Kurdish Studies
September 2022
Volume: 10, No: 2, pp 548-563
ISSN: 2051-4883 (Print) | ISSN 2051-4891 (Online)
www.KurdishStudies.net

DOI: 10.53555/ks.v10i2.3437

Factors Affecting the Adoption of Sustainable Public Purchasing (SPP) in Egypt Applied on 'Kader Factory' for Advanced Industries

Sherif M. Hamdy[1], Zeinab A. Zaazou[2*], Maisoon Y. fayoumi[3], Jaklin R. Y. Dimian[4], Amr A. Abdalla[5], M. Dorry M. Mousa[6]

[1]Pharaohs-Higher Institute, Egypt Sherifhamdy47@gmail.com
[2*]Modern Sciences and Arts University (MSA), Egypt zabbas@msa.edu.eg
[3]Cairo Higher Institutes – Mokattam m.fayomi@hotmail.com
[4]Cairo Higher Institutes – Mokattamjaklind18@yahoo.com
[5]Chairman of Kader Factory Chairman.Kader@aoi.org.eg
[6]Egyptian Ministry of Electricity Dorry. Mohamed @yahoo.com

Abstract:
The objective of this study is to identify the factors influencing the adoption of sustainable procurement practices in Egypt's public sector. The study specifically aimed to assess the impact of Perceived Cost, Staff Involvement, Top Management Support, and Organizational Culture on the adoption of these practices. A conceptual framework was developed to guide the research. Both qualitative and quantitative approaches were used to gather data. For the qualitative approach, the researchers reviewed relevant literature and conducted exploratory research, including interviews with four managers and one quality assurance professional from an Egyptian public organization (Kader Factory for Advanced Industries). In the quantitative phase, a self-administered questionnaire using a five-point Likert scale was developed and distributed to 292 employees. The data were analyzed using SPSS version 26 and AMOS version 26. Structural Equation Modeling (SEM) was employed to assess the best-fit measurement model and examine causal relationships among the variables.
The findings indicated that Perceived Cost, Staff Involvement, Top Management Support, and Organizational Culture significantly influence the adoption of sustainable procurement practices in the public sector. The study recommended focusing on lifecycle costs despite higher initial expenses, implementing structural and organizational changes to support green procurement, enhancing staff awareness and involvement, and promoting an organizational culture that fosters sustainable practices. Additionally, it emphasized the need for periodic review of existing policies to ensure they remain relevant and up-to-date.

Keywords: Perceived costs, Staff Involvement, Organizational Culture, Top Management Support, Qualitative and Quantitative Approaches.

1. Introduction

Governments, as stewards of public assets, should lead the push for sustainability by promoting tenders that reward environmental and social performance and incentivize green innovation. While sustainable infrastructure may have higher upfront costs, it reduces long-term operational risks and costs, positively impacting the economy and supply chains. Quantifying these benefits could reshape stakeholders' views on sustainable projects. Public procurement is critical for implementing sustainable infrastructure, as it involves the communication between governments and markets to ensure value for money. Governments must design procurement processes that prioritize sustainability, create appropriate legal frameworks, and support innovative leaders.
Governments must create procurement processes that prioritize sustainable resources, develop appropriate legal and regulatory frameworks for effective implementation, and encourage innovation. Without these steps, sustainable infrastructure cannot be realized. Instead of awarding contracts based solely on the lowest price, governments should take an active role in securing deals that deliver the best value for money throughout the asset's lifecycle. (Perera, O., et., al., 2016) Simon Kariri & Samson Nyang'au, (2017) explained that as the socio-economic development level and market conditions evolve, companies have shifted their competitive strategies from focusing on quality, service, and brand to emphasizing environmental sustainability. International "green trade barriers" pose a threat to product exports, impacting business competitiveness globally. Additionally, consumers are increasingly drawn to eco-friendly products due to the exposure of unethical practices in the consumer goods sector. To address various competitive pressures, companies must adopt green transformations across their entire supply chain—from sourcing raw materials to product delivery. This involves reducing raw material use and waste, and focusing on recovery, collection, reuse, recycling, and reprocessing of old products and packaging. Green purchasing is the cornerstone of this transformation, driving the shift towards sustainability.

Egypt's Latest Sustainable Development Strategies

As stated by the British Egyptian Business Association (BEBA) (2022), Egypt is focused on national improvement through green financing, healthcare, and infrastructure, partnering with global businesses for sustainable development. With COP27 on the horizon, renewable energy and green spending are key aspects. The Environment Sustainability Criteria aims to increase government investment in green projects from 15% to 50% by 2025. The Sovereign Fund of Egypt fosters public/private partnerships as part of the One Planet Initiative. As urbanization increases, transportation is crucial. A $4.5 billion contract for a Cairo monorail system highlights efforts to reduce congestion and pollution.

The Egyptian government increased green investments from 15% in 2020/2021 to 30% in 2021/2022, targeting 50% by 2024/2025. With COP27 in Sharm El-Sheikh, climate change and green investments are key priorities. Over the past eight years, Egypt has reformed its sectors to meet international standards, focusing on economic, financial, and trade policies. Reforms include expanding healthcare through the Universal Health Insurance Law, restructuring the pharmaceutical industry, and improving mobility with projects like monorails. The real estate sector is advancing with sustainable practices, and digitization is a priority with new smart cities and upgraded ICT infrastructure. Data protection and cybersecurity laws have also been strengthened. (Ragy Soliman & Partners, 2022)

To identify the factors influencing the adoption of sustainable procurement in Egypt's public sector, the authors reviewed prior studies and conducted exploratory research. They also applied a quantitative method, creating a self-administered questionnaire for data collection. The data was analyzed using SPSS and AMOS software. Additionally, the study employed Structural Equation Modeling (SEM) to establish the best-fitting measurement model for the data and to assess the causal relationships between the variables.

The Research Gap:

Research on sustainable procurement in the public sector is limited, especially concerning the challenges and barriers to its implementation. Studies by Adjei, A. B. (2010) focused on sustainable public procurement (SPP) as a new approach to good governance. Another study by Valovirta, V., & Pihlajamaa, M. (2022) discussed the key dimensions known as pillars of SPP: environmental, social, and economic factors. A study by Ali Al Shehail, O., Khan, M., & Ajmal, M. (2022) investigated the structural relationships between total quality management (TQM), service innovation and sustainability performance in the public service sector. This study aims to explore the factors influencing the adoption of sustainable procurement practices in the Egyptian public sector. The researchers aim in this paper to determine how perceived costs, staff involvement, influence of top management, and organizational culture impact the implementation of sustainable procurement practices in the Egyptian public sector.

The Research Objectives:

1. To determine how perceived costs impact the sustainable procurement adoption in the Egyptian public sector.
2. To identify the role of staff involvement in promoting sustainable procurement adoption in the Egyptian public sector.
3. To evaluate the influence of top management on sustainable procurement adoption in Egyptian public sector.
4. To explore how organizational culture affects the sustainable procurement adoption in the Egyptian public sector.

2. Literature Review and Hypotheses Development

2.1 Green Public Procurement

As stated by He, X., (2022) public sector organizations are recognized for their responsibility and potential to promote sustainable development due to their dual role as both service providers and regulators, especially given the pressing global environmental and social challenges. Organizational sustainability positively influences stakeholder satisfaction by enhancing perceived organizational support and societal impact.

Public procurement is the process where public authorities, like government departments or local authorities, buy goods, services, or works from economic operators. Green Public Procurement (GPP) is described by the European Commission as a process where public authorities aim to purchase goods, services, and works that have a lower environmental impact throughout their lifecycle compared to alternatives serving the same function. Circular procurement refers to the process through which public authorities procure works, goods, or services that aim to promote closed energy and material loops within supply chains. The goal is to minimize, and ideally avoid, negative environmental impacts and waste creation throughout their entire life cycle. (Government of Ireland, Office of Government Procurement, 2022)،

Green procurement includes sustainability as an additional factor in purchasing decisions, alongside traditional criteria like cost, quality, and delivery (Lambert and Cooper, 2000). The goal of green procurement is to ensure that purchased products or materials align with environmental objectives, such as minimizing resource waste, encouraging recycling and reuse, reducing source material, and substituting materials. (Adham, K. N., & Siwar, C., 2017).

