

HOW PUBLIC PROCUREMENT CAN HELP SOCIETIES ACHIEVE SDGs: A CONCEPTUAL MODEL

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ABSTRACT: This study draws attention to how public procurement adds value and contributes to the achievement of the United Nation's sustainable development goals (UN SDGs) based on an extensive literature review. A total of 29 peer-reviewed journal articles published between 2015-2022 with a focus on sustainable public procurement (SPP) practices and SDGs were retrieved from the Web of Science and Emerald databases for analysis. From the reviewed articles, we develop a conceptual model for better illustration and understanding of the link between SPP practices and SDGs. The model indicates that the achievement of SDGs can be influenced by four dimensions, namely: the underlying principles of SPP, the fundamental practices of SPP principles, the drivers of SPP principles, and the perceived roles of SPP practices which are aligned with the targets of UN SDGs. The analysis of the study revealed that SPP can impact up to 70% (12 out of 17) of UN SDGs. It is established that public procurement performs important functions in a diligent manner which adds value and delivers core services to societies, thus supporting the achievement of SDGs. Individual commitment and political will, strong enforcement and control mechanisms, continuous monitoring and assessment of the target areas, and offering inclusive solutions and shared visions among actors are identified as the drivers for building resilience in SPP and achievement of SDGs. The developed model could serve as a basis for identifying the deficiencies in SPP and achievement of SDGs for policy implications, reform, and future research domains.

KEYWORDS: Public procurement, sustainable public procurement, sustainable procurement practices, societies, SDGs.

1. INTRODUCTION

As we are approaching the climax of the United Nation's sustainable development goals (UN SDGs), it is with immense interest that we review the operational and strategic actions that have contributed to the achievement of the sustainable development agenda. The UN SDGs were enforced in 2015 among the United Nations member states. The agenda includes 17 SDGs and 169 targets (United Nations Environment Programme (UNEP), 2021). These goals and targets provide a shared blueprint for socioeconomic and political prosperities for all people across the globe, now and in the future. The UN SDGs assert that ending poverty and other forms of socioeconomic and environmental deprivations requires solid strategies that foster economic growth, improve health services and education, reduce inequalities, and tackle global climate change (UNEP, 2021; Nordic Council of Ministers (NCM), 2021). Among others, the 12.7 target under the 12 SDG emphasises the role of SPP in the achievement of UN SDGs.

This study aims at drawing attention to how SPP adds value and contributes to the achievement of SDGs beyond the specified core objectives of public sectors. The core objectives of public procurement are to deliver better quality, goods, works, and services to the public at a cost-effective (Goiria and Bonachea, 2022; Guarnieri and Gomes, 2019). Public procurement is the most important driver of economic growth in many countries. It absorbs about 70% of governments' budgets and accounts for about 12% of gross domestic product (GDP) in developed countries and 26% in low-income countries (UNEP, 2021; World Bank, 2020).

SPP is a practice whereby buying organisation achieves value for money from purchased goods, works, and services whilst avoiding environmental damage and considering the socioeconomic implications of purchases to the societies (Eikelboom et al., 2018; Haddadi et al., 2021). Literature reveals that SPP is a potential platform through which societies can achieve SDGs (Grandia and Meehan, 2017; Guarnieri and Gomes, 2019; Martin and Methven, 2019).

Public procurement performs functions that add value to societies and delivers core services to the public which support the achievement of SDGs and their targets. Delivery of public services such as health services, quality education, development infrastructure and all other public functions depend on the efficacy of public procurement (Israel, 2023; Gelderman et al., 2015; Grandia and Meehan, 2017). Whether it is a quest of building schools and purchasing books to deliver quality education, or hospitals to purchase medical supplies and improve health services, public procurement plays a significant role in making global and local societies sustainable. SPP offers critical solutions to the current and future climatic changes, pollution and economic crises through green procurement practices (Allen, 2021; Andabaka and Sertic, 2020; Bernal et al., 2019). Therefore, every procurement opportunity should be regarded as an opportunity that drives societies towards innovations and sustainability.

Towards the achievement of the UN SDGs, many governments have enacted and reformed policies, laws and regulations that promote and integrate the sustainable development agenda and procurement objectives. Generally, the policies promote green and ethical procurement practices which are sustainable in

accordance with national and international development priorities. These frameworks emphasise the importance of green production, sustainable marketing and distribution strategies, accountability, transparency, and ethical procurement practices as the underlying principles for SPP (United Republic of Tanzania (URT), 2013; NCM, 2021; World Bank, 2020). Without effective and sustainable public procurement principles and practices, public service delivery will be at stake. For example, a lack of transparency, accountability, and ethical behaviour fosters corrupt practices, inefficient use of public resources, loss of public funds, and environmental pollution (Allen, 2021; Andabaka and Sertic, 2020). The underlying principles of SPP are regarded as evolving strategic instruments which promote best procurement practices for sustainable development and achievement of SDGs. SPP plays a critical role in promoting social and economic inclusive growth, sustainable development, and environmental protection.

Despite the critical roles public procurement plays toward socioeconomics transformation in many governments and societies, compliance with SPP and achievement of SDGs are not flawless. In their studies, Gelderman et al. (2015) and Manu et al. (2021) spotted the lack of shared vision among actors, inadequate resources and skilled personnel, lack of political will and strong political leadership as one of the complexities which adversely affect effective compliance with SPP and achievement of SDGs. Moreover, Finnveden et al. (2020), Martin and Methven (2019) and Wang et al. (2020) extend the barriers to SPP and achievement of SDGs as a result of a lack of commitment and support from top management, supporting policies and control mechanisms.

Despite these deficiencies, the role of public procurement in supporting the achievement of UN SDGs has never been underestimated. A report by the NCM (2021) reveals that SPP has the potential to impact all SDGs and 82% of the targets. However, some target areas are still facing some deficiencies. For example, about 50% of global health services are delivered without evidence of whether it is effective or not. There exist limited reviews which address the link between public procurement and SDGs. Prior studies focus on establishing a link between public procurement with one or selected targets of SDGs (Farooq et al., 2022; Bernal et al., 2019; Andabaka, and Sertic, 2020; Martin and Methven, 2019). The analysis of this review contributes to the body of knowledge that addresses the role of public procurement in supporting the achievement of SDGs. The study develops a conceptual model for better illustration and understanding of how SPP adds value to societies and the achievement of SDGs.

2. LITERATURE REVIEW

2.1. SPP and SDGs

The 12 SDG aligns procurement functions and their related practices with the achievement of governments and societies' development objectives and outcomes through sustainable consumption and production patterns (NCM, 2021). More specifically, the 12.7 target advocates the need to promote public procurement practices that are sustainable in accordance with national policies and priorities. Among others, governments aim at achieving sustainable infrastructure, efficient spending, peace and harmony, better health services, quality education, zero poverty, and social equality, which on the other hand are the prime targets of the UN SDGs (UNEP, 2021; Agarchand and Laishram, 2017).

