ❑ Management
- ❑ Supervisor
- ❑ Production Worker
- ❑ Education Professional
- ❑ Executive
- ❑ Project Managers
- ❑ Supervisors
- ❑ Team Leader

7. How many years of experience do you have working with persons with disabilities?
    - ❑ 3-5 years
    - ❑ 6-10 years
    - ❑ 11-15 years
    - ❑ 16-20 years
    - ❑ 21-25 years
    - ❑ 25 or more years
8. Interest
    - ❑ Socially sustainable practices
    - ❑ Social change.
    - ❑ Passionate about UNSDG.

Appendix C: Round 1 Questionnaire

Introduction

When formulating your answers, I encourage you to consider a range of plausible scenarios and factors, such as socially sustainable policies and standards, environmental protection, economic growth, governmental and private institutions, social and physical infrastructure development, and leadership. For questions below: 1a, 2a, 3a, 4a, and 5a, please provide 3 and 4 recommendations in response to each question. The recommendations should be outlined as bullet points with some description for clarity. Please also use the rating scale provided to indicate your response to the closed-ended questions and provide a rationale for your response.

Please provide your email address so I can add you to the panel for Round 2 to receive an invitation.

Sustainable Development Practices

Sustainable development is to meet the current requirements without compromising the capacity of future generations to meet their limitations. Sustainable development has three pillars: (a) environmental, (b2) social development, and (c3) economic growth. The economic development of a society is a significant foundation for social development and is also related to problems causing environmental deterioration resulting from climate change. Many global leaders and economists have contended that climate action requires a trade-off with economic development and that developing countries should focus on reducing poverty rather than climate change. Therefore, government institutions need to address environmental degradation through policies and approaches that could drive society toward sustainable practices.

Open-ended Question:

1a) In your expert and opposing opinions, how could Sub-Saharan African governments establish policies and standards to implement sustainable development practices for climate change and reduce poverty?

Comments and Recommendations

Comments and Recommendations

Comments and Recommendations

Comments and Recommendations

Closed-ended Questions:

1b) In your expert and opposing opinions, how important is it for Sub-Saharan African governments to establish policies and standards to implement sustainable development practices for climate change and reduce poverty?

1. ☐ Very Important
2. ☐ Important
3. ☐ Unimportant

4. ☐ Very Unimportant

Rationale

2. **Socially Sustainable Practices**

Social sustainability affects the quality of life, like human health and well-being, life expectancy, infant mortality, mental health support, and social and physical infrastructure. *Social sustainability* also means a resilient society, equality, inclusion, and social cohesion, and involves equal participation in societal decision-making. Social sustainability practice is the future of sustainable living and will solve most of society's existential problems.

Open-ended Question:

2a) In your expert and opposing opinions, how could Sub-Saharan African Governments
establish policies and standards to implement socially sustainable practices to affect the quality of life, social cohesion, inclusion, and equality?

Comments and Recommendations

Comments and Recommendations

Comments and Recommendations

Comments and Recommendations

Closed-ended Questions:

2b) In your expert and opposing opinions, how important is it for Sub-Saharan African Governments to establish policies and standards to implement socially sustainable practices that affect quality of life, social cohesion, inclusion, and equality?

1. ☐ Very Important
2. ☐ Important
3. ☐ Unimportant
4. ☐ Very Unimportant

Rationale

3. Social Infrastructure Development

Social and physical infrastructure includes government institutions and organizations, and these institutions need to establish policies and standards to apply socially sustainable practices. Although many developing countries in the Global South have adopted standards from the Global North, most social and environmental standards are still set by actors from the Global North while limiting developing countries from having a say in the decision-making.

Open-ended Question:

3a) In your expert and opposing opinions, how could Sub-Saharan African Governments establish policies and standards to participate in setting global standards for their countries?