2.2 SPP Sustainable Public Purchasing

According to the United Nations Environment Programme, sustainable public procurement is utilized globally as a policy tool to support initiatives and policies related to "poverty eradication, wealth creation, stimulation of local economies and employment, promotion of labor rights, national sustainable development strategies, and the innovation and development of environmental technologies. (Torres-Pruñonosa, J., et., al., 2021)

Since the United Nations adopted the Sustainable Development Goals in 2015, interest in Sustainable Public Procurement (SPP) has grown among member countries. This is because SPP supports Goal 12 (Responsible Consumption and Production) and Target 12.7 (Promote sustainable public procurement practices aligned with national policies and priorities). Despite strong support and potential benefits of SPP, academic research has mainly concentrated on its implementation and outcomes rather than its adoption.

Behravesh, S. A., et., al., (2022) confirmed in their study that Sustainable Public Procurement (SPP) incorporates environmental and social responsibility into the purchasing practices of government agencies or public sector organizations. This can be done formally through SPP policies like ordinances, executive orders, resolutions, and administrative directives, or informally by including SPP in related policies or plans. For example, some governments are integrating sustainable purchasing requirements into their current sustainability or energy conservation plans.
Sustainable public procurement involves allocating public funds to products, services, and projects that promote sustainable development. As sustainability issues become increasingly critical in national development agendas, it is essential to shift the focus of public procurement systems from primarily seeking immediate economic benefits to adopting Sustainable Public Procurement systems. This transition can yield long-term advantages not only for governments but also for all their constituents. (Mutangili, S. K. (2021).

Ali Al Shehail, O., et., al., (2022) argued that appropriate response strategies are highly important for addressing economic, social, and environmental responsibilities in sustainability. Many organizations, including those in the public sector, face challenges such as rising carbon emissions, waste, pollution, water scarcity, and human rights concerns, which threaten their long-term sustainability. It suggests that adopting Total Quality Management (TQM) and green practices is crucial for improving public service delivery and sustainability. However, there is a gap in empirical evidence within existing literature, indicating a need for further research to explore the connections between TQM, service innovation, and sustainability.

The public sector can leverage its considerable purchasing power to guide markets toward sustainability. By integrating procurement budgets with regulatory authority, governments can prioritize buying environmentally friendly products. For example, the Federal Buy Clean Initiative in the United States commits to sourcing low-carbon construction materials like steel, concrete, asphalt, and glass. This initiative is supported by grants and technical assistance to help federal agencies meet these procurement goals. (Valovirta, V., & Pihlajamaa, M., 2022).

2.3 The Three Pillars of SPP

As stated by Jesús, G. A., et., al., (2022) sustainable development is framed along three key dimensions, known as the Triple Helix: environmental, economic, and social (Elkington 2004). The Triple Helix suggests that at the intersection of these three areas, businesses and supply chains can adopt strategies that benefit not only the environment and society but also generate economic gains and competitive advantages. As a result, the integration of these three sustainability pillars is essential, with none being overlooked or disregarded.
Sustainable public procurement is a strategic method aimed at incorporating the key elements of sustainable development: economic growth, social progress, environmental conservation, and strong institutional governance. While often linked to public policy, this spending and investment approach is also relevant in the private sector and requires extensive cooperation and involvement from all stakeholders within the supply chain. (ASIAN DEVELOPMENT BANK, 2021)
Andhov, M., et., al., (2020) defined 'Sustainable Public Procurement' (SPP) as a process where public authorities aim to balance the three pillars of sustainable development—economic, social, and environmental—when acquiring goods, services, or works throughout a project's lifecycle. They mentioned that these three dimensions were first highlighted in the 1987 Brundtland Report and form the foundation of the 2030 Agenda and its 17 Sustainable Development Goals (SDGs). SPP has also been identified as a key target within SDG 12, which focuses on promoting sustainable consumption and production practices.
Sustainable Public Procurement (SPP) involves three main pillars: environmental, social, and economic.

- **Environmental:** Focuses on eco-friendly products to minimize harm during production, use, and disposal. Emphasizes energy efficiency and renewable resources.
- **Social:** Aims to enhance social well-being by improving labor conditions, ensuring accessibility, creating jobs for marginalized groups, combating child labor, and supporting Fair Trade.
- **Economic:** Considers not only initial costs but also long-term expenses like maintenance and disposal. Aims to provide economic benefits to both the production and sales communities. (Adjei, A. B., 2010).

Lozano R, et., al., (2022) explained that however, Sustainable Public Procurement (SPP) initiatives are often highly complex, largely due to the numerous factors that must be considered when integrating sustainability into procurement processes. These include various sustainability dimensions, such as economic, environmental, social, and temporal aspects. The implementation of Sustainable Public Procurement (SPP) has been approached through various disciplinary perspectives, including legal, managerial, and technical frameworks. The managerial approach to SPP focuses on practical and research efforts grounded in organizational change management (OCM). (Testa F, et., al., 2016) assured that organizational change management (OCM) has played a significant role in understanding and applying sustainability across different settings, such as public organizations. (Domingues AR, et., al., 2017) Several key areas have been explored regarding OCM for sustainability in public organizations, including the circular economy (Klein N, et., al., 2022) sustainability reporting, and SPP (Cheng W, et., al., 2018)

2.4 Underpinned Theory: The Institutional Theory:

The theoretical foundation of this paper is institutional theory, which builds on the work of Max Weber and Emile Durkheim, who were among the first to explore how this theory helps shape organizational actions and structures. Weber approached social action from an interpretive perspective, emphasizing how individuals use subjective interpretations to understand institutions. Durkheim, on the other hand, viewed institutions as systems of knowledge and behavior, shaped by human interactions, where both the institution itself and external factors play equally significant roles in the lives of workers. (Oyebanjo, O., & Tengeh, R. K., 2020)

Oyebanjo, O., & Tengeh, R. K. (2020) elaborated the concept of Institutional theory saying that it is widely recognized for its broad practical applications across various academic disciplines, offers a theoretical framework that aids researchers in understanding and identifying the influences that reinforce the persistence and legitimacy of organizational practices within specific contexts.

Institutional theory traditionally focuses on how groups and organizations enhance their legitimacy and secure their positions by conforming to the rules and norms of their institutional environment. This includes regulatory frameworks, governmental agencies, laws, courts, professions, and various societal and cultural practices that impose conformity pressures. According to institutional theory, external social, political, and economic pressures shape firms' strategies and organizational decision-making as they strive to adopt legitimate practices or legitimize their actions in the eyes of stakeholders.

Caruana, J., & Vassallo, K. (2022) revealed in their study that institutional theory examines organizational structures and seeks to understand why organizations with similar traits operate within the same organizational field. Organizations adjust to fit into their field, as this enhances their legitimacy, access to resources, and ability to endure. By conforming to societal norms and values, such as addressing environmental concerns, organizations strengthen their relationships with stakeholders, driving them to pursue and maintain legitimacy. In order to achieve this legitimacy, organizations deliberately align their actions with environmental expectations. Institutional theory offers a valuable perspective for examining the challenges in implementing procurement practices, as it emphasizes the tension between attaining legitimacy and achieving efficiency.

To conclude, institutional pressures establish expectations that organizations respond to by identifying the legitimate actions required by these pressures (Grob & Benn, 2014). Once certain institutional logics become dominant, they influence the decision-making processes within organizations. These prevailing logics encourage organizational leaders to concentrate on the most relevant issues and solutions related to the dominant logic. Consequently, it is crucial for executives to understand the significant institutional pressures in their organizational context and to translate these pressures into meaningful compliance to achieve legitimacy. (Thornton, P. H., 2004).

2.5 Factors influencing the adoption of Sustainable Public Purchasing (SPP):

2.5.1 The Perceived Costs

Hinrichs, S., & Wettlin, J. (2019) interpreted in their confirmed that financial incentives are a key reason for SMEs to adopt sustainable procurement practices. Cost efficiencies and financial benefits are identified as motivating factors, also noting their role in proactively avoiding consumer boycotts and negative media coverage. Environmental initiatives often entail costs. Researchers have identified financial constraints as the main challenge in adopting sustainable procurement, with fears of increased expenses being a major barrier to considering environmental factors. Therefore, financial viability and cost-effectiveness are crucial for promoting eco-friendly procurement practices.