These priorities and targets are basically planned and implemented through public procurement. In order to enable societies and governments achieve these priorities and targets, regulatory frameworks and principles have been enacted to govern the conduct of public procurement. The principles and regulatory frameworks in place emphasise efficient spending, accountability, transparency and fairness, green procurement, and probity and ethical procurement practices as the basic pillars for sustainable and socioeconomic endeavours (URT, 2013; World Bank, 2020). It is believed and theorised that compliance with public procurement principles will help societies achieve the UN SDGs (Hope, 2020; Berg et al., 2022; Manu et al., 2021).

2.2. Green Procurement Practices

Literature reveals that green procurement is one of the best practices that contribute significantly to the achievement of SDGs. The fundamental principle of green procurement is to perform organisations' activities and meet the objectives and customers' needs without harming the environment (Chersan et al., 2020; Lazaroiu et al., 2020; Terman and Smith, 2018). The principle underlines the reduction, prevention and elimination of adverse effects of air, water and land pollution. This is in line with the 13 SDG and the 12.4 target of UN SDGs which advocate proper management of all kinds of wastes and chemicals throughout their life cycle to combat climate change and support healthy lives (UNEP, 2021; NCM, 2021).

To achieve these goals, buying organisations must design and adopt eco-friendly sourcing strategies, transportation and distribution, packages, and marketing strategies that minimise environmental hazards. This may include, but are not limited to buying from suppliers who support environment management policies and use recycled materials. By so doing, organisations protect the environment from pollution, support marine and land healthy lives (Farooq et al., 2022; Wang et al., 2020).

2.3. Probity and Ethical Procurement Practices

Literature establishes that probity and ethical practices are the core principles of effective public procurement performance (Gelderman et al., 2015; Israel et al., 2019; Terman and Smith, 2018). Hence, in order to help societies and governments achieve SDGs through public procurement, policymakers should enact solid and effective principles and codes of conduct. This will govern the practices and conducts of procurement practitioners to ensure that public goods, construction projects and services are procured in a manner that enhances cost-effectiveness, continuous availability, and quality standards.

Studies by Hope (2020) and Israel (2022) spotted corruption, nepotism, conflict of interests, and collusive practices as the major unethical practices in public procurement that hinder the realisation of societies' socioeconomic endeavours. Unethical procurement behaviour drives away a sense of professionalism, accountability and commitment among service providers and practitioners. These results in the loss of scarce public resources, inaccessibility or delivery of poor public services at high costs (Hope, 2020). With corrupt practices, the delivery of better health services, quality education and sustainable infrastructure will be at stake. Moreover, a lack of ethical behaviour within societies fosters environmental pollution resulting from poor disposal of wastes, thus endangering the ecosystem (Lazaroiu et al., 2020; Akter et al., 2022).

2.4. Transparency and Fair Procurement Practices

Organizations that plan and implement procurement functions in a transparent and fair manner are more likely to help societies

achieve SDGs. Experience reveals that transparency and fair dealings with customers and service providers are important pillars for the efficient use of public funds and the delivery of better-quality services at a cost-effective (Israel et al., 2019; Farooq et al., 2022; Andabaka, and Sertic, 2020).

Transparency and fairness include the needs to ensure that procurement proceedings are publicly conducted, all procurement related-records are readily available, and that all potential suppliers are given equal chance to compete for public procurement opportunities whilst avoiding discrimination and nepotisms (Andabaka and Sertic, 2020; Goiria and Bonachea, 2022). More often, public procurement advocates the use of e-procurement system as an important means toward enhanced transparency and fair procurement practices. By so doing, public procurement supports the 9 and 10 SDGs which advocate inclusive growth, innovative behaviour and reduced inequalities (UNEP, 2021). More specifically, transparency promotes accountability which has been reported with notable benefits in terms of efficient use of public resources, accessibility and improved public service delivery at a reasonable cost (Haddadi et al., 2021; Hope., 2020; Israel, 2023).

2.5. Accountability Procurement Practices

The principle of accountability explains how governments and societies can achieve sustainable transformation by setting and enforcing compliance with the set of rules, regulations, policies

and standards. In a wider context, accountability is a willingness to comply with a set of established rules and accept responsibility for one’s own actions (Andabaka and Sertic, 2020; Chersan et al., 2020).

Notwithstanding one’s profession, accountability requires everyone to comply with established rules and regulations, be judged for their performance, and be responsible for their own actions. From a procurement context, accountability stems from the need to observe procurement laws, regulations, procedures, ethical code of conduct, environmental protection, and maintaining the highest level of honesty (URT, 2013; World Bank, 2020). Literature establishes a significant relationship between accountability procurement practices and the achievement of SDGs (Goiria and Bonachea, 2022; Allen, 2021; Guarnieri and Gomes, 2019). This is due to the fact that accountability sets standards and streamlined control mechanisms that emphasise ethical procurement practices and responsibility toward the attainment of society’s development goals. With effective control mechanisms, accountability leads to the effective use of public resources and delivery of quality services to the public without any inducement and at a cost-effective. The highest level of accountability invokes employee loyalty and investors’ confidence which are essential ingredients for the achievement of SDGs (Martin and Methven, 2019; Haque et al., 2020).

Table 1. Summary of related literature on SPP and practices

Underlying principles of SPP	Fundamental practices of SPP principles	Supporting references
Green procurement practices	<ul style="list-style-type: none"> • Green production, packaging, distribution and marketing strategies • Support proper waste management • Promote reverse logistics (recycling) • Promote sustainable consumption 	Farooq et al. (2022); Bernal et al. (2019); Akter et al. (2022).
Probity and ethical procurement practices	<ul style="list-style-type: none"> • Elimination of all forms of corruption and bribery • Prohibit conflict of interest and collusive practices • Fight against child labour • Avoid sourcing from conflict zones • Offer good wages to employees 	Maalouf et al. (2021), Berg et al. (2022), Bernal et al. (2019), Hope (2020).
Transparency and fair procurement practices	<ul style="list-style-type: none"> • Use competitive bidding as the default method of procurement • Use e-procurement in procurement transactions • Undertake procurement projects publicly • Fair dealing and treatment of service providers • Maintain anti-discrimination • Use of preferential purchasing policy 	Bamfo et al. (2019), Farooq et al. (2022), Andabaka, and Sertic (2020).
Accountability procurement practices	<ul style="list-style-type: none"> • Comply to pre-set rules and procedures • Streamlined control and regulatory mechanisms • Accepting responsibility and liability for sanctions resulting from unethical practices • Foster safety at a workplace 	Chersan et al. (2020), Martin and Methven (2019).

3. METHODOLOGY

This study reviews and evaluates previous literature and develops a conceptual model which establishes the manner in which public procurement can help societies achieve SDGs. More specifically, the study offers an avenue for understanding the link between SPP and the specified targets of UN SDGs through an extensive review of the literature. Literature that addresses the best procurement practices and SDGs is quite vast (Hope, 2020; Berkel and Schotanus, 2021; Finnveden et al., 2020).