Comments and Recommendations

Comments and Recommendations

Comments and Recommendations

Comments and Recommendations

Closed-ended Questions:

3b) In your expert and opposing opinions, how important is it for Sub-Saharan African Governments to establish policies and standards to participate in setting global standards for their countries?

1. ☐ Very Important

2. ☐ Important

3. ☐ Unimportant

4. ☐ Very Unimportant

Rationale

4 Physical Infrastructure

Physical infrastructure involves innovation, alternative energy, sustainable transport, and affordable, sustainable housing. Innovative infrastructure will enhance economic growth. Energy infrastructure is critical to the people of sub-Saharan African countries; there is a shortage of sustainable and affordable housing; inadequate transport and limited road construction standards have resulted in road deterioration and limited transport systems over the last 20 years.

Open-ended Question:

4a) In your expert and opposing opinions, how could Sub-Saharan African governments establish policies and standards to provide innovative, affordable, sustainable housing, energy, and transportation?

Comments and Recommendations

Comments and Recommendations

Comments and Recommendations

Comments and Recommendations

Closed-ended Questions:

4b) In your expert and opposing opinions, how important is it for Sub-Saharan African governments to establish policies and standards to provide innovation, affordable, sustainable housing, energy, and transportation?

1. ☐ Very Important
2. ☐ Important
3. ☐ Unimportant
4. ☐ Very Unimportant

1) Rationale

5. Leadership

Leadership influences an organization and stakeholders toward identifying and accomplishing the organization's mission and objectives; therefore, leadership skills are essential for managers and young people. There is a need to train managers and young people in leadership. Sub-Saharan African government institutions need socially conscious leadership to establish policies and standards for socially sustainable practices to facilitate social and physical infrastructure development.

Open-ended Question:

5a) In your expert and opposing opinions, how could Sub-Saharan African governments establish policies and standards to develop leadership training for managers and young people from primary education?

Comments and Recommendations

Comments and Recommendations

Comments and Recommendations

Comments and Recommendations

Closed-ended Questions:

5b) In your expert and opposing opinions, how important is it for Sub-Saharan African governments to establish policies and standards to develop leadership training for managers and young people from primary education?

1. ☐ Very Important

2. ☐ Important

3. ☐ Unimportant

4. ☐ Very Unimportant

2) Rationale

Appendix D: Round 2 Survey Instrument

Welcome to the Round 2 Research Survey for Evaluating Expert Opinions for Establishing Policies and Standards to Implement Socially Sustainable Practices

The categories and associated elements presented here are advanced from Round 1. You are kindly asked to rate the desirability and feasibility of each category in developing a consolidated list for establishing policies and standards to implement socially sustainable practices in Liberia and sub-Saharan Africa. Desirability denotes the benefits or effectiveness of establishing policies and standards. Feasibility refers to the practicality associated with implementing socially sustainable practices.

There are 5 categories and 115 statements in Round 2. There is a scale that indicates the desirability of the policies and standards and the feasibility of the said socially sustainable practices. Use the ratings 1-4 for both scales. The desirability scale is: 1 = highly undesirable, 2 = undesirable, 3 = desirable, and 4 = highly desirable. The feasibility scale is: 1 = highly unfeasible, 2 = unfeasible, 3 = feasible, and 4 = highly feasible.

You may use the text box below each rating scale to give a rationale for choosing a rating of 1 or 2 or for general comments.

The survey should take no more than 30 minutes of your time with 115 questions, including opportunities to provide explanations. You may leave the Google Form unattended, resume, and complete the survey. The survey will expire on **Sunday,**

October 6, 2024, and will no longer be accessible. Please click the submit radio button after completing the Round 2 survey.

Thank you for supporting my study and for providing me with invaluable feedback.

Please kindly provide your email address below. This email address will be used to notify you of subsequent rounds of surveys.