The cost of purchasing environmentally friendly products and services is frequently greater than that of conventional options (for example, LED bulbs compared to standard ones). This situation raises significant concerns for procurement officers, particularly at the local level where most purchasing occurs, due to stricter budget limitations and a greater reluctance to burden taxpayers. Additionally, another factor contributing to the higher costs associated with sustainable public procurement (SPP) is the perception that it diminishes the number of competing bidders, which can further drive up the purchase price. (Chiappinelli, O., et., al., 2018)

As elaborated by Adjei, A. B. (2010) budget holders may initially show resistance to sustainable procurement practices because they often have established relationships with suppliers or contractors who may not meet sustainability criteria. They might also be hesitant, believing that sustainable products will provide less value for their investment, as these items can be more costly in the short run. To address this resistance, significant effort should be devoted to educating budget holders about the advantages of sustainable public procurement (SPP) to gain their support.

A well-known research study by Walker and Brammer (2009) examines the obstacles to sustainable procurement within the UK public sector, utilizing a survey with open-ended questions.

The study identified perceptions of financial viability as the most significant barrier. Respondents noted that high costs were a major impediment to sustainable procurement, making it the most frequently mentioned obstacle. Additionally, a lack of awareness was the second most commonly identified issue, followed by a perceived lack of resources, which was seen as a further hindrance to implementing sustainable procurement practices. (SOHLSTRÖM, E., 2016).

Adham, K. N., & Siwar, C. (2017) clarified that the costs and anticipated business benefits significantly influence green purchasing. Benefits such as cost savings, marketing opportunities, and financial returns from green products can drive these initiatives. Hence, the researchers developed the first hypothesis as following:

H1: There is a significant statistical relationship between perceived costs and sustainable procurement adoption in the Egyptian public sector.

2.5.2 Staff/Employee Involvement

One of the key factors for the successful implementation of continuous improvement is the active involvement and participation of everyone within a company and across the supply chain. This principle could also be crucial for advancing sustainability, as it requires a shift in mindset and a cultural transformation. While management's role in designing and monitoring continuous improvement programs is vital, the participation of middle management and especially employees is equally important, since many improvement actions are executed at these levels. (García-Arca, J., et., al., 2022)

Wanjiku, F. N., et., al., (2020) illustrated that lack of staff involvement in decision making, limited information, and insufficient training, hinder the adoption of sustainable procurement practices. It is noted that without proper sustainability training, procurers lose motivation, which negatively impacts the achievement of sustainable goals. Additionally, a shortage of managers capable of overseeing procurement processes while also grasping the technical aspects of sustainability.

Employee integration involves embedding employees within the organization's overall strategy. This is vital for product stewardship strategies in the supply chain, which address the entire lifecycle of a product, from design to customer return. Employees need to be well-aligned with environmental strategies that cross organizational boundaries, achieved through team meetings and collaborative efforts across functions. (Graham, S., et., al., 2022)

Grandia, J., & Voncken, D. (2019) revealed that the greater the ability to control their own resources, the more willing individuals were to adopt sustainable procurement practices. Affective commitment to change also enhances the implementation of sustainable public procurement (SPP). When public procurers personally identify with SPP and align it with their own values and vision, its implementation increases. The more motivated individuals are to engage in sustainable procurement, the more likely they are to follow through, ultimately improving performance in sustainable procurement. The extent to which staff awareness of sustainable development initiatives, along with their managerial roles, gender, and age, affects the adoption of sustainable public procurement needs to be assessed. Employee engagement, which is a crucial aspect of stakeholder integration, includes three key elements of Green Human Resource Management (GHRM): employee involvement, employee integration, and top management support. Employee involvement refers to ensuring that employees have the necessary information and training to make informed decisions and apply their skills effectively while being recognized and rewarded for their efforts. (Adedamola, A., & Kingsley, E. C., 2011) To contribute empirically to the findings of previous studies, researchers developed the second hypothesis:

H2: There is a significant statistical relationship between employees' involvement and sustainable procurement adoption in the Egyptian public sector

2.5.3 Top Management Support

Lee, J., & Joo, H. (2020) explained that top management is considered the primary decision-maker and the most influential entity within a firm. As a result, the attitudes and level of support from top executives greatly affect the participation and attitudes of both organizational members and partners in adopting practices, management activities, and systems. Incentives and organizational pressures include influences from top management and customers, as well as the necessity to adhere to regulations. Suppliers, customers, and community stakeholders can motivate organizations to adopt eco-friendly practices. Leadership and support from senior management are crucial for advancing sustainable procurement. Management can influence this by establishing organizational policies that promote socially responsible behavior, fostering a positive corporate culture, and encouraging good corporate citizenship. (Carter, C.R. and Jennings, M.M. (2000)

Men, F., et., al., (2022) mentioned that the top executives of a corporation are crucial to its success or failure. Senior management plays a key role in supporting Green Supply Chain Management (SCM), environmental sustainability, and community-based sustainable development goals (SDGs). Research into the role of senior management in supply chain management is still in its early stages. Cloud computing has been shown to improve supply chain coordination, and the visibility it provides positively impacts supply chain performance, which, in turn, influences business sustainability. Among the soft factors affecting the effective adoption of green SCM, the commitment of senior management is the most significant. Top Management Support was measured in the third hypothesis of this study.

H3: There is a significant statistical relationship between Top Management Support and sustainable procurement adoption in the public sector

2.5.4 Organizational Culture

Cooper, M. (2022) explicated organizational culture saying it represents the collective mindset that differentiates one organization from another, influencing how employees view their roles, interact with colleagues, and tackle external challenges. Conversely, procurement practices involve the strategic and operational activities related to acquiring goods and services necessary for organizational functioning. Effective procurement management is vital for optimizing supply chain efficiency, reducing costs, managing risks, and improving overall organizational performance.

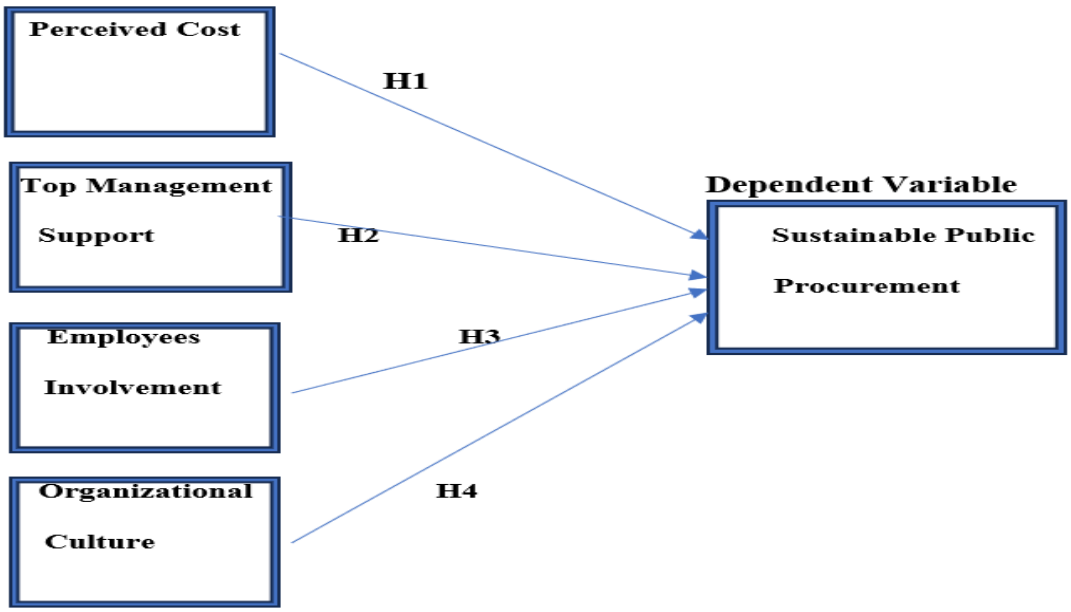
Organizational culture is defined as a set of "values, beliefs, and key assumptions shared by members of an organization." In organizations, this culture has a strong impact on employees' behavior. The focus on harmony and group cohesion helps create a collaborative, team-oriented atmosphere. (Chen, Y., Yin, X., & Lyu, C., 2022). As corporations shift from a traditional profit-driven focus to a sustainability-oriented approach, it can be expected that such firms will exhibit distinct cultural attributes. The link between organizational culture and sustainability is best understood through the specific organizational elements that define and connect both areas. (Anderson, C., et., al., 2018)

