



# Chapter 5

## Challenges to the implementation of sustainable public procurement: an integrative review

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### **ABSTRACT**

then a global scale, public procurement corresponds to about 12% of a nation's GDP. Sustainable Public

### **1 INTRODUCTION**

The European Commission, 2015, from the perspective of resources and climate change, published the Circular Economy Action Plan. Public agencies are being motivated to make purchases sustainably, to reduce their social and environmental footprint, to encourage sustainability in the private sector. However, these purchases, when applied strategically, can achieve other goals, such as sustainable development.(European Commission, 2020)

On a global scale, public procurement accounts for about 12% of a country's Gross Domestic Product (GDP), representing a considerable share of the movement of goods and services in the market. Sustainable public procurement (CPS), in turn, comprises public procurement that adopts sustainability criteria in bidding processes(Bosio & Djankov, 2020)(Moura, 2012). Within this scenario, digital transformation (TD) is included, which consists of the development of digital technologies that create ruptures and, at the same time, adopt management practices of structural changes and organizational barriers, affecting all sectors of the economy. (Vial, 2019)

Procurement (SPP) includes public purchases that adopt sustainability criteria in the bidding processes. The present study sought to investigate, through an integrative review, what would be the main existing challenges in the public sector that hinder the adoption of SPP practices. The results are aimed at challenges related to the degree of economic development of two countries and, also, for a given level of development. It was observed that the limited knowledge of two actors in purchases, in the absence of leadership and the absence of solid data and monitoring, are considered crucial factors for the improvement of this type of purchase, related to goal 12.7, of objective 12, of the UN 2030 Agenda.

**Keywords:** Sustainable Development, Sustainable Public Procurement, Agenda 2030.

In 2015, world leaders met at UN headquarters and put together an action plan to eradicate hunger, protect the planet and ensure people's peace and prosperity. The result of this plan promoted the emergence of the 2030 Agenda for Sustainable Development, which was implemented from 2016. Of the 17 objectives for sustainable development proposed in 2015, number 12 stands out, which deals with responsible consumption and production. Of the goals presented for this objective, there is number 12.7, which deals with the promotion of sustainable public procurement practices, under national policies and priorities.(Brazil, 2022)

About 6 years after its implementation and based on the premise that it is a major challenge for the public sector to implement CPS processes, and that not all countries adopt the same purchasing strategy, this article sought to investigate, through an integrative review of the literature, what would be the main barriers existing in the public sector that hinder the adoption of sustainable public procurement practices, which becomes an even greater challenge in the post-pandemic world.

## **2 LITERATURE REVIEW**

In this section, the main concepts that will support the development of the article are presented, such as: CPS and barriers to the implementation of CPS.

### **2.1 SUSTAINABLE PUBLIC PROCUREMENT**

The concern with the theme of sustainability (commonly based on the environmental, economic and social dimensions) and sustainable development has become evident in recent years, both in academia and in the agenda of many nations. In addition to the environmental, economic and social dimensions, Freitas (2016) incorporated a more expanded view of sustainability by incorporating two more dimensions: legal-political, justifying the legal protection of the right to the future regardless of standardization; and ethics, considering that all living beings, human or not, have an intersubjective and natural connection.

Green and sustainable public procurement has also gained status by addressing social, environmental, and social challenges through their acquisitions. Since circular public bidding is a new field both in academia and in practice, a review of the literature on ecological and sustainable public bidding can provide insights into future circular public bidding processes.(Sönnichsen & Clement, 2020)

Regarding public procurement, the literature claims that it is necessary to analyze other criteria, in addition to price parameters, given the importance of taking into account the environmental and social aspects that control the production and consumption behaviors of suppliers. This concept, which is termed sustainable public procurement, is defined by Brammer and Walker as "the act of integrating a concern with broader social and environmental impacts(Gelderman et al., 2015)(2011, p. 455)into purchases made by the government or public sector bodies". The designation proposes the action of spending public resources on products and services that enable the principles of sustainable development. Following this

idea and for the results of this study, the concept is outlined as the observations of the long-term social and environmental impacts of products, concerning the fundamental principles of public procurement.

Analyzing the CPS through the bias of the result, the notion of the finitude of natural resources has driven important changes in attitudes in people and companies and their reflections reach the public sector, which demonstrates to understand of the importance of sustainable development as a system that covers environment, economy and society. A company that puts sustainability in its action plan, in its activities and routines, is better accepted by its *stakeholders and* by the market in which it operates.