However, no adequate reviews have developed a model for a better understanding of the link between SPP and SDGs. This study reviews related literature with a focus on SPP and SDGs and develops a model for SPP and achievement of SDGs. Articles reviewed and referenced in this study were extracted from the Web of Science and Emerald databases. Web of Science and Emerald are extensive and reputable online databases that publish rigor and reputable peer-reviewed journal articles across different filed of public administration, management practice, and sustainable development.

Only peer-reviewed journal articles published between 2015-2022 in the English language with a focus on SPP and SDGs were extracted for review and analysis. The year 2015 was chosen as a baseline since it was when the SDGs became into force (UNEP 2021; NCM, 2021). Phrases limited to “public procurement”, “sustainable procurement public”, “sustainable public procurement practices”, “best procurement practices”, “sustainable development goals”, “government procurement” and “government purchase” in the title, abstract and keywords

of the articles were specifically used in the search strategy. Initially, a total of 994 journal articles were retrieved from the specified databases based on the specified scope and search strategy. Relevant articles were retained while duplicates and grey literature were excluded. Based on the inclusion and exclusion criteria, only 29 relevant articles were retained and included for final review and analysis. Figure 1 portrays the detailed steps employed in retrieving and selecting articles for review and analysis.

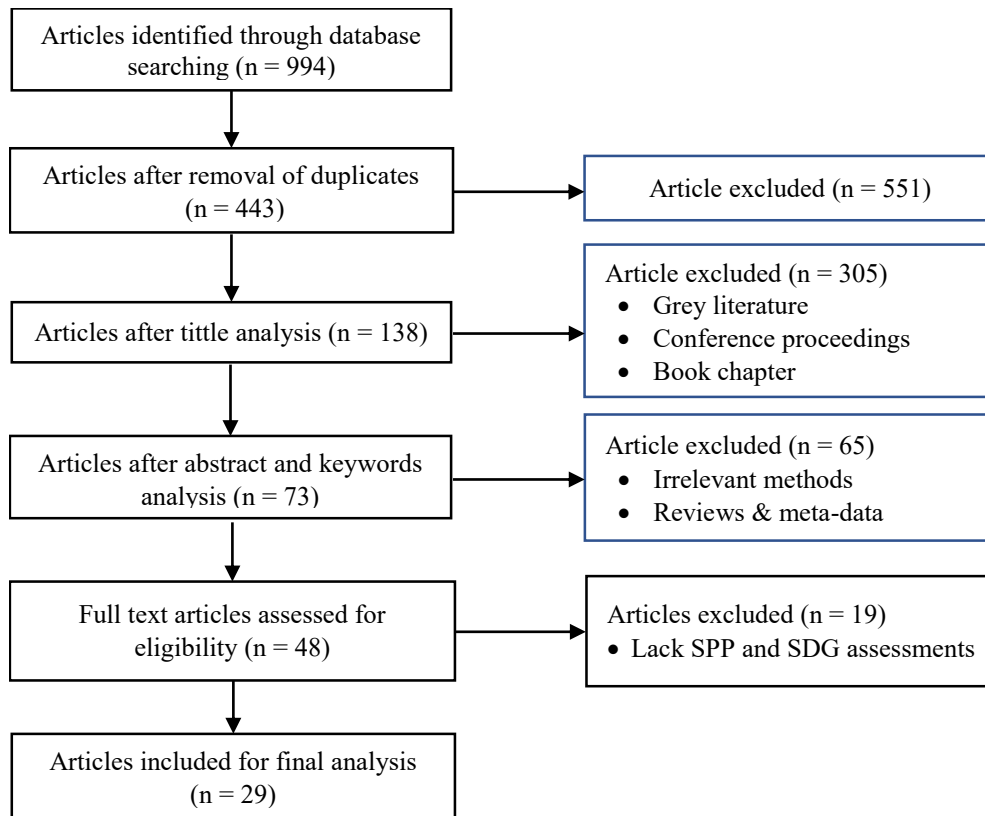


Figure 1. Review and articles selection process (Adopted from Moher et al., 2009).

Among other objectives, this study maps the trends of publication in the field of SPP and SDGs. Figure 2 presents the dominant research areas pertaining to SPP and SDGs. The review reveals that sustainable cities and living environment are the dominant researched areas with six (6) articles followed by sustainable infrastructure with five (5) articles and public health

services and quality education with four (4) articles. Nevertheless, the role of public procurement in enhancing the achievement of SDGs such as innovation, market creation, gender equity, access to food security, poverty alleviation, human rights employment and decent work have also been systematically researched as presented in Figure 2.

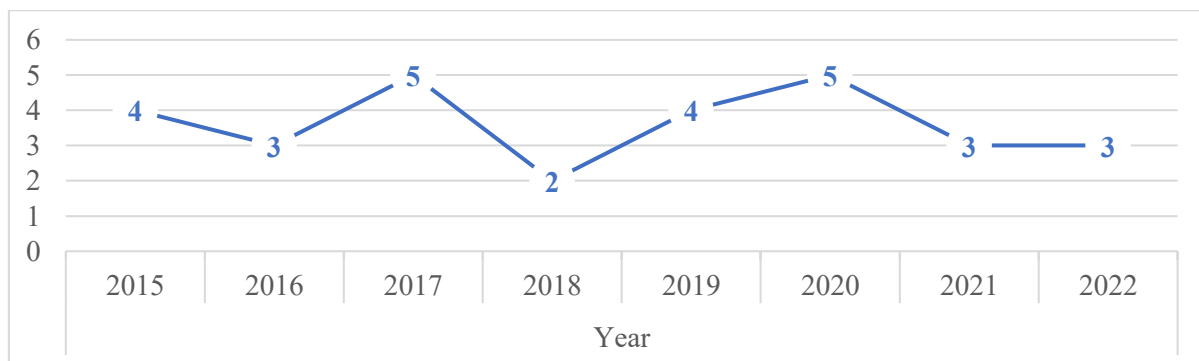


Figure 2. Distribution of publications per year (2015 – 2022, n = 29)

Again, Table 2 shows the distribution with respect to the journals in which the reviewed articles were published. The analysis revealed that the Journal of public procurement from the Emerald database is the most famously known publisher in this area with seven (7) articles followed by the Journal of Sustainability and the International journal of Managing Projects in Business with three (3) articles each. Lastly, the study

maps the trends and number of publications from 2015-2022 on SPP and SDGs (see Figure 3). The analysis revealed a remarkably high number of publications in 2017 and 2020 with eight (8) articles followed by 2015 and 2019 with 4 articles. The year 2018 had the least quantity of articles on SPP and SDGs with a total of two (2) articles.