The culture of an organization, whether in the public or private sector, shapes its procurement practices and procedures. The United Nations defines public procurement as "the overall process of acquiring goods, civil works, and services." This process encompasses all functions, from identifying needs to selecting and soliciting suppliers, preparing and awarding contracts, and managing all phases of contract administration until the conclusion of a service contract or the end of an asset's lifecycle. Organizational culture and procurement practices are crucial factors that significantly impact the operational dynamics and strategic outcomes of modern businesses across various sectors. The relationship between organizational culture and procurement processes has gained increasing attention in both academic research and practical business contexts due to its substantial effects on organizational effectiveness, competitiveness, and sustainability. (Gyamfi, K., et., al., 2021)

Based upon the previous literature findings, the researchers developed the fourth hypothesis as following:
H4: There is a significant statistical relationship between Organizational Culture and sustainable procurement adoption in the public sector

3. The Research Conceptual Framework:

Figure 1:
Independent Variables



4. The Exploratory Research

The authors of this study carried out exploratory research to uncover fresh and interesting insights by exploring a research topic and understanding the perspectives of small business owners regarding the Egyptian government's financial and non-financial support for SMEs. The interviews aim to capture participants' viewpoints, revealing the significance of their experiences before they are scientifically interpreted. Semi-structured interviews are employed to gather insights from individuals with relevant experience and knowledge on the subject. Researchers use these interviews to obtain new data, verify other sources, or validate findings through participant feedback.

4.1 Interview Procedures

The researchers considered several factors before conducting the interviews, including voluntary participation, informed consent, anonymity, confidentiality, and permission to record. To accommodate participants with limited time, they provided a summary of the study's key points. Additionally, they shared background information on the topic, as well as the purpose and significance of their research. The researchers employed a semi-structured interview format to enable comparisons across participants. The analysis process involved coding, where words or phrases were assigned to identify the themes or topics each quote or sentence referred to. By linking these quotes to specific codes, they were able to build a cohesive understanding of the participants' views on the core topic. Following the coding process, the researchers entered the interpretation phase,

where they analyzed the data connected to each code to derive meaningful insights. The following table presents the name and occupation of the five participants; in addition to the interview questions and interviewees' answers.

4.2 Participants Characteristics

Researchers conducted the interview with four participants (3 males & 1 female) all working in 'Kader Factory for Advanced industries. Dr. Tarek Mohamed Refaat, who is a general manager of specialized assembly line in Kader Factory; Eng. Dina Aly Khalil working as a quality assurance engineer in 'Kader Factory'; Mr. Mohamed Mostafa Hassan Salama an administrative Director in 'Kader Factory'; and finally, Mr. Mohamed Abd El Malek Mahmoud Ghaly who is Head of the marketing division in 'Kader Factory'. Their ages ranged between 40 and 55 years old.

Figure (1):

4.3 Interview Questions

Interview Questions
Q1: What is the evidence that your organization complies with procurement environmental standards?
Q2: Do you believe that adopting an environmentally sensitive public procurement strategy is a challenge due to cultural and awareness aspects?
Q3: Does integrating public procurement budgets with regulations and laws prioritize the purchase of environmentally friendly products?
Q4: Financial constraints are the biggest obstacle to the implementation of an environmentally compliant public procurement strategy." What do you think of this quote?
Q5: Do you have in your factory policies for observing environmental procurement standards?
Q6: Are your employees well trained and prepared to make informed decisions and apply environmental standards effectively?
Q7: To what extent do employees participate in the decision-making process?
Q8: How do leaders in your organization encourage innovation and alignment with public procurement environmental standards?
Q9: Do you think that an organizational culture that encourages the adoption of environmental standards for public procurement gives it a competitive advantage in local and international markets?
Q10: In your opinion, do forecasted sustainable procurement commercial benefits and financial rewards generate incentives to comply to procurement environmental standards?

4.4 Participants' Answers

When researchers asked the participants about the evidence that their factory is following the international environmental procurement standards, all of them confirmed that Kader Factory is keen about attaining environmental and economic stability by complying to the procurement environmental standards, a proof of that obtaining the certificate of the international standard "ISO 14001", which is the world's most famous standard for environmental management system.

Then the researchers approached the participants with a question regarding the cultural and awareness challenges and its impact on applying environmental procurement international standards; they mentioned that it is indeed a challenge due to resistance to change, low environmental awareness, few cultural beliefs, and average government support, but the employees and workers are well informed about the importance of meeting the requirements for all production inputs and receive periodic training sessions to reinforce this knowledge. They also agreed that this is normal for all developing countries.

Afterwards, the researchers asked participants if integrating public procurement budgets with regulations and laws is prioritizing the purchase of environmentally friendly products, all participants agreed that integrating the public procurement budget with regulations and regulations that encourage the adoption of environmental standards can be a very effective step towards promoting sustainability and prioritizing environmentally friendly products. Two interviewees commented that there are few considerations, such as: high initial cost, administrative complexity, legal and regulatory challenges, investments in training and development. All these aspects are considered main challenges facing the integration public procurement budgets with regulations and laws.

The researchers asked the interviewees about the following quote: 'Financial constraints are the biggest obstacle to the implementation of an environmentally compliant public procurement strategy'. Three of the participants assured that budget constraints imposed on officials, can be disincentive factors for the adoption of environmentally compliant public procurement. One participant believed that this quote holds part of the truth, but it may oversimplify the challenges. While cost is one of the most important factors hindering the adoption of these strategies, there are other factors worth considering. For example: High initial cost & long-term cost. Also, lack of awareness, reallocating resources and lack of government support.

When the researchers asked the participants if their factory has policies for observing environmental procurement standards; all of them confirmed that 'Kader factory' complies to international environmental policies and local policies as well, such as the Environmental Protection Law No. 4 of 1994 and its amendments; The National Plan for Sustainable Development "Egypt Vision" 2030; Public Procurement Law No. 182 of 2018 and its executive regulations; also the Renewable Energy and Energy Efficiency Policies.

Then the researchers inquired about the employees and workers training and environmental preparation for making informed decisions and apply environmental standards effectively; all participants said that employees and workers in 'Kader Factory' are offered awareness programs and training sessions to be able to adhere to environmental standards and how to integrate

these standards into their daily work and encourage them to participate in taking decisions related to environmental performance.

The researchers approached interviewees with a question regarding their participation in decision making process in the factory; two interviewees answered saying that employees and workers participate in different decision-making processes and they have at least one representative member in all decision-making committees in the factory. The other two believed that employees' participation in decision making is not fully applied in all cases as some decisions need well informed and trained individuals.

When the researchers asked the participants how do managers in their factory encourage employees to adopt environmental quality standards; all confirmed that senior managers in the factory are promoting innovation and alignment with environmental standards for public procurement by setting a clear vision, encouraging a culture of innovation, providing incentives, empowering workers, and supporting collaboration with suppliers and stakeholders.

Then, the researchers tackled the organizational culture topic and asked if it affects employees and workers adoption of international procurement standards; all believed that the great experience of environmentally friendly purchases of the working staff, the factory gained a distinguished reputation in the local & international markets. The growing exports contracts are a sound proof of that. Although, two of the interviewees also believed that this is the main challenge for their factory. They said, they are on the right path, but still struggling to reach and fulfill all international procurement standards due to the old imbedded cultures and due to limited education and awareness of environmental aspects.

Finally, the researchers asked the participants if forecasted sustainable procurement commercial benefits and financial rewards generate employees' incentives and encourage them to comply to procurement international standards; three of them answered saying it does generate employees' loyalty and boosts their morale, it will stimulate innovation and creativity, attract investors and contractors. Additionally, improving the organization's market value and strengthening the relationship with all stakeholders. One of them believed that commercial benefits will happen when applying sustainable procurement strategies as this can lead to significant financial savings and environmental and social gains, when looking at the cost of life of the entire product many elements seem expensive at first, but the benefits of savings appear later.