Email address

Category A: Sustainable Development Practices

***Sustainable development* is to meet the current requirements without compromising the capacity of future generations to meet their limitations. Sustainable development has three pillars: (a) the environment, (b) social development, and (c) economic growth. The economic development of a society is a significant foundation for social development and is also related to problems causing environmental deterioration resulting from climate change.**

1. Sub-Saharan African government institutions should support integrating climate change issues.

Desirability:	1	2	3	4
	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

2. Sub-Saharan African government institutions should support integrating investment through planning and decision-making in all sectors.

Desirability:	1	2	3	4
	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

3. Sub-Saharan African government institutions should promote sustainable development by creating networks to create campaigns for reforestation by planting trees.

Desirability:	1	2	3	4
	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

4. Sub-Saharan African government institutions should restore degraded mangroves and keep existing mangroves healthy.

Desirability:	1	2	3	4
	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

5. Sub-Saharan African government institutions should reduce fossil fuel dependence.

Desirability:	1	2	3	4
	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

6. Sub-Saharan African government institutions should promote sustainable agriculture practices.

Desirability:	1	2	3	4
	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

7. Sub-Saharan African government institutions should provide carbon credit to farmers as income for reducing carbon emissions and protecting the environment.

Desirability:	1	2	3	4
	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

8. Sub-Saharan African government institutions should promote resilience to climate-related shocks.

Desirability: 1 2 3 4

☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

9. Sub-Saharan African government institutions should enhance climate-related shocks through early warning systems and adaptive strategies.

Desirability: 1 2 3 4

☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

10. Sub-Saharan African government institutions should mitigate the impacts of climate change while simultaneously addressing poverty.

Desirability: 1 2 3 4

☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

11. Sub-Saharan African government institutions should provide comprehensive policy frameworks prioritizing and incentivizing investment.

Desirability: 1 2 3 4

☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

12. Sub-Saharan African government institutions should provide comprehensive policy frameworks prioritizing the adoption of clean energy and technologies.

Desirability: 1 2 3 4

☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

13. Sub-Saharan African government institutions should promote pollen production for bees to enable beekeepers to earn income.

Desirability: 1 2 3 4

☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

14. Sub-Saharan African government institutions should participate in global standards-setting.

Desirability: 1 2 3 4

☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

15. Sub-Saharan African government institutions should seek participation in shaping

international regulations like trade, technology, and environmental protection.

Desirability: 1 2 3 4

☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

16. Sub-Saharan African government institutions should ensure that national standards are comparable to international standards and are fair for building credibility.

Desirability: 1 2 3 4

☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

17. Sub-Saharan African government institutions should enhance the reputation of Sub-Saharan African nations, paving the way for greater collaboration and influence in global affairs.

	1	2	3	4
Desirability:	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility:	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Category B: Socially Sustainable Practices

Social sustainability **affects the quality of life, provides resilient society equality, and involves equal participation in societal decision-making. Socially sustainable practice is the future of sustainable living and will solve most of society's existential problems.**

18. Sub-Saharan African government institutions should host meetings with key stakeholders at all government and community levels.

Desirability: 1 2 3 4

☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

19. Sub-Saharan African government institutions should encourage inclusive decision-making processes involving diverse stakeholders.

Desirability: 1 2 3 4

☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

20. Sub-Saharan African government institutions should ensure the inclusiveness of policies and standards that can be adopted to strengthen local institutional capacity.

Desirability: 1 2 3 4

☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

21. Sub-Saharan African government institutions should invest in local production to build job capacity.

Desirability: 1 2 3 4

☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

22. Sub-Saharan African government institutions should emphasize technology

infrastructure.

Desirability: 1 ☐ 2 ☐ 3 ☐ 4 ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

23. Sub-Saharan African government institutions should expand opportunities for urban and rural communities.

Desirability: 1 ☐ 2 ☐ 3 ☐ 4 ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

24. Sub-Saharan African government institutions should foster social cohesion and

inclusion.