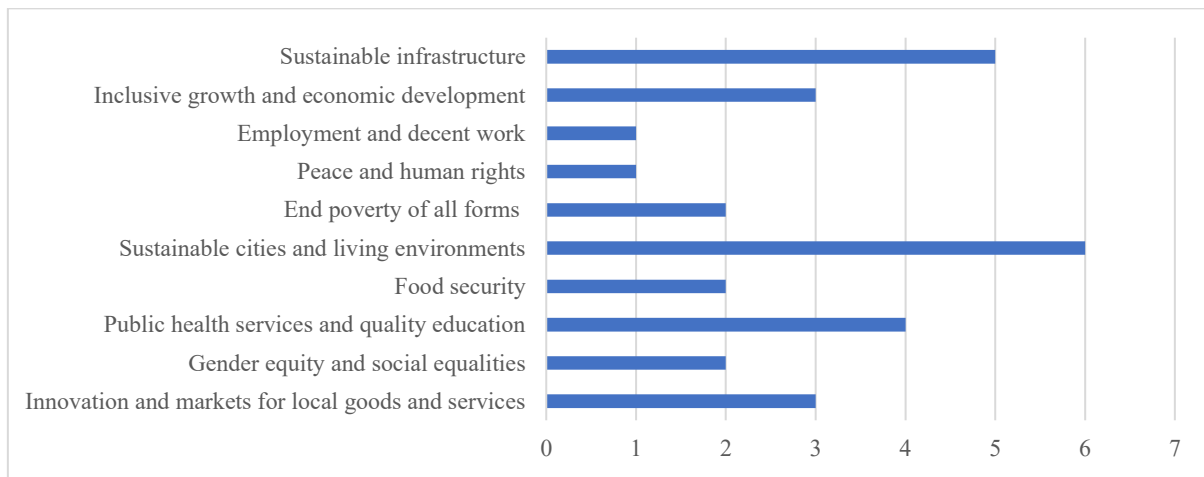


Figure 3. Most research areas pertaining to SPP and SDGs.

Table 2. Distribution of publications amongst journals

Journals	Number of publications
International Journal of Managing Projects in Business	1
Built Environment Project and Asset Management	1
Cleaner Environmental Systems	1
Construction Innovation	1
International Journal of Business and Social Science	1
International Journal of Environmental Research and Public Health	1
International Journal of Managing Projects in Business	3
International Journal of Public Sector Management	2
International Journal of Sustainability in Higher Education	1
Journal of Public Procurement	7
Resources, Conservation and Recycling	1
Sustainability	3
Sustainable Production and Consumption	1
Smart and Sustainable Built Environment	2
An Asia-Pacific Journal	1
Journal of Engineering, Design and Technology	1

4. FINDINGS AND DISCUSSION

Based on the literature review conducted, the findings of this study have been organised into three main sections. Section 4.1 presents and discusses the perceived role of SPP in achieving

societies' SDGs. Section 4.2 presents the results of the drivers of SPP and SPP practices, and section 4.3 develops a conceptual model for illustration and a better understanding of how SPP can help societies achieve SDGs.

Table 3. Perceived role of SPP on SDGs

Underlying principles of SPP	Perceived role/effects of SPP on SDGs	SDGs impacted	Supporting references
Green procurement practices	<ul style="list-style-type: none"> Elimination air, water and land pollution Curb depletion of natural resources Conserve animal and human live Curb global warming and desertification Foster agriculture and food security 	2 SDG 6 SDG 12 SGD 13 SDG 14 SDG 15 SDG	Akter et al. (2022), Farooq et al. (2022)
Probity and ethical procurement practices	<ul style="list-style-type: none"> Enhance efficient use of public funds and resources Foster delivery of quality services to the public without inducements Maintain healthy work environment Foster and promote decent work, respect and human rights 	3 SDG 4 SDG 8 SGD 16 SGD	Bernal et al. (2019), Hope (2020), Goiria and Bonachea (2022)
Transparency and fair procurement practices	<ul style="list-style-type: none"> Support and promote innovative behaviour Maintain inclusive participation and growth Create income and employment to the societies Maintain social equality 	1 SDG 8 SDG 9 SGD 10 SDG	Andabaka, and Sertic (2020), Hope (2020).

Accountability procurement practices	<ul style="list-style-type: none"> • Enhance efficient use of public funds • Delivery of quality education, health services without any inducement • Implement and deliver quality projects and services at cost-effective 	1 SDG 8 SDG 11 SDG 3 SDG 4 SDG 9 SDG	Martin and Methven (2019), Frimpong et al. (2023), Israel et al. (2019)
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4.1. Important Role of SPP in Achieving Sdgs

4.1.1. SPP fosters sustainable living environment

The 13, 14, and 15 SDGs emphasise the need to prevent and reduce pollution of all kinds so as to combat the impact of climate change, conserve land and ocean resources, curb the depletion of natural resources, degradation, and desertification (UNEP, 2021). Again, the 11 SDG emphasises sustainable living cities for the communities by making human settlement inclusive and resilient with a sound environment, quality and reliable services and infrastructure (UNEP, 2021; NCM, 2021). Literature establishes that public procurement plays a significant role in creating sustainable cities and living environment. By putting more emphasises on green procurement practices such as proper waste management, recycling of materials, and sustainable consumption, marketing and transportation strategies, public procurement supports the 13, 14, and 15 SDGs and their related targets. Studies reveal that green procurement minimises environmental damage and pollution (Patil and Laishram, 2016; Wang et al., 2020). The use of biogas for example reduces environmental pollution by 90% compared to diesel and petrol (Patil and Laishram, 2016). Moreover, the efforts toward accountability, ethical procurement practices, transparency and competitive procurement practices guarantee societies with quality and reliable services such as health services, education, water supply and development of road infrastructure (Grandia and Meehan, 2017; Israel, 2022; Haddadi et al., 2021).

4.1.2. SPP enhances gender equity and social equality

The 5 and 10 SDGs aim at promoting gender equality, women empowerment and maintaining social equality within and across countries. These goals extend to the need to achieve equal access to market, trade and employment opportunities thereby reducing income and technological disparity. Public procurement can promote gender equality, inclusivity and equity across societies by enacting and enforcing preferential purchasing policies that support the participation of women, youth, disabled and non-represented groups (Berkelvand Schotanus, 2021; Goiria and Bonachea, 2022; Guarnieri and Gomes, 2019). As a part of this advocacy strategy towards maintaining gender equality and inclusivity, countries like Tanzania and South Africa prioritise and account for about 30% of procurement opportunities for women, youth and disabled groups (URT, 2013; Wadhwa et al., 2016).

Moreover, in the case of international competitive bidding, foreign bidders are required to offer bids that enhance the transfer of knowledge, technical know-how and employment to the local firms. Therefore, at least 10% of foreign bidders must include local firms or individuals (URT, 2013). With these policy provisions, public procurement stands a high chance to help societies achieve the 5 and the 10 SDGs.

