



## ISO 20400 guidance standard for sustainable procurement: a search for challenges and recommended strategies for successful implementation

Sayam Aroonsrimora akot<sup>1,2\*</sup> & Meena Laiphrakpam<sup>2</sup>

<sup>1</sup>Interdisciplinary Research and Development Committee, Royal Society of Thailand, Sanam Suea Pa, Bangkok, Thailand, 10300

<sup>2</sup>Center for Research Assessment and Certification of Environmental Management, Faculty of Environment and Resource Studies, Mahidol University, Salaya, Nakhon Pathom, Thailand 73170

### Abstract

The objectives of this review article are to discuss: 1) definitions and importance of SP; 2) development and process of ISO 20400 standard SP; and 3) challenges and recommendations for the successful implementation of the ISO 20400 SP guidance standard. The article used state-of-the-art literature review methodology relevant to the stated objectives. The findings reveal that ISO 20400 is important as it provides guidelines for integrating sustainable issues into the procurement process of an organization but has some challenges in its implementation process, such as cost, lack of management support, sustainability labels, marks, and certifications, which can be overcome when an organization takes into account these challenges in the procurement process for implementing sustainably. Steps for successful implementation of SP include: i) proper planning; ii) integrating sustainability features; iii) selecting suppliers; iv) managing sustainably; and v) evaluating and improving sustainability performance. In spite of having many steps and challenges for implementation, most organizations that have implemented SP firmly believe that the benefits are much greater than the challenges, as it helps in achieving sustainable development objectives.

**Keywords:** sustainable procurement, challenges of the ISO 20400 standard for sustainable procurement, social and environmental responsibility, sustainable development

**Article history:** Received 08 January 2024, Revised 29 April 2024, Accepted 29 May 2024

### 1. Introduction

The ISO 20400 guidance standard is an international standard for sustainable procurement (SP) with the goal of helping organizations perform purchasing functions sustainably with due consideration of social responsibility, accountability, transparency, human rights, and ethical behavior. It provides guidelines to integrate social responsibility into organizations that aspire to integrate sustainability into the working process by outlining the steps, roles, and duties of

purchasing staff [1]. It encompasses two broad aspects of the purchasing process, namely, politics and strategies, with the objective of implementing sustainable purchasing practices and policies for achieving a sustainable society and culture [2]. The approach of the ISO 20400 guidance standard is synthesized as it is applicable to all organizations, irrespective of their sizes, sectors, geographical location, and sectors, both public and private, and all kinds of purchasing decisions, including raw materials, office supplies, catering, etc. The ISO 20400

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\*Corresponding author; e-mail: sayam.aro2560@gmail.com

guidance standard is not intended for certification purposes; however, it is important as it provides various steps or guidelines for integrating sustainable issues into the procurement process, policy, and strategy of an organization. In other words, it is important to incorporate the key principles, including ethical behavior, transparency, accountability, and managerial issues, into the process of organizational procurement. The operational definition of ISO 20400 is that procurement with the utmost positive whole-life basis impacts on the environment, society, and economy [3].

This article aims at describing: 1. definitions of SP and its importance; 2. development and implementation of SP; and 3. challenges and recommendations.

The article may help to introduce and enlighten those who are looking to implement sustainable procurement in their organization. In addition, the review provides a research agenda for unexplored issues in the literature. The article used state-of-the art literature review methodology relevant to the definition and importance, challenges, and recommended strategies in the implementation of the guidance standard in an organization's procurement process for achieving sustainability. The article is organized as follows: Introduction, Definitions of sustainable procurement and its importance, Development and process of the ISO 20400 guidance standard for SP, Challenges in implementing sustainable procurement, Recommendations, and finally, the article is discussed and concluded.

## **2. Definitions of SP**

Sustainable Procurement (SP) improves the procurement process of an organization by integrating sustainable behavior in the

purchasing department, and this behavioral change is beneficial not only to the organization but also to the society as a whole as it minimizes the impact on the environment. There are many definitions of SP, which vary depending on individual studies, organizations, and countries. SP is considered the bridge to link the environment, economy, and society in taking purchasing decisions and therefore accelerate the sustainable development concept and goals in practicable ways through following sustainable consumption patterns [4]. However, the operational common definition of SP is the ability to procure environmentally friendly products that save resources for creating a sustainable environment [5].