4.5 Participants' Answers Findings

Noticed that **All** participants agreed on most of the interview focal core points, such as: the factory's compliance to the procurement international environmental standards, the positive impact of integrating public procurement budgets with regulations and laws on SPP, the existence of factory policies for observing environmental procurement standards, organizational culture & top managers' support that encourages SPP, employees training sessions, finally, the impact of forecasted sustainable procurement commercial benefits and financial rewards generate incentives on employees adherence to procurement environmental standards. Although, **not all** of them agreed on other main important aspects of the interview questions, such as: the organizational culture as many of the participants believed that the organizational culture that fosters full implementation of sustainable public procurement, is still stepping baby-foot steps due to the modest staff awareness regarding the importance of SPP and lack of information. Another aspect, that participants disagreed upon, which is employees' participation in SPP decisions. 50% of the interviewees believed there is a full staff participation in SPP decision making and the other 50% believed that employees' lack of experience, information and training is considered an obstacle facing the implementation of this aspect. Another issue related to the commercial benefits and rewards that will happen when applying sustainable procurement strategies. All agreed that this aspect is highly important, one participant believed that although this is true, but it will not happen right-a-way and the staff and the whole administration will not reap the fruits and benefits of the commercial benefits and rewards until later on as the benefits of savings appear later. As for the financial constraints, the majority od participants (75%) belied that budget limitations faced by officials can discourage the adoption of environmentally compliant public procurement. One participant acknowledged that while this statement contains some truth, it may oversimplify the issues at hand. Although cost is a significant barrier to implementing these strategies, other factors should also be taken into account. These include high initial costs, long-term expenses, insufficient awareness, resource reallocation, and a lack of government support.

5. Methodology

5.1 Research Population and Sample

The research population consists of all employees in the KADER factory, (1800) individuals during the year 2024. Based on in the light of that the degree of confidence required of (95%) which is a common level in administration science research, and standard error limits (±5%), and the availability of the phenomenon in 50% of the population, so the sample size which representing the research population is equal to (317) unit[1]. A total of 292 employees completed the questionnaire representing a 92% response rate.

The sample size [2] is adequate to meet the minimum sample size required by Structural Equation Modelling (SEM). This study conducted a survey using an online questionnaire and survey form. Five points Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) was used.

This link has been used to determine the sample size:

[2] https://www.calculator.net/sample-size-calculator.htm

5.2 Research Variables and Its Measures

The current research relied on the survey as a tool for collecting the necessary data for this research. The researcher designed the survey list in light of the research hypotheses and objectives, in order to measure the dimensions of the research variables.

Table 1: Scale Items
Sustainable Public Procurement **Researchers self-administered statements:** Sustainable Public Procurement leads to a lower environmental negative impact. My country's interest in Sustainable Public Procurement (SPP) has grown since 2015 to align with SDGs goals. Despite the strong support by my government to Sustainable Public Procurement (SPP), still it didn't fully adopt it. The adoption of Sustainable Public Procurement (SPP) is challenging due to cultural and awareness aspects. By integrating procurement budgets with regulatory authority, governments can prioritize buying environmentally friendly products. The government has to take into consideration social & economic aspects, such as creating jobs and providing economic benefits to be able to successfully implement Sustainable Public Procurement (SPP) policies & strategies Effective procurement management is vital for optimizing supply chain efficiency, reducing costs, managing risks, and improving overall organizational performance.
Perceived Costs Adopted from Simon Kariri & Dr. Samson Nyang'au, Factors Influencing Adoption of Sustainable Procurement Practices in Manufacturing Sector in Kenya: A Case Study of Popular Nutri Foods Kenya Limited (PNFKL), International Journal of Social Science and Humanities Research, Vol. 5, Issue 4, pp: (169-175), October - December 2017, Available at: www.researchpublish.com Financial constraints are the biggest obstacle to implement sustainable procurement in my organization. Procurement cost and expected business benefits affect the implementation of sustainable purchasing in my company. Expected business benefits in the forms of cost savings, marketing opportunities and financial returns from the sale of sustainable products can be a catalyst for sustainable initiatives. Business organizations will only participate in applying Sustainable Public Procurement if they are able to see its potential in enhancing the business benefits of General Growth Properties (GGP). Cost efficiencies and financial benefits are identified as motivating factors for SPP adoption.
Staff Involvement Adopted from: Charles, J., Francis, F., & Zirra, C. T. O. P. (2021). Effect of Employee Involvement in Decision Making and Organization Productivity. Archives of Business Research (ABR), 9(3), 28-34. Zappalà, S., Radassao, L., & Toscano, F. (2023). Greening Organizations: The Relationship between Employee Environmental Concern, Perception of Advantages of Eco-Innovations, and Support for Innovation. Sustainability, 15(24), 16718. The extent to which staff awareness of sustainable development initiatives affects the adoption of Sustainable Public Procurement. Employees in my organization have the necessary information and training to make informed decisions and apply Sustainable Public Procurement effectively. Employees in my organization are well-aligned with environmental strategies that cross organizational boundaries. Employees in my organization are included in decisions making through team meetings and collaborative efforts across functions. Employees in my organization apply their skills effectively while being recognized and rewarded for their efforts.
Top Management Support Adopted from: ObiriMachuki, R., Okelo, S., & Nyamita, M. O. (2021). The Effects of Top Management in Adoption of SustainableProcurement Practices in Kenya. The International Journal of Business & Management, 9(4). Top-management commitment to sustainable environmental principles influence firms' sustainable public purchasing positively and significantly. Top-management commitment to sustainable environmental principles affects their relations with suppliers positively. In my organization, leaders foster innovation and sustainable public procurement. leaders in my organization cultivate a culture of collaboration and continuous improvement, encouraging procurement teams to innovate and adopt best practices in supplier relationship management. I believe our senior managers focus on cost reduction and operational efficiency.
Organizational Culture Adopted from: Cooper, M. (2024). The Influence of Organizational Culture on Procurement Practices: A Multi-industry Perspective. Organizational culture significantly affects the degree of sustainable procurement practices.

Organizational culture that encourages sustainable public procurement develops business competitive advantage in the local & international markets.
My organization embeds the Sustainable Public Procurement practices within its culture.
My organization values emotional intelligence that promotes interpersonal skills fosters the Sustainable Public Purchase practices.
Organizational culture is essential in determining how procurement strategies are developed, executed, and adjusted over time.

Data from the questionnaires were analyzed using the Statistical Package for Social Sciences (SPSS) version 26 and the Analysis of Moment Structures (AMOS) version 26. This study used the SEM analysis to determine the measurement model that best fit data at hand and structural model to test the causal relationship among the constructs. Where SEM allows researchers to support the theories that have been developed as well as to choose the best model by extending the standard multivariate analysis methods including regression, factor analysis, correlation and analysis of variance.

5.3 Confirmatory Factor Analysis

Confirmatory Factor Analysis (CFA) was performed to assess the validity and reliability of the measurement model, and to examine the problem of multicollinearity before modelling the structural model. Literatures suggest that the convergent validity is achieved if the factor loading is 0.5 or higher for newly developed scale items and 0.6 or higher for established scale items; Cronbach's Alpha value is 0.7 or higher; Construct Reliability (CR) is above 0.6 and Average Variance Extracted (AVE) is above 0.5; and the problem of multicollinearity exists if the correlation between construct is higher than 0.85. And to examine the discriminant validity, we used the Heterotrait–Monotrait (HTMT) ratio of correlations and the Fornell–Larcker criterion, both of which were below the strict cutoff of 0.85, as seen in Table 4. Figure 1 shows the standardized estimate of factor loadings, correlation between constructs.

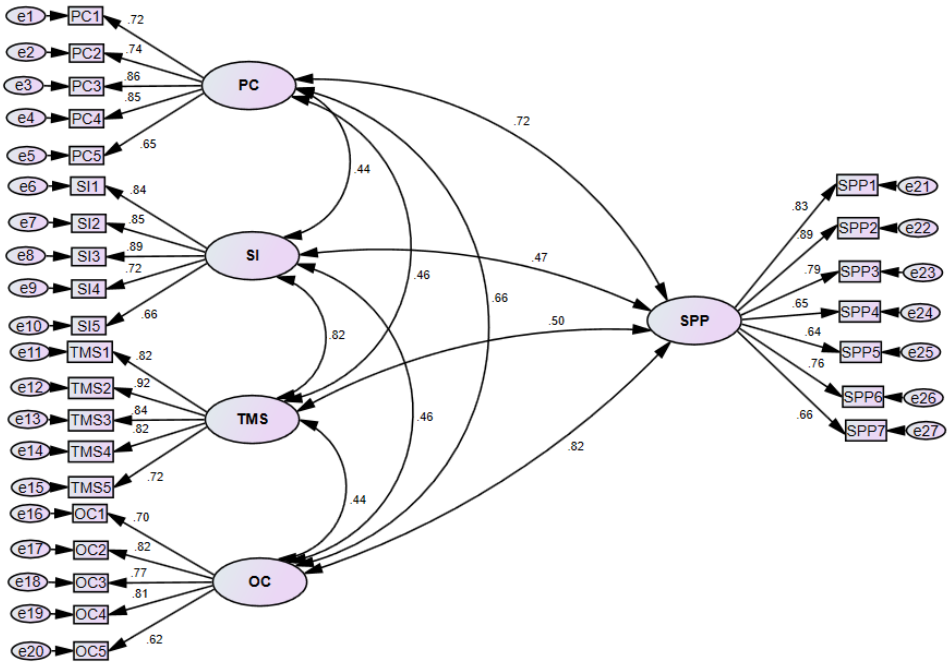
Factor loadings are recorded between 0.62 and 0.92 (Thereby, the scales' convergent validity is verified), as seen in Table 3 presents the results of validity and reliability of the measurement model.