4.1.3. SPP enhances healthy lives, quality education and water sanitation

The other important goals of the UN SDGs are to promote healthy lives and well-being (the 3 SDG), promote inclusive and quality education (the 4 SDG), and ensure the availability of sustainable clean water and sanitation for all (the 6 SDG). Studies urge that the use of competitive bidding methods, enhanced accountability, and maintaining ethical practices in the procurement of public services serve as one of the best ways through which societies can enhance healthy lives, quality education, and improve accessibility to clean water sanitation (Israel et al., 2019; Finnveden et al., 2020; Maalouf et al., 2021).

Competitive bidding process results in the procurement and delivery of public services from competent and qualified bidders at low prices, thus making the availability of public services more reliable and affordable to the public. On the other hand, accountability makes procurement staff more responsible by ensuring that societies receive the most effective services. Without effective and sustainable procurement practices, schools lack infrastructure and books, hospitals lack medicines and medical supplies, and societies wait for water supply. More specifically, green procurement guarantees clean water and sanitation by ensuring that potential harmful and waste materials are controlled and eliminated across waterways and systems (Andabaka and Sertic, 2020; Manu et al., 2021).

4.1.4. SPP guarantees food security and economic prosperity

Furthermore, SPP can improve living standards and economic prosperity of societies by fostering food supply and reducing poverty. Through preferential purchasing policies that support the participation of women, youth, disabled and non-represented groups, public procurement creates employment opportunities and income to the societies (Allen, 2021; Chersan et al., 2020; Grandia and Meehan, 2017). Taking for example the procurement of construction projects, experience reveals that the sector employs about 2 million people across the globe (Frimpong et al., 2023).

In turn, this improves the living conditions and economic resilience of societies (World Bank, 2020). By so doing, public procurement offers valuable impact societies and support the 1 SDG which emphasises ending poverty in all its form everywhere. Nevertheless, green environment practices help societies avoid depletion of natural resources, land degradation and deforestation, thus creating a conducive environment for agricultural activities. Subsequently, a conducive environment fosters agricultural productivity and food supply, hence supporting the 2 SDG (Guarnieri and Gomes, 2019; Lazaroiu et al., 2020).

4.1.5. SPP fosters peace and justice

SPP can also bring political benefits in terms of peace and justice in societies as stipulated in the 16 SDG. Public procurement can foster peace and security within societies by using its purchasing power to enforce service providers to observe compliance with

existing labour, social and legal legislations. Among others, it includes the need to avoid sourcing from conflict zones, requesting service providers or contractors to meet the required safety and health standards, avoid discrimination at their workplaces, and uphold a sense of fairness in dealing with clients (Allen, 2021; Gelderman et al., 2015).

Moreover, public procurement can foster peace and justice by ensuring that employees across the supply chain are paid the required minimum wages (Goiria and Bonachea, 2022). Subsequently, these practices enhance fairness and safe working conditions. Further, probity and ethical procurement practices are widely recognised public procurement principles that support peace and security across societies. With ethical procurement practices, procurement practitioners demonstrate good stewardship for efficient use of public funds, anti-fraud and corruption, respect for human labour and human rights (Martin and Methven, 2019; Hope, 2020).

4.1.6. SPP fosters inclusive growth and decent employment

More specifically, SPP triggers the creation of decent work, employment, and inclusive growth within and across societies, thereby supporting the 8 SDG. This goal can be supported by ensuring that procurement practitioners at each node of the supply chain respect and observe labour and human rights and are held accountable for their actions (Haddadi et al., 2021; Martin and Methven, 2019; Gelderman et al., 2015). Moreover, the use of preferential purchasing policies and consortium bidding create markets and employment opportunities for locally produced goods and under-represented groups (Andabaka and Sertic, 2020).

Preferential and consortium bidding policies remove the barriers for special groups such as women, youth and disabled groups in accessing procurement, trade and market opportunities. By observing labour and human rights, using consortium bidding, and preferential purchasing policies, public procurement enhances the transfer of technology, skills, and payment of fair and equal wages to employees. These practices create conducive work environment which are essential attributes needed for achieving the 8 SDG.

4.1.7. SPP fosters innovations and infrastructure development

The 9 SDG addresses three important targets of the sustainable development agenda, that is sustainable infrastructure, industrialisation, and innovation. These targets play an important role in the socioeconomic transformation of societies. Infrastructure provides basic facilities for societies to effectively undertake socioeconomic activities (Agarchand and Laishram, 2017; Israel, 2022). Industrialisation creates jobs and markets for local supplies, thereby driving economic growth and reducing income inequality. On the other hand, innovation fosters technological skills and digital capabilities needed for industrialisation.

In today's era, the role of public procurement in fostering innovations, sustainable infrastructure and industrialisation has been undisputed. For example, the use of e-procurement and the emphasises on buying from local firms offer innovative solutions and outcomes for industrialisation (Bamfo et al., 2019; Berg et al., 2022; Eikelboom et al., 2018). These foster innovations and production of raw materials for industrialisation. Likewise, the use of competitive bidding and the public-private partnership (PPPs) enhance efficient use of

public funds for sustainable infrastructure endeavours (Agarchand and Laishram, 2017; Haque et al., 2020; Frimpong et al., 2023).

4.2. Drivers of SPP and SPP Practices

Literature reveals that the effective adoption of SPP and their fundamental practices as the important pillars for achieving the UN SDGs are driven by several factors. The factors range from organisational, legal, and individual perspectives. According to Finnveden et al. (2020) among the factors that affect the efforts toward SPP and achievement of SDGs from organisational perspective are the lack of support and commitment of the top management, and inadequate allocation of resources needed to support the adoption of SPP practices and priority target areas of SDGs. The findings from this review extend that the effective adoption of SPP and achievement of SDGs require streamlined monitoring and re-assessment of the priority target areas and shared common vision among the actors and societies (Berkel and Schotanus, 2021; Berg et al., 2022). Continuous monitoring and re-assessment help in measuring and comparing the progress or outcomes against the targets for immediate corrective actions.

From a legal perspective, literature establishes the need to cutter for innovative solutions, establish strong oversight frameworks, support policies, rules and legislation as the key drivers of SPP and achievement of SDGs (Grandia, and Meehan, 2017; Gelderman et al., 2015). Moreover, the analysis of the review reveals that SPP and SDGs are primarily driven by strong political and organisational leadership. The existence of strong oversight authorities, support policies and strong leadership enhances a sense of accountability and responsibility among practitioners towards the adoption of SPP and the achievement of SDGs (Grandia, and Meehan, 2017; Berg et al., 2022). From individual factors, studies highlight the importance of having adequate and skilled personnel with a sense of commitment and political will towards the effective adoption of SPP and achievement of SDGs. Having well-skilled, trained, and committed individuals who are willing to undertake and comply with the fundamental practices of SPP principles are important drivers toward the achievement of SDGs (Akter et al., 2022).

4.3. Developing a Conceptual Model for Illustrating the Role of SPP in SDGs

This part develops and presents a conceptual model for better illustration and understanding of the role of SPPs in achieving SDGs. Table 3 shows that the underlying targets of SDGs can be influenced by different dimensions of SPP and the fundamental practices of SPP principles as indicated in Table 1.