### **2.1 Importance of Implementing Sustainable Procurement**

There is a growing importance of SP as most organizations target achieving efficiency and sustainable development goals [11] because SP stimulates more sustainable consumption and production [12], which results in a positive impact on the environment, society, and economy [1]. Due to this, most organizations aspire to adopt SP practices, which also have an impact on the chain of suppliers, employees, and customers of business management [13]. A study has reported that the implementation of SP can increase organizational financial performance as it helps to increase income while reducing costs [14]. In other words, there are triple-line impacts in the following SP, including safety of the environment, reducing waste and carbon footprints, increasing energy efficiency and usage of renewable energy, protecting and improving the well-being of mankind and society, financial performance, reducing costs and investments, and increasing profit for economic development.

Table 1 provides some major definitions of sustainable procurement (SP).

**Table 1:** Definitions of Sustainable Procurement (SP)

<a href="#">Bizjak [6]</a>	<b>Incorporation of sustainability concepts such as triple bottom line in the purchasing steps of organizations, that is, evaluating the result in three dimensions of the environment, economy, and society.</b>
<a href="#">Leal Filho et al. [7]</a>	The procurement of goods and services that yield the utmost usefulness for the investment and are usable throughout the lifecycle with little negative effect on the environment due to organizational, social, and environmental considerations.
<a href="#">Glas [8]</a>	Measures to integrate and implement environmentally, socially, and economically developmental goals in the procurement process of both the public and private spheres while at the same time producing the highest quality at the lowest investment cost.
<a href="#">ISO [1]</a>	The procurement with immense beneficial impact on the economy, society, and the environment.
<a href="#">Walker et al. [9]</a>	Reform in the purchasing and supply processes to obtain sustainable development goals by guaranteeing a strong, healthy, and impartial society, promoting good governance, and living within environmental limits.
<a href="#">British Standards Institute [10]</a>	Purchasing of goods, items or services that contribute positive outcome for the environment, economy and society and minimal negative impacts on disposal.
<a href="#">DEFRA [5]</a>	A way that organizations procure goods, services, and other resources with the goal of achieving maximum value and benefit to the organization and society at large with minimal investment costs and resources that harm the environment.

### 3. Development and process of the ISO 20400 guidance standard for SP

Before initiating ISO 20400, the following points should be considered by every buyer:

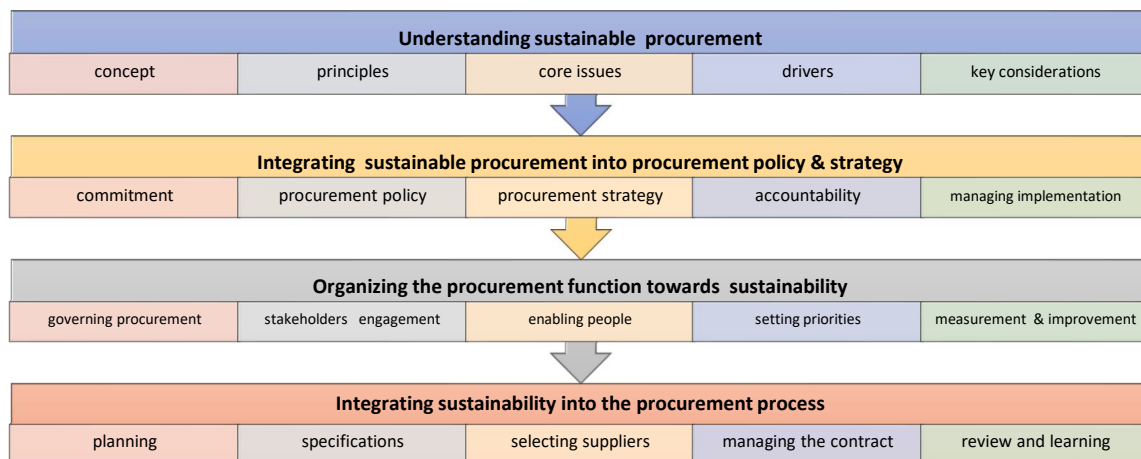
- There should be clear consideration of buying culture, such as the method of buying and from whom it is to be bought or being bought; in addition, criteria for controlling risks from suppliers, the organization's requirements from the suppliers, etc.
- Buyers should have a study to gain knowledge and to investigate the supply chain cost within an organization, along with the cost of revenue towards paying suppliers and their societal and environmental impact.
- Buyers should think strategically, with due consideration of both obstacles and benefits, in implementing SP throughout the supply chain operation process.
- Buyers should cooperate and get along with managers and administrators in the buying process of the organization, and at the same time, they should be

aware of the advantages and challenges of implementing SP.