Table 3. Measurement Model

Scale Variables and Items	Factor Loading	alpha	CR	AVE
Perceived Costs (PC)		0.886	0.911	0.671
PC1	0.718			
PC2	0.737			
PC3	0.857			
PC4	0.847			
PC5	0.647			
Staff Involvement (SI)		0.864	0.857	0.545
SI1	0.840			
SI2	0.849			
SI3	0.891			
SI4	0.724			
SI5	0.662			
Top Management Support (TMS)		0.821	0.861	0.553
TMS1	0.824			
TMS2	0.917			
TMS3	0.836			
TMS4	0.820			
TMS5	0.722			
Organizational Culture (OC)		0.862	0.899	0.641
OC1	0.702			
OC2	0.818			
OC3	0.771			
OC4	0.806			
OC5	0.622			
Sustainable Public Procurement (SPP)		0.903	0.920	0.623
SPP1	0.831			
SPP2	0.893			
SPP3	0.792			
SPP4	0.649			
SPP5	0.643			
SPP6	0.762			
SPP7	0.658			

Table 4. Scales' Discriminant Validity Measures										
	Fornell-Larcker					HTMT				
	OC	**PC**	**SI**	**SPP**	**TMS**	**OC**	**PC**	**SI**	**SPP**	**TMS**
1. OC	**0.800**									
2. PC	0.609	**0.819**				0.695				
3. SI	0.589	0.658	**0.738**			0.644	0.688			
4. SPP	0.783	0.774	0.694	**0.789**		0.833	0.842	0.719		
5. TMS	0.636	0.594	0.739	0.667	**0.744**	0.692	0.649	0.835	0.730	

Figure 2: Measurement model (standardized estimate)



In evaluating the fitness of the model, this study uses Chi square ($\chi 2$); Root Mean Square of Error Approximation (RMSEA); Comparative Fit Index (CFI); Tucker-Lewis Index (TFI) and Chi Square/Degrees of Freedom (Chisq/df). Table 5 reports the fitness index for the measurement model examined in this study.

Table 5. fitness index for the measurement model				
Category	**Name of Index**	**Suggested Index Value**	**Index Value**	**Remark**
Absolute fit	$\chi 2$	**>0.05**	1289.61	The required level is achieved
	RMSEA	**<0.08**	0.068	The required level is achieved
Incremental fit	CFI	**>0.90**	0.936	The required level is achieved
	TLI	**>0.90**	0.929	The required level is achieved
Parsimonious fit	Chisq/df	**<5.00**	4.306	The required level is achieved

CFA result shows that the measurement model is acceptable and fits the data since validity and reliability of the measurement model exceed the required level and the problem of multicollinearity does not exist as the correlation between constructs is lower than 0.85.

5.4 Results & Discussion

To test our hypotheses, we examined the hypothesized models using structural equation modeling. As shown in Figure 2 shows the standardized beta estimate, factor loadings, and R^2 for each item. The correlation estimate for each pair of exogenous latent constructs indicates that the exogenous latent constructs are not correlated since their correlation is not strong at below 0.85 (between 0.44 and 0.82).

Figure 3: Structural model (standardized estimate)

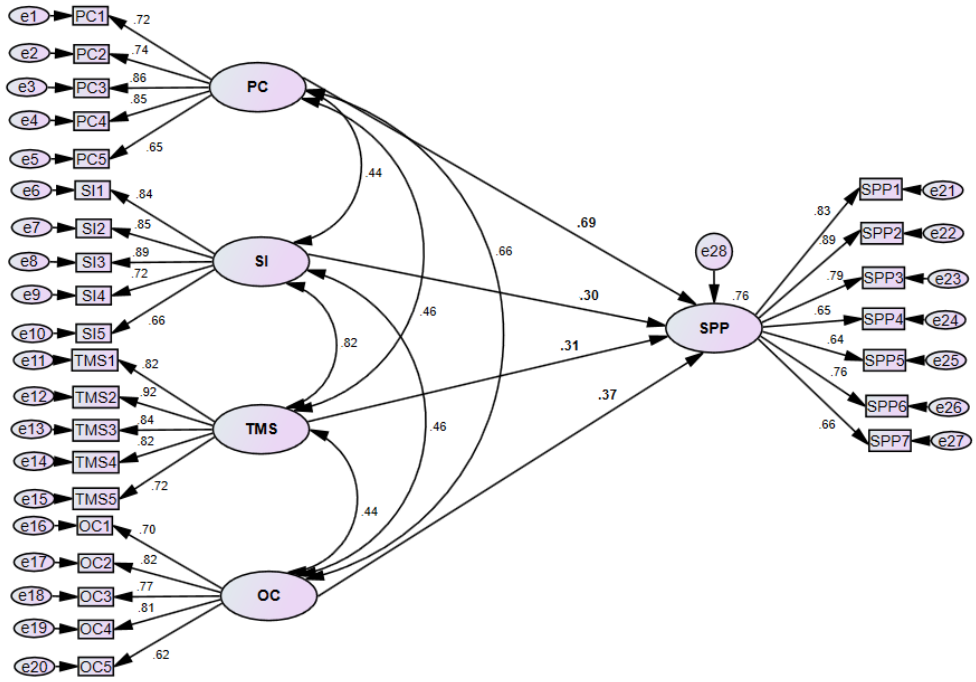


Table 6 presents the squared multiple correlations which are the variance of the constructs. It shows the ability of the predictor in explaining its variance. It is estimated that the predictors of SPP explain 76.4% of its variance or error variance. In other words, the error variance of SPP is approximately 23.6% of the variance of SPP itself.

Table 6: Squared multiple correlations							
Construct	**Estimate**	**Construct**	**Estimate**	**Construct**	**Estimate**	**Construct**	**Estimate**
SPP	**.764**	PC2	.544	TMS4	.160	SPP1	.690
OC5	.386	PC3	.735	TMS1	.678	SPP2	.797
OC2	.669	PC4	.717	SPP6	.581	SI5	.157
OC3	.594	PC1	.516	SPP4	.421	SI2	.721
OC4	.650	TMS5	.140	SPP3	.628	SI3	.794
OC1	.493	TMS2	.841	SPP5	.414	SI4	.141
PC5	.418	TMS3	.700	SPP7	.433	SI1	.705

Table 7 presents the Standardized regression weights, Standard Error (S.E.), Critical Ratio (C.R.), and P-value for constructs that were used for results interpretation and decision concerning the hypothesized relationships. The estimate shows that when PC goes up by 1 unit SPP goes up by 0.686 units; when OC goes up by 1 unit SPP goes up by **0.308** units; When TMS goes up by 1 unit when SPP goes up by **0.366** units and when SI goes up by 1 unit SPP goes **down** by 0.297 units. Regression equation for this study is demonstrated in the following:

SPP = β0 + 0.686 PC **- 0.297 SI + 0.366 TMS + 0.308 OC + e it**

The standardized regression weight shows that PC, SI, TMS and OC are positively correlated with SPP (PC: β= 0.686; SI: β= **-0.297; TMS: β= 0.366; OC: β= 0.308). In other words, PC and TMS significantly contribute towards increasing SPP practices.**

The results show that the C.R. value for exogenous latent constructs PC and TMS is outside the range of +1.96 at the level of $p < 0.05$. This indicates that PC and TMS in the regression model can significantly predict the endogenous latent construct SPP (PC = 9.139, $p < 0.001$; TMS = 6.680, $p < 0.05$). This means PC and TMS are predictors of SPP practices. Since all the items are significant, it can be concluded that the convergent validity has been achieved. The p value for variance shows that the variance for all constructs is significantly different from zero at the 0.001 level (two-tailed test).