Desirability: 1 2 3 4

☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

25. Sub-Saharan African government institutions should establish policies to promote gender equality.

Desirability: 1 2 3 4

☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

26. Sub-Saharan African government institutions should empower women and girls.

Desirability: 1 2 3 4

☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

27. Sub-Saharan African government institutions should ensure that vulnerable populations have equal access to education, economic opportunities, and political participation.

Desirability: 1 2 3 4

☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

28. Sub-Saharan African government institutions should use public-private partnerships to strengthen civil society.

Desirability: 1 2 3 4

☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

29. Sub-Saharan African government institutions should advocate for the needs of communities.

Desirability: 1 2 3 4

☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

30. Sub-Saharan African government institutions should increase the political will of

citizens toward solving everyday community problems.

Desirability: 1 2 3 4

☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

31. Sub-Saharan African government institutions should invest in e-government to create a zero-corruption ecosystem.

Desirability: 1 2 3 4

☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

32. Sub-Saharan African government institutions should integrate traditional knowledge systems with modern science.

Desirability:	1	2	3	4
	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility:	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

33. Sub-Saharan African government institutions should use local knowledge instead of foreign knowledge.

Desirability:	1	2	3	4
	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility:	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

34. Sub-Saharan African government institutions should provide training in new knowledge if knowledge is limited.

Desirability:	1	2	3	4
	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility:	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

35. Sub-Saharan African government institutions should actively engage in international forums with international organizations.

Desirability:	1	2	3	4
	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility:	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

36. Sub-Saharan African government institutions should maintain a cautious approach towards international standards agreements.

Desirability:	1	2	3	4
	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility:	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

37. Sub-Saharan African government institutions should better reflect their interests in international standards that have local impacts.

Desirability:	1	2	3	4
	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility:	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

38. Sub-Saharan African government institutions should ensure citizens have

equitable access to goods and services.

Desirability: 1 2 3 4

☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

39. Sub-Saharan African government institutions should ensure citizens meet basic needs like shelter, clean water, food, education, and medical care regardless of socioeconomic status or geographic location.

Desirability: 1 2 3 4

☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

40. Sub-Saharan African government institutions should prioritize healthcare services.

Desirability:	1	2	3	4
	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility:	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

41. Sub-Saharan African government institutions should invest in healthcare services to improve human quality of life.

Desirability:	1	2	3	4
	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility:	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

42. Sub-Saharan African government institutions should invest in healthcare services to reduce disparities.

Desirability:	1	2	3	4
	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility:	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

43. Sub-Saharan African government institutions should ensure food security for all citizens.

Desirability:	1	2	3	4
	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

44. Sub-Saharan African government institutions should provide social protection programs for all citizens.

Desirability:	1	2	3	4
	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

45. Sub-Saharan African government institutions must balance and consider the socioeconomic implications of stringent regulations.

Desirability:	1	2	3	4
	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

46. Sub-Saharan African government institutions should decentralize service delivery to empower local authorities and communities to participate in decision-making.

	1	2	3	4
Desirability:	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

47. Sub-Saharan African government institutions should empower local authorities to voice their unique perspectives in addressing their specific needs and priorities.

	1	2	3	4
Desirability:	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Category C: Social Infrastructure Development

Social and physical infrastructure **includes the environment, economy, social issues, government institutions, organizations, parks, libraries, health centers, education, security, communities, and religious institutions.**

48. Sub-Saharan African government institutions should invest in clean water infrastructure.

Desirability:	1	2	3	4
	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

49. Sub-Saharan African government institutions should implement sustainable management of water resources.

Desirability:	1	2	3	4
	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility:	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

50. Sub-Saharan African government institutions should prioritize efficient water use.

Desirability:	1	2	3	4
	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility:	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

51. Sub-Saharan African government institutions should guarantee universal access to clean water.

Desirability:	1	2	3	4
	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility:	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

52. Sub-Saharan African government institutions should implement community-based water management approaches.

Desirability:	1	2	3	4
	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility:	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

53. Sub-Saharan African government institutions should promote economic growth by increasing opportunities for trade and investment.