As discussed earlier, this study is built on a proposition that public procurement plays an important role in helping societies achieve the UN SDGs. This is only possible by ensuring that the fundamental practices of SPP principles as stipulated in the underlying principles of SPP are complied with in the course of procurement of goods, works, and services. However, compliance with SPP principles and their fundamental practices is moderated by the efficacy of legal frameworks, individual and organisations attributes (see Table 4 and Figure 4). Therefore, the variables in Tables 1, 3 and 4 were used to develop a conceptual model and visualise how public procurement can help the societies achieve the SDGs. The conceptual model developed is presented in Figure 4. The model consists of four main parts: the underlying principles of SPP which include the basic four (4) principles of public procurement, the fundamental practices of SPP principles, the drivers of SPP and the

fundamental practices of SPP, and lastly are the perceived role or effects of SPP or the priority targets of SDGs.

Table 4. Summary of drivers of SPP and SPP practices

Categories	Drivers	Supporting references
Organisational factors	• Regard procurement as a strategic function	Finnveden et al. (2020), Berkel and Schotanus (2021).
	• Top management support and commitment	
	• Continuous monitoring and reassessment of the target areas	
	• Inclusive solutions and shared visions among actors	
	• Allocation of resources for SPP and SPP practices	
Legal-related factors	• Supporting rules and legislations for SPP and SPP practices	Grandia, and Meehan (2017), Berg et al. (2022).
	• Strong organizational and political leadership	
	• Supporting policies and legal framework	
	• Cutter for innovative solutions	
Individual factors	• Strong personal commitment and dedication	Goiria and Bonachea, (2022). Akter et al. (2022)
	• Sense of political will among practitioners	
	• Expertise and skilled personnel	

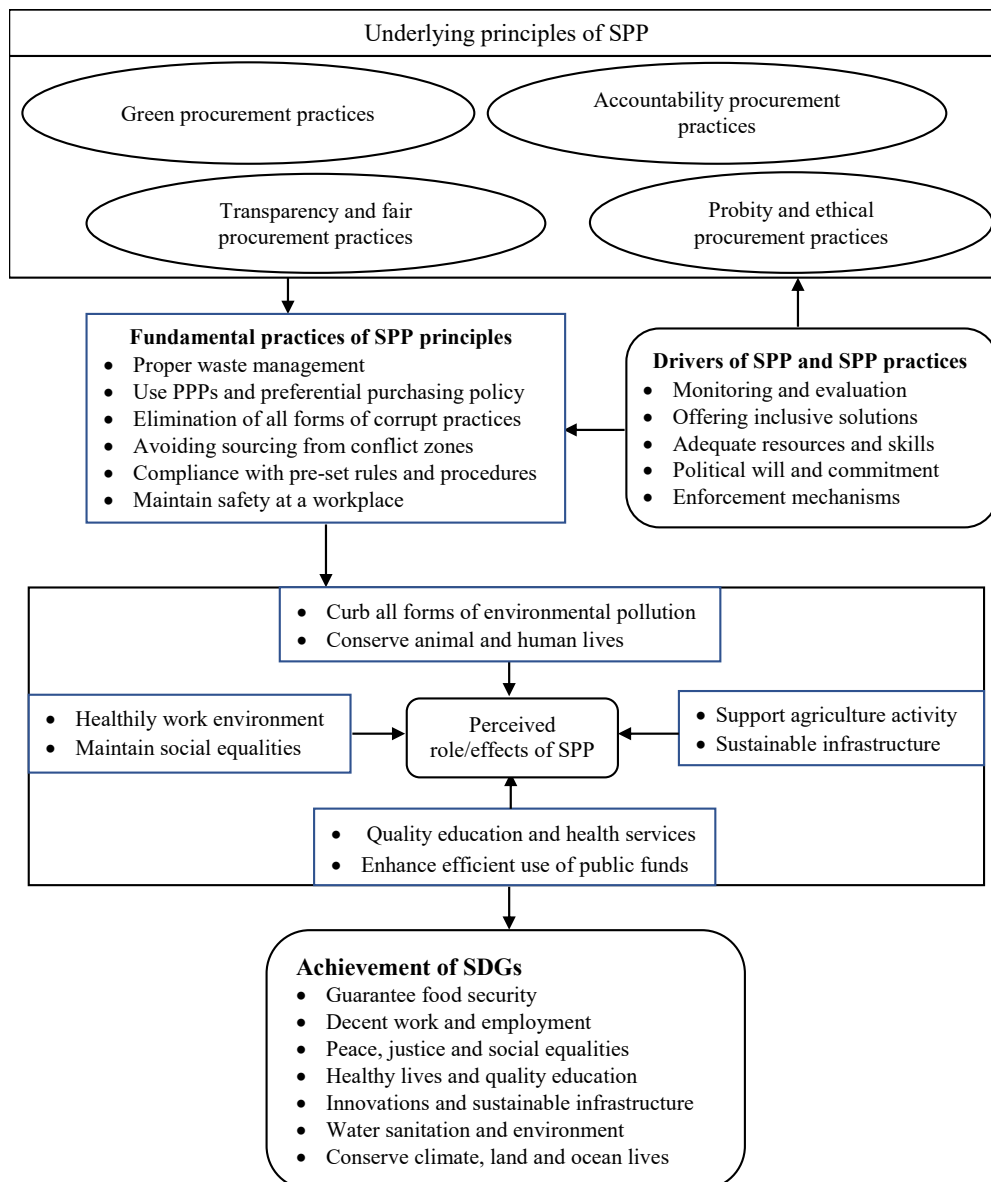


Figure 4. Conceptual of model for SPP and SDGs.

The first phase of the model is the underlying principles of SPP which comprises the four (4) principles of public procurement. The principles are green procurement practices, transparency

and fair procurement practices, accountability procurement practices, and ethical procurement practices. The core objectives of SPP are to enhance the efficient use of public resources, curb

anti-corruption practices, maintain sustainable living environment, transparency and accountability in the delivery of public services. Since public procurement absorbs about 70% of governments' budget (World Bank, 2020), and since 90% of human life depends on the efficacy of infrastructure, social services and environment to support their lives, it is therefore important that public procurement be planned and implemented in a manner that enhances the best practices (Israel, 2022). With SPP, it is believed that public procurement can deliver the best outcomes to societies by ensuring accessibility to better health services, quality education, and sustainable living environment. It has been urged that SPP should be given due weight in the course of planning and implementation of public procurement projects because it has direct and indirect impacts on the environment and societies (Haddadi et al., 2021; Lazarou et al., 2020).