According to Adjei-Bamfo and Maloreh-Nyamekye(2019) , electronic government studies dedicated to electronic public procurement are limited in the context of developing countries with little knowledge of their sustainable public procurement practices. Sustainable public procurement understood as a process in which organizations meet their needs in a way that adds value to money for life and allows the delivery of aspects beyond the economy, such as environmental and social objectives, has reached a tipping point. Its relevance as a strategic tool to boost sustainability and transform markets is no longer questioned.

Furthermore, e-government offers developing countries an information platform to share sustainable purchasing requirements to fill information gaps in public procurement practices. It is interesting to note the progressive strategic value assumed by public procurement that, given the enormous demand they convey, can exert a great influence on the supply side. Within this context, public agencies seek to employ the concepts of sustainability, in their internal structures, as well as in the contracts they undertake. Currently, there are groups engaged within various public agencies encouraging the practice of sustainable bidding that, despite being a subject little explored in legal and administrative doctrines, in practice, is gaining a lot of strength, mainly from the understanding that sustainable public purchases can lead to gain of scale and reduce the value of products.(Adjei-Bamfo & Maloreh-Nyamekye, 2019)(Ceruti, 2017)(Silva & Barki, 2014)

As Coelho points out, the public sector must "lead the sharpening of environmental awareness, through its large acquisitions, capable of encouraging industry, commerce and consumers to use environmentally friendly goods and services." The author points out that it is a global trend, already observed in countries such as Germany, the United States, England, Australia and Sweden, in addition to several others, that the future of public bidding and procurement is sustainable, including forging the term as "ecobidions".(2013)

This type of contracting has important interference on production, which begins to worry more about raw materials and production processes, as well as the life cycle of products and services.(Freitas, 2016)

## 2.2 BARRIERS TO THE IMPLEMENTATION OF THE CPS

Public procurement is increasingly seen as having an important potential to drive innovation. Despite this interest, numerous barriers prevent the public sector from acting as intelligent and informed customers. (Uyarra et al., 2014)

The political/cultural obstacle is understood, in the context of an organizational structure, as resistance or fear of change. Adjei-Bamfo and Maloreh-Nyamekye reiterate that impediments and barriers to CPS present themselves with the absence of a legal framework on CPS; limited stakeholder capacity; poor monitoring and inspection systems; lack of political will; and budget constraint.(2019)

The main barriers that hinder the CPS process are the lack of experience and qualification of public buyers, as well as the responsiveness of the private sector. Other relevant factors should be mentioned, such as time limitations or public-private interaction difficulties. Sánchez-Carreira et al.(Sánchez-Carreira et al., 2019). (2019) also point out that:

Some of the most relevant barriers are presented in three groups. The first refers to the ignorance of this tool, which makes it difficult to identify their opportunities. The second group deals with the characteristics of the public sector as a prosecutor, highlighting the lack of experience and the need for training to become professional; and the difficulties of interaction between public purchasers and suppliers. Finally, the third group refers to the technical aspects of a complex procedure, which involves high costs and a lot of time.(Sánchez-Carreira et al., 2019)

For the authors, with barriers, several components must be added: the high administrative burdens; the large size of the contract; the duration of the contract; the strict specifications of bids; the criteria for deciding the best offer, focusing mainly on price and not the value or innovation of the offer; or the management of intellectual property rights.

It is important to consider that public procurement should not be interpreted only as a formal administrative process, where public agencies need to conform to meet their needs and legal mechanisms. By introducing environmental and social criteria in bids, the Public Administration ensures efficient management of public resources, in addition to promoting the well-being of society, reducing or eliminating the negative impacts arising from its activities.(Sousa & Carvalho, 2018)

For Hegenberg(2013) , institutional culture was one of the main barriers to the implementation of sustainable public procurement in federal higher education institutions. However, this obstacle is characterized as a minor item given the financial factors of price/implementation costs, level of knowledge and supply of sustainable goods and services.