Desirability:	1	2	3	4
	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility:	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

54. Sub-Saharan African government institutions should promote trade to attract foreign investors.

Desirability:	1	2	3	4
	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

55. Sub-Saharan African government institutions should lower taxes to attract foreign investors.

	1	2	3	4
Desirability:	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

56. Sub-Saharan African government institutions should establish foreign exchange markets to attract foreign investors.

	1	2	3	4
Desirability:	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

57. Sub-Saharan African government institutions should establish education in the foreign exchange market to allow participation.

Desirability:	1	2	3	4
	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

58. Sub-Saharan African government institutions should provide affordable, high-quality healthcare to all citizens to reduce mortality rates.

Desirability:	1	2	3	4
	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

59. Sub-Saharan African government institutions should tailor interventions to expand electricity access for urban and rural communities.

Desirability: 1 2 3 4

☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

60. Sub-Saharan African government institutions should invest, prioritize, improve, and allocate resources to ensure that people can access quality education.

Desirability: 1 2 3 4

☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

61. Sub-Saharan African government institutions should build resilience against various challenges to reduce social tensions.

Desirability: 1 2 3 4

☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

62. Sub-Saharan African government institutions should uplift citizens and create a more prosperous and harmonious future for their nations.

Desirability: 1 2 3 4

☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

63. Sub-Saharan African government institutions should establish expertise responsible for international affairs within government agencies.

Desirability: 1 2 3 4

☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

64. Sub-Saharan African government institutions should establish expertise and be responsible for standards development within government agencies.

Desirability: 1 2 3 4

☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

65. Sub-Saharan African government institutions should prioritize domestic policy objectives in global standard-setting processes.

Desirability: 1 2 3 4

☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

66. Sub-Saharan African government institutions should engage selectively in global

standard-setting processes.

Desirability: 1 2 3 4

☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

67. Sub-Saharan African government institutions should promote collaboration between governments, civil society, and international organizations.

Desirability: 1 2 3 4

☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

68. Sub-Saharan government institutions can strengthen their institutions in areas relevant to setting global standards.

Desirability:	1	2	3	4
	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility:	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

69. Sub-Saharan government institutions can strengthen their regulatory frameworks for setting global standards.

Desirability:	1	2	3	4
	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility:	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

70. Sub-Saharan government institutions can strengthen their expertise in areas relevant to setting global standards.

	1	2	3	4
Desirability:	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility:	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

71. Sub-Saharan African government institutions should emphasize preserving national sovereignty and tailoring policies to local contexts.

	1	2	3	4
Desirability:	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility:	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

72. Sub-Saharan African government institutions must proactively engage in strategic alliances with other developing countries to shape global standards.

Desirability:	1	2	3	4
	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility:	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

73. Sub-Saharan African government institutions must proactively engage in strategic alliances with regional blocs to shape global standards.

Desirability:	1	2	3	4
	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility:	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

74. Sub-Saharan African government institutions should develop consensus-based approaches to setting inclusive global standards.

Desirability:	1	2	3	4
	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility:	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

75. Sub-Saharan African government institutions should tailor global standards to the unique needs of their countries.

Desirability:	1	2	3	4
	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Category D: Physical Infrastructure

***Physical infrastructure* involves innovation, alternative energy, sustainable transport, affordable housing, and Innovative infrastructure. Energy infrastructure is critical to the people of sub-Saharan African countries.**

76. Sub-Saharan African government institutions should focus on infrastructure development, such as road networks to support trade.

Desirability:	1	2	3	4
	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

77. Sub-Saharan African government institutions should build solid institutional capacity to attract tourism and foreign businesses.

Desirability: 1 ☐ 2 ☐ 3 ☐ 4 ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

78. Sub-Saharan African government institutions should prioritize investment in efficient and affordable mass transit systems.