DEFRA [15] offers documents for procurement guidance for organizations that are interested in obtaining the standard, highlighting the innovative role and approaches of the government and personnel in the public sector in the UK, which spends about 16 percent of the GDP of the UK. The guidance is also applicable to small business projects that need to take an active role in the supply chain. For implementing effective and integrated sustainable procurement, there should be collaborative supply chain policies and approaches and at the same time exploring commercial risk [16, 17]. Tomossy & Alam [18] made a study with attempts to bring out the important practices of public procurement in economic, social, and environmental contexts for achieving sustainable development goals in many developing countries, such as Indonesia. This article highlighted the prevailing regulatory framework in Indonesia and hurdles in its implementation by giving examples from Australian best practices to introduce reforms and also putting emphasis on the interagency network and the governmental approach to promoting sustainable development goals.

According to Harris & Divakarla [3], a project committee consisting of 20 countries is formed for the development of the ISO 20400 SP Guidance Standard, based on ISO 26000:2010, and the standard is different from other certified environmental management standards (ISO 14001) because it is only a guidance standard.

The following provides the four major components of the ISO 20400 guidance standards for SP, as shown in Figure 1. Each component, except the first, is to be correlated with the other components in the procurement process.



**Figure 1.** Major components of ISO 20400 sustainable procurement guidance (Adapted from Harris & Divakarla [3])

From the above figure 1, there are four major components of ISO 20400 sustainable procurement guidance. The first component is to fully understand the sustainable procurement process, while the last component is to integrate sustainability into the procurement process.

The major operating issue for all components is the consideration of social accountability. There are seven core issues of SP based on the ISO 26000:2010 standard on social responsibility, as given in Figure 2.



**Figure 2.** Core issues of ISO20400 guidance standard (Adapted from Harris & Divarkala [3])

There are 5 circular steps and processes for the successful amalgamation of sustainability into the procurement process, as shown in Figure 3:



**Figure 3.** Integrating sustainability into the procurement process

Source: ISO [1]; Zarei et al. [19]

#### 4. Challenges in implementing Sustainable Procurement

##### Literature Review

Challenges
Analyzed barriers to the adoption of SP in the construction industry of Indonesia. The result found three important barriers: sub-standards, knowledge gaps, insufficient practice in design, and financial burden [20].
Analyzed some challenges and strategies for adopting SP in construction and its influences for achieving the SDG's goals. It is suggested that the government and stakeholders build partnerships, followed by three dimensions of sustainability, including society, economy, and environment [21].
A study was conducted in Pakistan to identify drivers and barriers to SP in public higher educational institutes. The results identified interdepartmental cooperation as the top driver, followed by governmental regulations, while the top obstacles include the absence of interdepartmental cooperation, environmental laws, and change resistance [22].
Identified several challenges in the implementation of green procurement, including financial constraints, lack of policy support, and ineffective mechanism. Also recommended are strategies such as adequate budget allocation to purchase sustainable products, incentives such as low-interest loans, integration of the circular economy, and usage of eco-friendly products [23].
Examined the challenges to successful implementation of SP in government-sponsored universities, which revealed challenges such as differences in making decisions, conspiracy among stakeholders, problems in dealing with governmental agencies, a dearth of planning and budgetary allocation, and a shortage of professional procurement training [24].
Studied the perceived problems of government employees and social organizations in SP implementation, which suggested efficient usage of public resources, reputation improvement, social equality, and more organizational involvement to improve awareness. Identified challenges as lack of training and resistance to change, which can be solved through the availability of communication channels and training [25].
Assessed the factors that cause barriers to SP in the public sector of Pakistan, which indicated external factors, including governmental legislation and the pressures of stakeholders. To overcome the problem, suggested steps including the government's role in introducing rules and regulations,

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the initiative of donors and stakeholders to pressurize organizations in adopting SP, the inclusion of SP's education in the educational curriculum, and the provision of training to employees [26].

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A study that investigated green procurement practices in companies that manufacture furniture in Malaysia revealed lack of awareness among managers, followed by time consumption, as the main barriers to implementing SP practices in the environment [27].

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This study reported the necessity of procurement associations in SC, which revealed the importance of collaborations between inter-organizations in procurement functions as it leads to achieving lesser investment in costs while getting higher-quality procured items [28].

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This study revealed the attitude of the management team and the culture of an organization as the two major barriers to SP practices. Other significant barriers include lack of efficacious leadership, management support, training, skill, capability, suppliers' services, cultural integration, transparency, political support, sustainable product quality, government regulations, congenial environment, and supplier's commitment [29].