The main barriers reported by suppliers refer to the lack of interaction with contracting organizations, the use of super-specific proposals as opposed to results-based specifications, low buyer skills and poor risk management during the procurement process.(Uyarra et al., 2014)

### 3 METHODOLOGY

Considered a specific method of literature review, the integrative review seeks to provide, through a process, a broad understanding of particular knowledge, allowing the researcher to develop an analysis of the results found (Botelho et al., 2011). In addition, it consists of presenting the existing gaps in knowledge and contributing to discussions about methods, research results and future studies (Mendes et al., 2008). It is an approach that allows the inclusion of different methodologies, which makes it possible to present different perspectives on a theme in question (Whittemore & Knafl, 2005).

For this study, we used the integrative review method proposed by Whittemore and Knafl, which allowed the presentation of the state-of-the-art on the theme of PSC, contributing to the exposure of opportunities for improvement in the area and the development of new theories. This method consists of five phases, namely: identification of the problem, search in the literature, evaluation of data, data analysis and presentation of results. (2005) (Whittemore & Knafl, 2005)

#### 3.1 PROBLEM IDENTIFICATION

This study aimed to analyze what would be the main barriers existing in the public sector that hinder the adoption of sustainable public procurement practices, with the implementation, in 2016, of the 2030 Agenda for sustainable development of the UN.

#### 3.2 SEARCH IN THE LITERATURE

The literature review protocol was designed to achieve three main objectives, according to Whittemore and Knafl: 1) a broad and comprehensive overview of previous conclusions on sustainable public procurement; 2) robust, reliable and valid search results; and 3) public sector that relates the barriers to the implementation of PSC in developed countries; barriers to the implementation of SPC in developing countries and barriers to implementation in underdeveloped countries. (2005)

For this purpose, a search was carried out in the *Scopus and EBSCO databases*. The choice of these databases was due to their great representativeness in the academic environment, their multidisciplinary nature, the provision of a high number of publications and their access to high-quality studies.

The keywords used in this research were translated into English to acquire a greater scope of results. Searches were performed at two different moments, also using different keywords. Initially, the following set of words was used: "public procurement" and "industry 4.0" or "sustainable development goals". Translating into English and using Boolean operators, the following results were reached: "*public procurement*" AND "*Industry 4.0*" OR "*sustainable development goals*". Later, considering that the term "digital transformation" has a greater scope and focusing more specifically on the theme of sustainable public procurement, the following set of words was used: "sustainable public procurement" and "digital transformation" and "barriers". Translating into English and using boolean operators again, the following

result was reached: *"sustainable public procurement" AND "digital transformation" AND "barrier"*. Chart 1 shows the search results.

Table 1 - Search results in the *Scopus* and EBSCO databases.

Keywords	Scopus		EBSCO	
	Number of records	The number of articles analyzed	Number of records	The number of articles analyzed
<i>"public procurement" AND "Industry 4.0" OR "sustainable development goals"</i>	22	11	970	27
<i>"sustainable public procurement" AND "digital transformation" AND "barrier"</i>	0	0	769	16
<b>Total</b>	<b>22</b>	<b>11</b>	<b>1.739</b>	<b>43</b>

Source: From the authors (2021)

It is noteworthy that, during the research, we opted for articles that presented full text, and the filter was also used for relevant and peer-reviewed texts. Only articles in English, English, Portuguese and Spanish were considered.

### 3.3 THE VALUE OF DATA

The articles selected in the research were inserted in a synthesis matrix. As inclusion criteria, articles published in English, Portuguese or Spanish were considered; which presented full text and relationship with the scope of the research; and were published in 2017. Thus, in addition to the filters highlighted here, duplicate articles were excluded, and therefore 10 articles were selected.

### 3.4 DATA ANALYSIS

The selected articles were organized according to the degree of development of the countries or regions that were the subject of the research. Thus, the categories of analysis were presented as follows:

Table 2 - Categories of analysis used in this study.

Category of analysis	Number of articles
Barriers to the implementation of PSC in developed countries	4
Barriers to the implementation of PsC in developing countries	4
Barriers to the implementation of PSC in underdeveloped countries	2

Source: From the authors (2021)

The categories presented sought to list the barriers to the implementation of the PSC in different degrees of development of the countries, making it possible to verify more objectively whether different degrees of development also presented different types of barriers. The results found are shown in chapter 4, which deals with the results of the research, below.

## **4 PRESENTATION AND ANALYSIS OF RESULTS**

The results found indicate what is most current in terms of barriers to the implementation of sustainable public procurement in the public sphere of different countries, which are organized according to the degree of economic development of the countries.