Desirability: 1 ☐ 2 ☐ 3 ☐ 4 ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

79. Sub-Saharan African government institutions should invest in building effective institutional frameworks.

Desirability:	1	2	3	4
	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility:	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

80. Sub-Saharan African government institutions should implement and establish decentralized energy systems.

Desirability:	1	2	3	4
	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility:	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

81. Sub-Saharan African government institutions should develop affordable housing units to help citizens escape poverty.

Desirability:	1	2	3	4
	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility:	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

82. Sub-Saharan African government institutions should develop initiatives for micro-finance programs.

Desirability:	1	2	3	4
	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

83. Sub-Saharan African government institutions should develop initiatives for land tenure reforms to empower citizens to access affordable housing options.

Desirability:	1	2	3	4
	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

84. Sub-Saharan African government institutions should develop initiatives to stimulate economic opportunities.

Desirability:	1	2	3	4
	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

85. Sub-Saharan African government institutions should provide citizens with affordable energy.

	1	2	3	4
Desirability:	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

86. Sub-Saharan African government institutions should provide affordable transportation.

	1	2	3	4
Desirability:	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

87. Sub-Saharan African government institutions should invest in green infrastructure.

Desirability:	1	2	3	4
	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

88. Sub-Saharan African government institutions should implement green building standards and regulations.

Desirability:	1	2	3	4
	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

89. Sub-Saharan African government institutions should provide comprehensive urban planning to reduce residential congestion, air pollution, and transportation costs.

Desirability:	1	2	3	4
	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

90. Sub-Saharan African government institutions should adopt advanced technologies to lower electricity costs.

Desirability:	1	2	3	4

☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

92. Sub-Saharan African government institutions should adopt advanced technologies to bypass costly and outdated infrastructure.

Desirability: 1 2 3 4

☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

92. Sub-Saharan African government institutions should allow faster adaptation to market demands.

Desirability: 1 2 3 4

☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

93. Sub-Saharan African government institutions should reduce bureaucratic processing hurdles.

Desirability: 1 2 3 4

☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Category E: Leadership

***Leadership* influences an organization and stakeholders toward identifying and accomplishing the organization's mission and**

objectives; therefore, leadership skills are essential for managers and young people. There is a need to train managers and young people in leadership as socially conscious leaders.

94. Sub-Saharan African government institutions should continuously develop young leaders.

Desirability:	1	2	3	4
	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility:	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

95. Sub-Saharan African government institutions should promote sustainable development goals locally.

Desirability:	1	2	3	4
	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

96. Sub-Saharan African government institutions should implement leadership curricula in all learning institutions.

	1	2	3	4
Desirability:	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

97. Sub-Saharan African government institutions should provide leadership education from primary to advanced levels.

	1	2	3	4
Desirability:	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

98. Sub-Saharan African government institutions should provide leadership curricula that include time management, ethics, anti-corruption, self-awareness, and emotional intelligence.

Desirability: 1 2 3 4

☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

99. Sub-Saharan African government institutions should include scholarly research in leadership curricula.

Desirability: 1 2 3 4

☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

100. Sub-Saharan African government institutions should include writing and publishing scholarly articles and peer reviews in leadership curricula.

Desirability: 1 2 3 4

☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

101. Sub-Saharan African government institutions should include public speaking in leadership curricula on local and global issues.

Desirability: 1 2 3 4

☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

102. Sub-Saharan African government institutions should allow young leaders to host and travel to leadership conferences and symposiums in the global north and south countries.

Desirability: 1 2 3 4

☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

103. Sub-Saharan African government institutions should allow young leaders from

sub-Saharan African countries to engage with other leaders in the global north and south countries.

Desirability:	1	2	3	4
	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility:	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

104. Sub-Saharan African government institutions should establish specialized leadership institutes focused on leadership development for young professionals and managers.