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Studied the perceptions of construction professionals to evaluate challenges in implementing SP in Canada by using a questionnaire and a semi-structured interview. The results revealed lack of funding as the main challenge, while the main benefit includes a reduction of CO<sub>2</sub> emissions and generated waste. Also, lack of strong leadership and dedication are the main challenges to achieving the goals of SP in the Canadian construction industry [30].

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Examined complete insight about the challenges in Ireland using a deductive approach. The results revealed challenges for SP to suppliers as a lack of obligatory guidelines, insufficient investment, funding, time, and knowledge [31].

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Studied the challenges of the UN's SP system based on an online survey system and found a significant association between SP practices and business performance measurement. The results identified resources (training, expertise), performance measurement, and supply and demand as the most important barriers. Their research analysis provides an innovative approach for identifying barriers in SP and addresses a gap in the SP and supply chain management literature [32].

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Investigated factors influencing SP practices in Zimbabwe. The result stated that inadequate management was one factor that limited adoption of SP and also found the absence of social and environmental factors in purchasing decisions. It is recommended to train and educate employees on practicing sustainable ways, and suppliers should be given incentives to motivate the development of sustainable products along with the implementation of a sustainable policy [33].

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Investigated the depth of SP practices in various organizations in Malaysia. The results indicated a wide discrepancy in SP's adoption in various sectors, such as the private sector, which comparatively has a higher score for SP's practices than the public sector, and many factors that cause barriers to the implementation of SP. The topmost factor was the lack of awareness and guidance of SP among employees, decision-makers, stakeholders, and funding organizations, while the pro-factors were improved working conditions, transparency, and efficiency of the organization [34].

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Compared the SP practices of two countries, Australia and Malaysia. Result revealed differences such as Australian paying more on safety aspect while Malaysia on diverse dimensions. Both countries suffer from financial pressure, and this barrier needs to be tackled with the initiative and support of governmental organizations [4].

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The results revealed that for the proper adaptation and implementation of sustainable sourcing, there is necessity to change the internal and external relationships of the supply chain and procurement [35].

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A review study of SP identified four main concepts: the outside environment; the inside environment; accountability in implementing SP, both social and environmental; and achievement issues, particularly the challenges and strategies of SP [36].

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The authors stated that since SP is found to an increasing extent on the purchasing agenda, managers of the supply chain seek to show corporate social responsibility [9].

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Investigated in an international context to identify regional variation in the policy and practice of SP. It also provides practical insights into the implementation of policies around the world, both at the government and organizational levels, and found that the main barriers to implementing SP are cost and a lack of management support [37].

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On analysis of the literature, it is found that there are many challenges in the implementation of SP. The present article aims to summarize these challenges to find out the factors highlighting the significance as well as the barriers of this guidance standard in SP for social, economic, and environmental sustainability. SP has been increasingly exposed to media attention since the time of the construction agreement for the Olympics in London in 2012. This has resulted in an improved corporate image on a massive scale among clients and contractors, thus making them work harder to introduce sustainable green projects. However, there are many challenges that hamper implementing SP, and among them, cost is one of the most important barriers. These barriers can be reduced by calculating the life cycle cost or through innovation. Subcontractors in the supply chain have a negative attitude towards sustainability as they have to face the costs of implementation. This has been supported by the findings of a survey of contractors [38, 39].

There are many challenges to the integration and implementation of SP, including labeling sustainability, signs, and standards of certification. Even though labels are useful in the evaluation procedure of the procurement process to verify that each organization's sustainable requirements are met, there are difficulties in selecting the appropriate evaluation procedure because there is a high probability of a biased evaluation procedure. There are several factors contributing to this drawback, such as inadequate financial expenses, a lack of technical experts, and inadequate infrastructure. Usually, the standard has a list of various evaluation activities, including document review, tests, inspections, audits, and so on, which can be performed by either party, seller or buyer. Whatever it is, it is important for the responsible organization to specify the procedure of evaluation and the party who will carry out the evaluation procedure [3].

Dryden [40] listed the challenges of SP as given below:

- Knowledge gap about sustainability  
Many professionals working in procurement do not have clear, systematic knowledge about the procedures and benefits of SP, which poses a big challenge to successful implementation. So, it is essential to accurately process and assess the relevant data from the procurement process, along with the provision of training and education for employees about the importance and process of SP.
- Time, funding, and other resources  
Responsible procurement team needs to have adequate time to learn the processes of carrying out sustainable sourcing and purchasing work, as well as how to evaluate the performance and sustainability of the organization as well as the supplier.
- Inadequate support from suppliers  
For switching to SP practices, it is essential to find suppliers who practice an eco-friendly supply process and who fully understand the importance of sustainability.
- Inadequate cultural support and funding from the public sector
- Absence of external factors, such as the absence of adequate government funding, causes challenges in SP practices.
- High costs  
When switching to the SP method, procurement departments face challenges about the cost of switching to the SP method.
- Difficulty in assessing proper technology  
Many procurement staff face challenges in finding tools and technologies to implement SP successfully.