Table 7: The standardized regression weight				
Path	**Estimate**	**S.E.**	**C.R.**	**P-value**
PC -> SPP	.686	.062	9.139	.000
SI -> SPP	**-.297**	**.126**	**1.483**	**.138**
TMS -> SPP	.366	.045	6.680	.000
OC -> SPP	**.308**	**.130**	**1.540**	**.124**

The results of this study are adequate to test the hypothesis. The hypothesis testing for the causal effect of exogenous latent constructs on endogenous latent construct in Table 8 shows that the exogenous latent constructs in this study namely PC and TMS have a positive and significant effect on the endogenous latent construct that is SPP practices ($p < 0.05$) in Egypt. Degree of importance of constructs based on standardized regression weights is **PC (β= 0.686) and TMS (β= 0.366). While OC has a positive and insignificant effect on the SPP practices. Furthermore, SI has a negative and insignificant effect on the SPP practices.** The results also show a positive correlation between PC and TMS with SPP practices.

Table 8: Result of hypothesis testing

	Path	Estimate	S.E.	C.R.	P-value	Results
H-1	PC -> SPP	.686	.062	9.139	.000	Accepted
H-2	SI -> SPP	**-.297**	**.126**	**1.483**	**.138**	**Not Accepted**
H-3	TMS -> SPP	.366	.045	6.680	.000	Accepted
H-4	OC -> SPP	**.308**	**.130**	**1.540**	**.124**	**Not Accepted**

6. Conclusion

Staff Involvement

Regarding the variable of **'Staff Involvement'** it means providing employees with the information, training, and awareness they need to make informed decisions and utilize their skills effectively, while also recognizing and rewarding their contributions. The exploratory research results and the statistical results were matching to a great extent. The participants feel that this variable is not yet fully implemented in the public entity. While employees are offered training courses and workshops on sustainable public procurement (SPP), they are not actually involved in the decision-making process. They believe that more time and a deeper understanding by top management are needed to recognize the importance of employee awareness and involvement in SPP decision-making. This is essential to achieve full employee dedication and enthusiasm in applying sustainable public procurement practices. This result klicks with the statistical results, which proved a weak relationship between staff involvement and successful implementation of SPP in Egypt. Graham, S., et.al. (2023) stated that employee integration is crucial for aligning employees with an organization's overall strategy, especially in the context of product stewardship strategies within the supply chain. These strategies cover the entire lifecycle of a product, from its design and development to customer return and disposal. To effectively implement such strategies, employees must be aligned with environmental objectives that often extend beyond the boundaries of individual departments or functions. In addition, as reported by Adams, C. (2022) explained that the sustainable development goals (SDGs) have shaped processes to ensure stakeholder inclusivity, encouraging organizations to involve all relevant parties in decision-making. Governance oversight in sustainability reports is crucial for credibility, as it reflects the governing bodies' ultimate responsibility for strategic direction. By demonstrating that sustainable development risks and opportunities are integrated into strategy, organizations reinforce their commitment to sustainable practices. It is evident that the integration of sustainable development principles, particularly through staff involvement and employee engagement in decision-making, is more advanced in developed countries compared to developing countries. In many developing countries, the maturity of such practices in the public sector is still evolving, presenting challenges for their effective implementation. Several factors contribute to this disparity, including differing levels of economic development, governance structures, and resource availability.

To sum up, in the Egyptian case, likewise many developing countries, public sector organizations may face constraints such as limited financial resources, insufficient training, and cultural norms that do not yet fully support inclusive decision-making. Additionally, there may be a lack of awareness or understanding of the importance of engaging employees in sustainability-related decisions. **As for 'organizational culture',** which encompasses the shared values, beliefs, and norms that influence the social and psychological atmosphere of a workplace, it plays a crucial role in shaping the development, execution, and evolution of procurement strategies. This culture reflects the unique collective mindset of an organization, affecting how employees perceive their roles, engage with colleagues, and confront external challenges.

The relationship between organizational culture and procurement processes is becoming a key factor in both academic research and practical business contexts because of its significant impact on organizational effectiveness, competitiveness, and sustainability. This aligns with previous studies findings as confirmed by Cooper, M. (2022), organizational culture — the shared values, beliefs, and norms that shape behaviors and decision-making within an organization — strongly influences procurement practices. For instance, a culture that prioritizes sustainability will likely favor suppliers who adhere to sustainable practices, thus enhancing the organization's environmental and social performance. Similarly, a culture of transparency and ethical behavior can drive procurement processes that are fair, competitive, and compliant with regulations, reducing risks and fostering trust among stakeholders. The case of the study which represents the Egyptian public sector, the statistical findings indicated a weak relationship between organizational culture and the implementation of green public procurement in the Egyptian public sector highlight a significant gap. This suggests that the public sector in Egypt may not yet have sufficiently developed a culture that prioritizes sustainability and green practices. This result contrasts with studies conducted in developed countries, where a stronger alignment between organizational culture and green procurement practices is often observed. The difference underscores the need for greater focus and effort in developing countries to enhance organizational cultures that support sustainable public procurement.

Perceived Costs, according to the statistical results, the literature and the exploratory research results participants agreed that while cost is a major obstacle to adopting these strategies, other considerations must also be factored in. These include high upfront expenses, ongoing costs, limited awareness, the need for resource reallocation, and insufficient government backing. Regarding the case under study (Kader Factory) the administration is doing its best to provide the needed funds for applying sustainable procurements, although there are financial shortcomings facing the top management as sustainability is expensive especially in the developing countries. Finally, **Top Management Support,** again the literature, the exploratory results and the statistical results go hand in hand. This factor is essential for implementing sustainable procurement strategies successfully. The participants' answers in the questionnaire and in the exploratory interview revealed that they believe in the relationship between Top Management Support and successful implementation of green procurements. They mentioned that top management in 'Kader Factory' are giving their staff the support and rewards needed to encourage them embrace the sustainable procurements.

7. Recommendations

To achieve this alignment, organizations can foster collaboration and communication through regular team meetings and cross-functional initiatives. This approach encourages a shared understanding of environmental goals, supports holistic decision-making, and promotes a culture of sustainability throughout the organization.

By embedding employees within these broader strategies, companies can ensure that environmental considerations are integrated into every stage of the product lifecycle, enhancing both compliance and competitive advantage.

For governing bodies to maintain confidence, they must ensure the management approach to sustainability is robust and aligns with the organization's broader strategy. Demonstrating that "sustainable development thinking" is ingrained in the organization's culture and decision-making processes enhances the quality and transparency of sustainability reporting.

To strengthen this credibility, organizations must identify areas where further integration of sustainable development is necessary. Building staff expertise through targeted training and strategic recruitment is essential for embedding these principles across all operations. By continuously improving their approach, organizations can more effectively achieve sustainability goals while enhancing stakeholder trust and engagement.

To bridge this gap, developing countries could focus on capacity-building initiatives, such as targeted training programs and awareness campaigns, to strengthen employee engagement in sustainable development efforts. Enhancing governance frameworks and encouraging a culture of participation and transparency can also help foster a more inclusive approach to decision-making. Over time, these efforts can build a foundation for stronger staff involvement and more effective implementation of sustainable development goals in the public sector.

Moreover, aligning procurement processes with the organizational culture can enhance operational efficiency and support long-term strategic goals. For example, a culture focused on innovation might encourage collaborative relationships with suppliers to co-develop new products or solutions, leading to a competitive advantage in the market.

Incorporating organizational culture into procurement strategies can also drive better employee engagement and accountability, as employees understand and support the broader organizational goals tied to their procurement decisions. This holistic approach not only optimizes procurement outcomes but also aligns them with the overall mission and values of the organization, promoting sustainable growth and resilience.

Addressing this gap may involve initiatives to foster a culture of sustainability within public sector organizations. This could include raising awareness about the benefits of green procurement, providing training on sustainable practices, and integrating sustainability into the core values and mission of public organizations. Additionally, strengthening governance frameworks and creating incentives for adopting green practices could also contribute to improving the effectiveness of sustainable public procurement in developing countries.