Desirability:	1	2	3	4
	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility:	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

105. Sub-Saharan African government institutions should emphasize critical thinking and problem-solving leadership curricula.

Desirability:	1	2	3	4
	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility:	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

106. Sub-Saharan African government institutions should initiate internships for leadership training.

Desirability:	1	2	3	4
	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility:	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

107. Sub-Saharan African government institutions should provide mentorship opportunities with public-private partnerships.

Desirability:	1	2	3	4
	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility:	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

108. Leadership curricula should include community engagement for young leaders.

Desirability:	1	2	3	4
	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility:	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

109. Sub-Saharan African government institutions should invest in teacher training.

Desirability: 1 2 3 4

☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

110. Sub-Saharan African government institutions should ensure that leadership education is accessible to all students, regardless of socioeconomic background.

Desirability: 1 2 3 4

☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

111. Sub-Saharan African government institutions should nurture a new generation of young leaders to empower them to become visionary leaders.

Desirability:	1	2	3	4
	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

112. Sub-Saharan African government institutions should include ethics and moral values in leadership curricula.

Desirability:	1	2	3	4
	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

113. Sub-Saharan African government institutions should cultivate effective

leadership to address complex corruption challenges facing their societies.

Desirability: 1 2 3 4

☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

114. Sub-Saharan African government institutions should include soft skills, essential communication skills, and technology to prepare young people for future leadership roles.

Desirability: 1 2 3 4

☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility: ☐ ☐ ☐ ☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

115. Sub-Saharan African government institutions should implement STEM programs (science, technology, engineering, and mathematics) in high schools to prepare students for job markets.

Desirability:	1	2	3	4
	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Feasibility:	☐	☐	☐	☐

Use this space if you wish to provide rationale for choosing a rating of 1 or 2 or to provide general comments:

Appendix E: Round 3 The Final Survey Instrument

Welcome to Round 3, the final Research Survey for Evaluating Expert Opinions for Establishing Policies and Standards to Implement Socially Sustainable Practices

You are presented with Round 3, the final survey, which contains the list of the 10 most highly rated strategies across the various categories based upon the preferences of the expert panel in Round 2. In Round 3, please rate your confidence in this final list of strategies leading to the development of policies and standards to implement socially sustainable practices to facilitate social and physical infrastructure development in Liberia and sub-Saharan Africa.

Please use the numbers 1 – 4 for the scale. Confidence is the degree of certainty you have in the collective panel prediction being correct about these strategies. Please use the ratings 1-4 for the scale. The confidence scale will be 1 = unreliable (great risk of being wrong); 2 = risky (substantial risk of being wrong); 3 = reliable (some risk of being wrong), and 4 = certain (low risk of being wrong).

The survey should take no more than 10 minutes of your time, with five questions and two items each for each Category, and an optional comment for each item, including opportunities to provide explanations. You may leave the Google Forms unattended, resume, and complete the survey. The survey will expire on **Sunday, November 25, 2024,** and will no longer be accessible.

Thank you for supporting my study by providing your valuable feedback on the development of policy and standards ideas for implementing socially sustainable practices in Liberia and Sub-Saharan Africa. Your active involvement and the valuable time and effort you gave to the current research is highly appreciated.

Please confirm your email address so that I can share the final study result with you:

Note: All email addresses will be kept confidential and only seen by me. No personally identifiable information will be shared with anyone. Google Forms's privacy policy also ensures that information is kept confidential and private.

In Category A, please rate your confidence in this final list of strategies leading to the development of policies and standards to implement socially sustainable practices to facilitate social and physical infrastructure development in Liberia and sub-Saharan Africa.

Category A: Sustainable Development Practices

1a) Sub-Saharan African government institutions should mitigate the impacts of climate change and must first have economic development to address poverty and climate change and provide comprehensive policy frameworks prioritizing and incentivizing investment.

	1	2	3	4
Confidence	☐	☐	☐	☐

Enter optional comments.