### **4.1 BARRIERS TO CPS IN DEVELOPED COUNTRIES**

Lunner looked at some of the developments and innovations linked to the Public Procurement Directive 24/2014/EU to identify obstacles and opportunities about the promotion of human rights through PSC. He points out that the absence of a clear orientation can lead to the non-use of this action itato. In other words, although contracts are concerned about sustainability issues, actions may become inert because of the difficulties intrinsic to the development of the necessary practices. (2018)

Andrecka presents the example of Denmark, which is considered a pioneer in sustainable development, in its experience with the implementation of CPS. It highlights that one of the biggest challenges is related to the monitoring of sustainable conditions, such as labor clauses and environmental criteria since there is little or no application in contracts. It also highlights the existence of very limited knowledge about suppliers' compliance with these criteria. Thus, instead of establishing a new legal obligation to include sustainability issues in procurement processes, it is advocated the provision of new solutions for its legal application.(2017)

Faracik examined the non-legal barriers that prevent the adoption of CPS in Poland. He points out that the implementation of CPS is still disproportionately low and emphasizes the participation of non-state actors as a stimulus to the application of THEC. He also noted that the quality of legislation and the conduct of the process lack improvement. In Poland, non-legal barriers have a much stronger impact and, in addition to refuting them, it is necessary to train the servers, as well as to change the attitudes of senior management, in addition to the pressure exerted by other actors that do not directly relate to the process.(2018)

Sigurðardóttir, in his study focused on the CPS in Iceland, noted that the concern with sustainability criteria in public procurement has existed since 2003 and its result has been very positive for society. However, the country still faces major challenges in this area, especially the authorities, who still need to learn more about this area. Furthermore, rapid changes in the economy increased tourism and the need for more agile solutions - due to homelessness and manpower - are challenges that still need to be mitigated.(2017)

## 4.2 BARRIERS TO CPS IN DEVELOPING COUNTRIES

Euflausino and Mello, during the 2nd International Summit of Sustainable Public Procurement, held in Brasilia (Brazil), developed a study with 77 public servants whose objective was to know what would be the perception of these agents about the CPS and its application. The results pointed to the recognition of agents regarding the impacts that the PSC can represent on national development and the economy in the long term. However, they considered the use of these criteria a difficult task, which, according to the authors, may be related to the limitations of these employees, including those who have a high level of qualification. Thus, the technical training of agents was highlighted as fundamental, since the creation of regulations is not enough. The authors also highlighted the cultural aspects as the limiting factor to the SPC.(2019)

Using this same line of study, Sousa and Carvalho sought to diagnose the perception of public agents of a Brazilian federal university regarding sustainability criteria. Their results highlighted that the maximum leader knows the concept, however, it is necessary to adapt the organ to this new paradigm, since the institution does not meet the legal criteria of promoting sustainability or social function - because the criterion used is merely economic, that is, the proposal that has the lowest value for acquisition is selected as advantageous. With the other employees, the concept does not present itself in a sedimented way or experienced in administrative practices. Because of this, the authors stressed the need for training and sensitization of servers as an alternative to promote the change of organizational culture.(2018)

Madeira et al., in the analysis of the notices prepared in the State of São Paulo (Brazil), sought to verify their adequacy to sustainability rules. As a measure of analysis, State Decree No. 59,038/2013, which establishes the "São Paulo Biofuels Program" was used as a reference. The results showed that 92% of the notices met the requirements analyzed, however, it fell far below the pedagogical point of view of dissemination of the standard. The authors emphasized that the creation of standards and the availability of tools with socio-environmental criteria are of great relevance, however, it was highlighted that the culture focused on the principles of sustainability would be much more effective if it has the participation of the high level of the organs, since it is these actors who implement internal policies and provide tools and training that consolidate good environmental practices.(2019)

The work of Jereissati and Melo sought to analyze the situation of the Brazilian federal government in the face of goal 12.7. It was found that, in the federal sphere, Brazil, despite having a good normative framework on the subject, still has great difficulty in effectively implementing the CPS, as well as not presenting solid data and monitoring, and there is much to be done to implement the goal 12.7.(2020)