To boost technical and managerial capabilities for more effective sustainable procurement, targeted investments in talent development are necessary. Companies should focus on equipping employees with the necessary knowledge, skills, and attitudes to lead sustainability initiatives and foster innovation. They should also leverage employees' motivation to contribute positively to their organizations and communities.

References:

1. Adams, C. (2022). Public sector sustainability reporting: time to step it up. Chartered Institute of Public Finance and Accountancy (CIPFA). Online at: publications@cipfa.org
2. Adham, K. N., & Siwar, C. (2017). Factors influencing government green procurement practices: structural equation modelling analysis.
3. Adjei, A. B. (2010). Sustainable public procurement: a new approach to good governance. Seul: IPPC4.
4. Adedamola, A., & Kingsley, E. C. (2011). Staff perception of sustainable procurement-a study of the university of brighton. Stud, 3(1), 115-122.
5. Andhov, M., Caranta, R., Stoffel, T., Grandia, J., Janssen, W. A., Vornicu, R., ... & Wiesbrock, A. (2020). Sustainability through public procurement: the way forward–Reform Proposals.
6. ASIAN DEVELOPMENT BANK (2021), Guidance Note on Procurement, December 2021
7. Anderson, C., Schüldt, F., & Åstrand, T. (2018). Organisational culture's influence on the integration of sustainability in SMEs: A multiple case study of the Jönköping region.
8. British Egyptian Business Association (BEBA), How Green Infrastructure Projects are Shaping Egypt's Future, 2022 Online at: https://beba.org.eg/how-green-infrastructure-projects-are-shaping-egypts-future/
9. Carter, C.R. and Jennings, M.M. (2000) Purchasing's Contribution to the Socially Responsible
10. Caruana, J., & Vassallo, K. (2022). Green Public Procurement in Public Administration: Perceptions and Challenges in Practice. International Journal of Public Administration, 1-14.
11. Cooper, M. (2024). The Influence of Organizational Culture on Procurement Practices: A Multi-industry Perspective.
12. Cheng W, Appolloni A, D'Amato A, Zhu Q (2018) Green Public Procurement, missing concepts and future trends–a critical review. J Clean Produ 176:770–784. Online at: https://doi.org/10.1016/j.jclepro.2017.12.027
13. Chen, Y., Yin, X., & Lyu, C. (2022). Circular design strategies and economic sustainability of construction projects in China: the mediating role of organizational culture. Scientific Reports, 14(1), 7890.
14. Chiappinelli, O., Seres, G., & Zipperer, V. (2018, June). The Impact of Green Criteria in Public Procurement on Purchase Costs. In Transforming Energy Markets, 41st IAEE International Conference, Jun 10-13, 2018. International Association for Energy Economics.
15. Domingues AR, Lozano R, Ceulemans K, Ramos TB (2017) Sustainability reporting in public sector organisations: Exploring the relation between the reporting process and organisational change management for sustainability. J Environ Manage 192:292–301. Online at: https://doi.org/10.1016/j.jenvman.2017.01.074
16. García-Arca, J., González-Portela Garrido, A.T. & Prado-Prado, J.C. (2022) Deploying Sustainability Through Employee Participation. An Action Research Proposal. Syst Pract Action Res **37**, 19–40 (2024). Online at https://doi.org/10.1007/s11213-023-09639-x
17. Glover, J. L., Champion, D., Daniels, K. J., & Dainty, A. J. (2014). An Institutional Theory perspective on sustainable practices across the dairy supply chain. International Journal of Production Economics, 152, 102-111.
18. Government of Ireland, Office of Government Procurement, Opportunities and approaches for Sustainable Public Procurement; Version 1: Issued January 2022
19. Grandia, J., & Voncken, D. (2019). Sustainable public procurement: The impact of ability, motivation, and opportunity on the implementation of different types of sustainable public procurement. Sustainability, 11(19), 5215.
20. Graham, S., Cadden, T., & Treacy, R. (2022). Examining the influence of employee engagement in supporting the implementation of green supply chain management practices: A green human resource management perspective. Business Strategy and the Environment, 32(7), 4750-4766.
21. Grob, S., & Benn, S. (2014). Conceptualising the adoption of sustainable procurement: an institutional theory perspective. Australasian journal of environmental management, 21(1), 11-21.
22. Gyamfi, K., Adamu, M., & Billa, G. (2021). The impact of organizational culture on public procurement act compliance in Obuasi municipality. World Journal of Advanced Research and Reviews, 12(3), 187-199.
23. He, X. (2023). Sustainability and Accountability in Public Sector: A Legitimacy Perspective. Social and Environmental Accountability Journal, 43(1), 84-88.
24. Hinrichs, S., & Wettlin, J. (2019). Drivers and Barriers to the Adoption of Sustainable Procurement in SMEs.
25. Jesús, G. A., A Trinidad González-Portela, G., & J Carlos, P. P. (2022). Deploying Sustainability Through Employee Participation. An Action Research Proposal.
26. Kenya Limited (PNFKL), International Journal of Social Science and Humanities Research, Vol. 5, Issue 4, pp: (169-175) Online at: www.researchpublish.com
27. Khan, M. W. A., Ullah, M., & Kuang, C. (2019). Sustainability Through Green Procurement: Interplay Between Leadership and Institutional Pressures. European Proceedings of Social and Behavioral Sciences.
28. Klein N, Ramos TB, Deutz P (2022) Factors and strategies for circularity implementation in the public sector: an organizational change management approach for sustainability. Corp Soc Responsib Environ Manag 29(3):509–523. Online at: https://doi.org/10.1002/csr.2215
29. Lee, J., & Joo, H. (2020). The Impact of Top Management's Support on the Collaboration of Green Supply Chain Participants and Environmental Performance. Sustainability, 12 (21), 9090.
30. Lozano R, Santos F, Barreiro M (2022) Developing a harmonic sustainable public procurement framework. Environ Dev Sustain 26(1):2291–2306. Online at: https://doi.org/10.1007/s10668-022-02818-1

31. Men, F., Yaqub, R. M. S., Yan, R., Irfan, M., & Haider, A. (2022). The impact of top management support, perceived justice, supplier management, and sustainable supply chain management on moderating the role of supply chain agility. Frontiers in Environmental Science, 10, 1006029. Oyebanjo, O., & Tengeh, R. K. (2020). Public Procurement and Environmental Sustainability in Developing Countries: A South African Perspective.
32. Perera, O., Uzsoki, D., Ruete, M., & Casier, L. (2016). Role of Public Procurement in Deploying Sustainable Infrastructure. International Institute for Sustainable Development.
33. Ragy Soliman & Partners, Doing Green Business in Egypt, 2022. Online at: https://adsero.me/wp-content/uploads/2023/09/DOING-GREEN-BUSINESS-IN-EGYPT.pdf
34. Simon Kariri & Samson Nyang'au, (2017) Factors Influencing Adoption of Sustainable Procurement Practices in Manufacturing Sector in Kenya: A Case Study of Popular Nutri Foods SOHLSTRÖM, E. (2016). Is Swedish Public Procurement Ready for Sustainable Product Development?: An Investigation on Barriers in Public Procurement that Prevents the Diffusion of Sustainable Innovations.
35. Testa F, Annunziata E, Iraldo F, Frey M (2016) Drawbacks and opportunities of green public procurement: an effective tool for sustainable production. J Clean Prod 112:1893–1900. Online at: https://doi.org/10.1016/j.jclepro.2014.09.092
36. Thornton, P. H. (2004). Markets from culture: Institutional logics and organizational decisions in higher education publishing: Stanford University Press. Torres-Pruñonosa, J., Plaza-Navas, M. A., Díez-Martín, F., & Beltran-Cangrós, A. (2021). The intellectual structure of social and sustainable public procurement research: A co-citation analysis. Sustainability, 13(2), 774.
37. Valovirta, V., & Pihlajamaa, M. (2022). Public Procurement for Sustainability. In Elgar Encyclopedia of Innovation Management. Edward Elgar Publishing Ltd.
38. Walker, H., & Brammer, S. (2009). Sustainable procurement in the United Kingdom public sector. Supply Chain Management: An International Journal, 14(2), 128-137.
39. Wanjiku, F. N., Mwangi, N. W., & Langat, E. K. (2020) Influence of Human Resource Capacity on the Implementation of Sustainable Public Procurement in Nyandarua County, Kenya. The International Journal of Business Management and Technology, Volume 4 Issue 3 May – June 2020 ISSN: 2581-3889