1b) Sub-Saharan African government institutions should seek participation in shaping international regulations like trade, technology, and environmental protection; seek participation in shaping international relations and enhancing the reputation of Sub-Saharan African nations, paving the way for greater collaboration and influence in global affairs.

	1	2	3	4
Confidence	☐	☐	☐	☐

Enter optional comments.

In Category B, please rate your confidence in this final list of strategies leading to the development of policies and standards to implement socially sustainable practices to facilitate social and physical infrastructure development in Liberia and sub-Saharan Africa.

Category B: Socially Sustainable Practices

2a) Sub-Saharan African government institutions should ensure citizens meet basic needs like shelter, clean water, food security, education, and medical care regardless of socioeconomic status or geographic location, promote gender equality, and create a more prosperous and harmonious future for their nations.

	1	2	3	4
Confidence	☐	☐	☐	☐

Enter optional comments.

2b) Sub-Saharan African government institutions must balance and consider the socioeconomic implications of stringent regulations, provide affordable and high-quality healthcare to all citizens to reduce mortality rates, invest in clean water infrastructure, and guarantee universal access to clean water.

	1	2	3	4
Confidence	☐	☐	☐	☐

Enter optional comments.

1. **In Category C, please rate your confidence in this final list of strategies leading to the development of policies and standards to implement socially sustainable practices to facilitate social and physical infrastructure development in Liberia and sub-Saharan Africa.**

Category C: Social Infrastructure Development

3a) Sub-Saharan African government institutions should actively engage in international forums with international organizations to reflect their interests in international standards with local impacts and seek participation in shaping international regulations like trade, technology, and environmental protection.

	1	2	3	4
Confidence	☐	☐	☐	☐

Enter optional comments.

3b) Sub-Saharan African government institutions must proactively engage in strategic alliances with regional blocs and other developing countries to shape global standards and tailor global standards to the unique needs of their countries and should prioritize domestic policy objectives in global standard-setting processes to strengthen their expertise and regulatory framework for setting global standards.

	1	2	3	4
Confidence	☐	☐	☐	☐

Enter optional comments.

2. **In Category D, please rate your confidence in this final list of strategies leading to the development of policies and standards to implement socially sustainable practices to facilitate social and physical infrastructure development in Liberia and sub-Saharan Africa.**

Category D: Physical Infrastructure

4a) Sub-Saharan African government institutions should focus on infrastructure development, such as road networks, prioritize investment in efficiency and affordable mass transit and marine transport, support trade, and build solid institutional capacity to attract tourism and foreign business.

1	2	3	4

Confidence	☐	☐	☐	☐

Enter optional comments.

4b) Sub-Saharan African government institutions should invest in green infrastructure, building effective institutional frameworks, develop affordable housing units to help citizens escape poverty, invest, and expand opportunities for urban and rural communities by providing comprehensive urban planning to reduce residential congestion and air pollution and invest in e-government to create a zero-corruption ecosystem.

	1	2	3	4
Confidence	☐	☐	☐	☐

Enter optional comments.

3. **In Category E, please rate your confidence in this final list of strategies leading to the development of policies and standards to implement socially sustainable practices to facilitate social and physical infrastructure development in Liberia and sub-Saharan Africa.**

Category E: Leadership

5a) Sub-Saharan African government institutions should continuously develop young leaders by providing education from primary to advanced levels to include public speaking on local and global issues in leadership curricula and include soft skills, communication skills, and technology to prepare young people for future leadership roles.

	1	2	3	4
Confidence	☐	☐	☐	☐

Enter optional comments.

5b) Sub-Saharan African government institutions should allow young leaders to host and travel to leadership conferences and symposiums in the global north and south countries and allow young leaders from sub-Saharan African countries to engage with other leaders in the global north and south countries.

	1	2	3	4
Confidence	☐	☐	☐	☐

Enter optional comments.

Again, thank you for participating in my study.