## 4.3 BARRIERS TO CPS IN UNDERDEVELOPED COUNTRIES

In the study presented by Adjei-Bamfo and Maloreh-Nyamekye, in which it was sought to understand what were the main barriers to the implementation of PSC in developing countries, more specifically in Ghana (Africa), the authors identified barriers linked to limitations in political and leadership



commitment, absence of CPS monitoring systems and clear guidelines and, also, the lack of capacity of stakeholders. However, as opportunities for improvement, two measures were suggested: monitoring and incentives. The first will require awareness and training of the main actors involved in purchasing and the minimization of information gaps on THE PSCs between policymakers and suppliers. The second will be responsible for regular evaluation and robust audit systems as incentives to align the incongruous goals of the actors involved with a focus on the main objective of the purchase. (2019)

Eyo, when examining the relationship between corruption and its relationship with the CPS on the African continent, found that, at the macro level, the systemic corruption existing in these countries exhausts the small amount available for public spending, being considered one of the limiting factors to the implementation of PSC. It highlighted the need to carry out campaigns involving all sectors of society; the refinement of legislation to prevent and combat corruption; competitive remuneration of civil servants as an attractive factor for hiring good professionals; and the ongoing review of anti-corruption strategies. At the micro level, he emphasized the need for more specific anti-corruption controls to reduce the subversive actions of corrupt servers. Among these controls, the elaboration of plans for evaluation and management of corruption risk was emphasized; the development of initiatives to promote e-government, ensuring transparency in services; and the focus on people, encouraging them to report corrupt practices inside and outside the organization, including those that deviate from cps requirements declared in contracts and bids.(2017)

## **5 DISCUSSION OF RESULTS**

Given the presentations of the results, it is observed that the theme of sustainable public procurement is still quite incipient in many countries, regardless of their degree of economic development. Among the main barriers to the implementation of PsC detected in developed countries, we highlight the absence of clear guidelines for PSC; absence of CPS monitoring; limited knowledge of the actors involved; quality criteria of legislation; lack of leadership; rapid changes in the economy; tourism and the need for more agile solutions.

In developing countries, the main barriers were linked to the limited knowledge of the actors involved; cultural aspects; the need for active participation of the high echelon; and the absences of robust data and monitoring.

For underdeveloped countries, the difficulties in implementing the PSC were related to limitations in political and leadership commitment; absence of CPS monitoring systems and clear guidelines; lack of training of the actors involved; and systemic corruption.

It is noted that the limited knowledge of the actors involved in the processes of public procurement, the lack of leadership and the lack of solid data and monitoring were the barriers that were repeated in all degrees of economic development. Thus, although the issues affecting sustainable development are gaining strength on a global scale since 2015, the process of public procurement, so far, tends to move slowly,

maintaining practically its status quo, because, mainly, the lack of training and leadership of those involved contributes to the maintenance of processes already rooted.

## **6 FINAL CONSIDERATIONS**

The need for structural changes in the public procurement process from 2015 has been a major challenge for countries, regardless of their degree of economic development. Adapting to the objectives and targets set out in the 2030 Agenda for Sustainable Development requires a change in the way we think and see the world in the long term. Thus, in addition to seeking more sustainable alternatives to meet our current needs, we seek to appreciate the enjoyment of future generations.

Agenda 2030 is part of the context of a constantly changing world, where technologies and processes tend to be acceleratedly changed. With the advent of the Sars-CoV-2 pandemic, which caused Covid-19, new processes and technologies were inserted in the most varied sectors of the economy so that the impacts of this crisis were minimized and work activities, as well as educational, were developed safely.

Thus, added to this new current context, the challenges to implementing sustainable public procurement are still evident. As presented in this study, the main barriers that stood out in all degrees of development in the countries were related to the limited knowledge of the actors involved in the procurement processes, the lack of leadership, and the lack of solid data and monitoring.

A possible solution linked to knowledge limitation involves the adoption of training and training on the concept of sustainability (and its importance) for the entire supply chain of organizations, which should have the encouragement and support of senior management in fostering organizational learning.

As for issues affecting leadership, the development of corporate leaders (and governments) focused on sustainability can be seen as a new way of conducting activities. In this context, an atmosphere of knowledge sharing and engagement of individuals is created, demonstrating that the attitudes of each one, however small, contribute to the sustainability of the whole system.

Concerning the absence of solid data and monitoring, one solution would be the adoption of intelligent and agile technologies that can support decision-making, based on pre-established sustainable performance indicators.

The focus on resolving common barriers between the three levels of development could drive improvements in the challenges listed for each level, thus enabling the acquisition of products and services that are more relevant to society.

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