## 5. Recommendations

Many organizations aim to implement environmentally friendly SP practices so as to minimize the environmental impact. However,

there are many challenges in its implementation that need recommendations for improvement. Some recommendations are as follows:

- There should be mandatory support from top management, along with a clear understanding of the SP concept, its integration into the organization, and a written procurement procedure and checklist. Increase research on SP through more research grants, by partnering with other regional organizations, searching for funders, implementing low-cost investment, integrating sustainability into the working process of the organization, increasing the staff's knowledge on sustainability, and forming a committee from different divisions to increase working efficiency [12].
- Increase awareness of SP strategies through advertisement, publicity, publication, and other information-sharing outlets and remove challenges and expenses in the implementation of sustainable procurement.
- Incorporate collaborative supply chain policies and approaches and, at the same time, explore commercial risk.
- To increase more participation in SP, the working system of the supply chain should be reformed so as to increase the knowledge of SP among inexperienced organizations.
- There should be inter-organizational cooperation for SP.
- Provide funding and government support, along with the provision of education and training at various levels of the organization, which will help the procurement team improve the work process in a sustainable way.
- Companies should incorporate innovative sustainable procurement practices into the working processes of organizations to save costs and increase sustainability.
- Smaller organizations need to obtain accurate services and products to have the liberty to use innovative SP

strategies, decisions, and practices so as to meet the demands of customers.

- The supply chain should work collaboratively to enlighten young and inexperienced organizations in order to lead them to increased participation in bringing about change.
- Business organizations need to give sufficient time to the responsible procurement team so that they can learn, develop, and adopt new skills that are beneficial for the environment [41].

## 6. Discussion and conclusion

SP provides guidance for being socially responsible by integrating an innovative process into making purchasing decisions. Implementing SP will be beneficial not only to the organization but also socially and environmentally, as SP aims to minimize the environmental impact of procurement. SP can be successfully implemented by understanding the procurement working process and challenges encountered. ISO 20400 standards of SP integrate a sustainability culture into the purchasing operation procedures of an organization by outlining the guidance of the standard, such as the role of top managers and directors to integrate social responsibility into the purchasing functions, organizational goals, and objectives. Thus, from the above review, it is found that there are several factors that cause challenges to an organization in adopting sustainable practices, as given below.

- Financial constraints/funding
- Lack of awareness
- Lack of skilled managerial leadership quality
- Inadequate policies and strategies guidelines for SP
- Insufficient skill and competence among the responsible professionals of SP
- Poor cultural approval, support, and transparency
- Unavailable guidelines and poor supplier commitment
- Lack of training



In spite of the many challenges of SP, there are many benefits in implementing ISO 20400 Guidance Standards for SP, which can be listed as follows:

1. ISO 20400 Guidance Standards provide multi-dimensional benefits, such as increasing the sustainability of the economy, environment, and society.
2. ISO 20400 Guidance Standard will result to improved mutually beneficial and harmonious relationships between contractors and suppliers, and this will boost productivity while reducing risks.
3. ISO 20400 Guidance Standard increases the security of the supply chain, helps to reduce risky decisions in finance, environment, and prestige, enhances the confidence of customers as well as suppliers, promotes employee's welfare, widens the scope to find new markets for products and services, improves environmental management skills and other management practices, and develops innovative measures to solve problems of the environment, humanity, and economy within the supply chain.

At the end, it can be stated that SP has some barriers in its implementation process, such as cost, lack of management support, sustainability labels, marks, and certifications. These barriers can be reduced by calculating the life cycle cost through innovative approaches of the organization and by defining the type of evaluation activities the party carries out in the evaluation procedure. Incorporation of sustainability into the steps of procurement can be done successfully by responsible managers outlining and implementing specification steps such as: i) proper planning; ii) integrating sustainability features; iii) selecting suppliers; iv) managing sustainably; and v) evaluating and improving sustainability performance. It can be concluded that regardless of the several challenges to implementing SP strategies, most organizations are following sustainability and have implemented SP

because the benefits are much greater than the barriers.

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