The second phase of the model includes the fundamental practices of SPP principles. The phase shows the best procurement practices pertained to SPP principles which contribute to, enhance and leverage the achievement of SDGs. Specifically, the part indicates the major attributes of SPP principles which amounts to transparency and fairness, accountability, green procurement, and ethical procurement practices. The achievement of sustainable living environment, efficient use of public resources, quality education and health services, and social equalities within and across societies are build-up on the fundamental practices of SPP principles (Bernal et al., 2019; Martin and Methven, 2019). Among others, the model suggests green production and distribution strategies, recycling, use of preferential purchasing policy, elimination of all forms of corruption and bribery, avoiding sourcing from conflict zones, compliance with pre-set rules and procedures, and fostering safety at a workplace as one of the fundamental practices SPP principles that support the achievement of UN SDGs. Therefore, public procurement can serve as a hub and catalyst through which SDGs and their targets are planned and achieved. As a strategic function, public procurement can help in assessing the targets of SDGs and analyse the existing processes, their efficiency, effectiveness, and take necessary actions towards achieving the desired goals.

The third phase of the model is the drivers for the effective adoption of SPP and SPP practices toward the achievement of SDGs. Despite the fact that SPP and SPP practices contribute to the achievement of SDGs, the model depicts that the two variables are influenced by some drivers. In line with the reviewed literature, the model shows that the effective adoption of SPP and SPP practices requires sufficient resources and skilled personnel, committed individuals and political will, strong enforcement and control mechanisms, continuous monitoring and assessment of target areas, offering inclusive solutions and shared visions among the actors (Grandia and Meehan, 2017; Guarnieri and Gomes, 2019). Top management support and commitment are also important drivers for the effective implementation of SPP, SPP practices, and the achievement of SDGs. Of course, SPP and SDGs are achieved through proper coordination, good governance and strong control mechanisms (Berkel and Schotanus, 2021; Akter et al., 2022).

Finally, the last phase of the model is the perceived role or effects of SPP and SPP practices which are aligned with SDGs and their related targets. The model reveals that SDGs are the functions of SPP and the fundamental practices of SPP principles, however, their outcomes depend on the efficacy of organisational, legal, and individual factors. The SDGs and

targets included in the model are selected based on the fact that they are likely to be impacted by SPP and the fundamental practices of SPP principles. From the model, it can be noted that twelve (12) SDGs out of the 17 SDGs are directly or indirectly impacted and enhanced by SPP and their related practices. The model reveals that SPP is an important platform through which societies can achieve SDGs. SPP and SPP practices act as a lubricant through which the societies can foster infrastructure development, maintain social equality, peace and justice, healthy lives, quality education, sustainable cities and living environment, decent work and employment. For example, green procurement helps societies solve environmental problems. Preferential purchasing policies on the other hand help societies maintain social equality, create employment, foster innovation and decent work. Altogether, it can be generalised that SPP enhances buying organisations with capabilities that enable societies to achieve socioeconomic transformation and achieve SDGs.

5. CONCLUSIONS AND FUTURE DIRECTIONS

This article develops a conceptual model of how public procurement can help societies achieve SDGs based on an extensive review of the literature. Among others, the article discusses the underlying principles of SPP, the fundamental practices of SPP principles, the perceived role or effects of SPP, the drivers for effective adoption of SPP and SPP practices, and how they contribute to the achievement of SDGs. A review reveals and suggests that public procurement like any other strategic function can contribute to the socioeconomic transformation of many societies by enforcing the effective adoption of SPP and SPP practices. SPP offers best practices that provide the best solutions to environmental, social and economic problems. Policies like green procurement protect societies from air, water and land pollution, thus supporting the 6, 13, 14, and 15 SDGs. By favouring local firms and non-represented groups through preferential purchasing and consortium bidding policies, public procurement creates employment, thereby supporting the 8 SDG and maintaining social equality within the societies (10 SDG). Moreover, avoiding buying from conflicting zone helps global communities maintain peace and security, thus enhancing the 16 SDG. Nevertheless, the use of competitive bidding processes, streamlined transparency and ethical procurement practices enhance availability and improve access to public services without inducements, hence supporting the 3, 4, and 6 SDGs. With these regards, the study suggests public procurement as a uniquely positioned strategic function that supports and helps the societies to achieve the SDGs.

From a procurement perspective, the literature reveals that the major issue that faces global societies in the delivery of public services and development of projects is the problem of non-compliance with public procurement principles, rules, and procedures. Societies are unable to achieve socioeconomic development and SDGs due to this deficiency. This study suggests a model in which societies can effectively achieve SDGs and attain socioeconomic transformation through public procurement. The model developed in this study (Figure 4) suggests that the application of SPP and the fundamental practices of SPP principles for the effective achievement of SDGs should be guided by national and international policies, regulatory frameworks, and supporting programmes. Such policies and frameworks must identify the most priority areas for SDGs such as quality education and better health services, circular economy, climate change mitigation and infrastructure

development. Moreover, the target areas of SDGs and socioeconomic transformation should be given due weight and priority in terms of continuous monitoring, evaluation, and allocation of resources. These alignments give the purpose to ensure effective and continuous implementation of SPP practices toward the attainment of socioeconomic transformation and the achievement of SDGs.

REFERENCES

- Agarchand, N. and Laishram, B. (2017). Sustainable infrastructure development challenges through PPP procurement process: Indian perspective. *International Journal of Managing Projects in Business*, Vol. 10 No. 3, pp.642-662.
- Akter, M., Haq, U., Islam, M., Uddin, M. (2022). Textile-apparel manufacturing and material waste management in the circular economy: A conceptual model to achieve sustainable development goal (SDG) 12 for Bangladesh. *Cleaner Environmental Systems*, Vol. 4, <https://doi.org/10.1016/j.cesys.2022.100070>.
- Allen, B. (2021). Broader outcomes in procurement policy – a case of New Zealand pragmatism. *Journal of Public Procurement*, Vol. 21 No. 3, pp.318-341.
- Andabaka, A., and Sertic M. B. (2020). Promoting Sustainable Development via Public Procurement: Is the European Union Leading by Example? Proceedings of FEB Zagreb International Odyssey Conference on Economics and Business, Vol. 2 No. 1, pp.721-739.
- Bamfo, P., Nyamekye, T., and Ahenkan, A. (2019). The role of e-government in sustainable public procurement in developing countries: A systematic literature review. Resources, *Conservation & Recycling*, Vol. 142, pp.189-203.
- Berg, J.B., Thuesen, C. and Jensen, P.A. (2022). Procurement innovation as a vehicle for sustainable change – a case study of the Danish model of strategic partnerships. *Construction Innovation*, Vol. ahead-of-print No. ahead-of-print.
- Berkel, J.R.J. and Schotanus, F. (2021). The impact of “procurement with impact”: measuring the short-term effects of sustainable public procurement policy on the environmental friendliness of tenders. *Journal of Public Procurement*, Vol. 21 No. 3, pp.300-317.
- Bernal, R., Jose, L., and Retolaza, J.L. (2019). Improvement Actions for a More Social and Sustainable Public Procurement: A Delphi Analysis. *Sustainability*, Vol. 11 No. 15, pp.82-101.
- Chersan, I. C., Dumitru, V. F., Gorgan, C., and Gorgan, V. (2020). Green Public Procurement in the Academic Literature. *Economic literature*, Vol. 22 No. 53, pp.82-101.
- Eikelboom, M.E., Gelderman, C. and Semeijn, J. (2018). Sustainable innovation in public procurement: the decisive role of the individual. *Journal of Public Procurement*, Vol. 18 No. 3, pp.190-201.
- Farooq, M., Cheng, J., Khan, N.U., Saufi, R.A., Kanwal, N., Bazkiaei, H.A. (2022). Sustainable Waste Management Companies with Innovative Smart Solutions: A Systematic Review and Conceptual Model. *Sustainability*, Vol. 14 No. 20, pp.2-19.
- Finnveden, G., Friman, E., Mogren, A., Palmer, H., Sund, P., Carstedt, G., Lundberg, S., Robertsson, B., Rodhe, H. and Svärd, L. (2020). Evaluation of integration of sustainable development in higher education in Sweden. *International Journal of Sustainability in Higher Education*, Vol. 21 No. 4, pp.685-698.
- Frimpong, I., Jin, X., Osei-Kyei, R. and Kukah, A.S. (2023). Public–private partnerships for sustainable infrastructure development in Ghana: a systematic review and recommendations. *Smart and Sustainable Built Environment*, Vol. 12 No. 2, pp.237-257.
- Gelderman, C.J., Semeijn, J. and Bouma, F. (2015). Implementing sustainability in public procurement: The limited role of procurement managers and party-political executives. *Journal of Public Procurement*, Vol. 15 No. 1, pp.66-92.
- Goiria, J. and Bonachea, I. (2022). The role of public procurement in the framework of the 2030 Agenda: the approach of institutions and civil society. *Revista Internacional de Comunicación y Desarrollo*, Vol. 4 No. 16, pp.1-15.
- Grandia, J. and Meehan, J. (2017). Public procurement as a policy tool: using procurement to reach desired outcomes in society. *International Journal of Public Sector Management*, Vol. 30 No. 4, pp.302-309.
- Guarnieri, P. and Gomes, R.C. (2019). Can public procurement be strategic? A future agenda propositions. *Journal of Public Procurement*, Vol. 19 No. 4, pp.295-321.
- Haddadi, T., Mourabit, T., and El Haddadi, A. (2021). Sustainable public procurement in morocco: An investigative survey regarding tender preparation. *Sustainable Production and Consumption*, Vol. 26, pp.33-43.
- Haque, M.N., Saroar, M., Fattah, M.A. and Morshed, S.R. (2020). Public-Private Partnership for achieving sustainable development goals: a case study of Khulna, Bangladesh. *Public Administration and Policy: An Asia-Pacific Journal*, Vol. 23 No. 3, pp.283-298.
- Hope, K.R. (2020). Corruption Reduction as a Target of the Sustainable Development Goals: Applying Indicators and Policy Frameworks", Blaustein, J., Fitz-Gibbon, K., Pino, N.W. and White, R. (Ed.) *The Emerald Handbook of Crime, Justice and Sustainable Development*, Emerald Publishing Limited, Bingley, pp.105-130.
- Israel, B., Kazungu, I., & Mchopa, A. (2019). Centralised medical supplies procurement and health service delivery in Arusha and Kilimanjaro regions Tanzania. *East African Journal of Social and Applied Sciences*, Vol. 1 No. 1, pp.70-79.
- Israel, B., Mchopa, A. D., Mwiseje, S. and Mashene, A. (2019). Ethical procurement practices and performance of public procuring entities in Tanzania: empirical evidences from Moshi district council. *Journal of Co-operative and Business Studies (JCBS)*, Vol. 4 No. pp.39-47.
- Israel, B. (2022). The impact of clients’ procurement challenges on the substance goals of roads construction projects in Songwe, Tanzania. *International Journal of Construction Management*, Vol. 23 No. 12, <https://doi.org/10.1080/15623599.2022.2045861>.
- Israel, B. (2023). Mediating effect of integrated health commodities procurement system on the relationship between responsiveness and health service delivery. *International Journal of Health Governance*, Vol. ahead-of-print No. ahead-of-print. <https://doi.org/10.1108/IJHG-03-2023-0028>.
- Lazaroiu, G., Ionescu, L., Uta, C., Hurloiu, I., Andronie, M., and Dijmarescu, I. (2020). Environmentally Responsible Behavior and Sustainability Policy Adoption in Green Public Procurement. *Sustainability*, Vol. 12 No. 5, pp.

26. Maalouf, M.M., Hasle, P., Vang, J., Hamja, A. (2021). Complementarities between operations and occupational health and safety in garments. *Sustainability*, Vol. 13, pp.1–20.
27. Manu, D.-G., Adjei, T.K., Sackey, D.M., Edwards, D.J. and Hosseini, R.M. (2021). Mainstreaming sustainable development goals in Ghana's energy sector within the framework of public–private partnerships: challenges, opportunities and strategies. *Journal of Engineering, Design and Technology*, Vol. 19 No. 3, pp.605-624.
28. Martin, O., and Methven, C. (2019). Public Procurement and Human Rights. Opportunities, Risk and Dilemmas for the State as Buyer. Corporations, Globalization and the Law series. Edward Elgar Publishing.
29. Moher D, Liberati A, Tetzlaff J, Altman DG, PRISMA G. (2009). Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *Annals of Internal Medicine*, Vol. 154 No. 1, pp.264-269.
30. NCM, (2021). *Sustainable Public Procurement and the Sustainable Development Goals*. Nordic Council of Ministers: Copenhagen, Denmark.
31. Patil, N.A. and Laishram, B.S. (2016). Sustainability of Indian PPP procurement process: Development of strategies for enhancement. *Built Environment Project and Asset Management*, Vol. 6 No. 5, pp.491-507.
32. Terman, J. and Smith, C. (2018). Putting your money where your mouth is: green procurement as a form of sustainability. *Journal of Public Procurement*, Vol. 18 No. 3, pp.202-216.
33. UNEP, (2021). *Sustainable Public Procurement: How to Wake the Sleeping Giant! Introducing the United Nations Environment Program's Approach*. UNESCO: Paris, France.
34. URT, (2013). *The public procurement regulations (As amended in 2016)*. Public Procurement Regulatory Authority: Dar es Salaam, Tanzania.
35. Wadhwa, A., Phelps, C., and Kothac, S. (2016). Corporate venture capital portfolios and firm innovation. *Journal of Business Venturing*, Vol. 31 No. 1, pp.95–112.
36. Wang, C., Qiao, Y. and Li, X. (2020). A systems approach for green public procurement implementation. *Journal of Public Procurement*, Vol. 20 No. 3, pp.287-311.
37. World Bank, (2020). *Procurement report in investment project financing Goods, Works, Non- Consulting and Consulting Services*. Washington, DC: World Bank.