



Review

Sustainability Accounting and Reporting in the Public Sector: Towards Public Value Co-Creation?

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Abstract: The economic, social, and environmental contingencies of the last two decades have called into question the need for public sector organizations to align accounting practices with sustainable concerns. Sustainability refers to the ability of organizations to co-create economic value in the long run, involving all stakeholders, safeguarding the environment, and generating well-being for the community. While this topic attracts increasing interests from several perspectives, there is a lack of a comprehensive assessment of how academia is debating it. Therefore, this paper reviews the field of sustainability, accounting, and reporting (SAR) in the public sector in order to develop insights into how the literature is developing the theme of public value (PV) co-creation, offer a critique of the state-of-the-art to date, and outline future research opportunities. The study is based on a structured literature review (SLR) methodology that enables studying the corpus of scholarly literature, developing insights, critical reflections, and future research paths. The results highlight that, although the involvement of stakeholders appears as crucial for developing SAR practices in the public sector, scholars have not yet adopted a PV co-creation perspective to this phenomenon, since, at best, previous studies only focused on the stakeholders' involvement, without considering other aspects such as synergistic integration of resources and alignment of purposes. Therefore, academics should rethink their research setting and implications to provide a significant contribution by conducting studies capable of leading future development of SA in the public sector.

Keywords: sustainability accounting (SA); sustainability reporting; public sector; public value co-creation; structured literature review (SLR)

1. Introduction

Over the last two decades, it has become increasingly acknowledged that organizations' performance must be assessed taking into account organizations' sustainable impact on the environment and the society at large [1–4]. As such, the concerns of economic, social, environmental, and sustainability governance information has supplemented the traditionally exclusive interest of the financial one, both in private and public sectors [5,6].

This issue is notably relevant for public sector organizations, which provide important services for current and future communities' members, and thus are under greater accountability pressures to communicate the sustainability of their activities [7,8]. Public administrations, in particular, provide public services without the direct compensation of the resources they employ but rather with the purpose to create public value (PV) through services, laws, regulation, and other actions [9]. As a matter of fact, PV is connected to public administrations' capability of activating production

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processes able to satisfy individual and collective needs at the same time [10,11]. In addition to these physiological conditions of public sectors organizations, recent contingencies must also be considered. Public sector organizations are currently coping with a scenario featured by complex problems, such as climate change, natural disasters, waste generation, depletion of natural resources, poverty, and social inclusion. Moreover, the global financial and economic crisis of the last decade and the resulting fiscal surveillance needs have imposed a deep revision of public resource allocations, in both quantitative and qualitative terms, to the detriment of public expenditure. All these elements have concurred in reinforcing the need for public sector organizations to integrate sustainability issues into their missions, strategies, and operations and to directly engage into the promotion of sustainable policies [12–14]. This explains why the focus on the sustainable performance of public sector organizations has been acquiring a focal role in scholars' and practitioners' debates.

As a matter of fact, there is a growing expectation towards public sector organizations not only to meet spending mandates (pure financial performance) but also to create a value for all interested stakeholders that is sustainable from an economic, social, and environmental point of view [15]. Put differently, public sector organizations are increasingly expected to meet the accountability demands of a broader set of stakeholders by going beyond the pure financial frame, and thus by further focusing on non-financial information that depicts the social and environmental impact of their activities [16,17]. This implies that, despite still essential, financial information alone is considered no longer satisfactory for either addressing the accountability and legitimacy issues struggling public sector organizations or for assessing the real outcome produced by using public resources [18,19]. As a synthesis of the different labels that have been given to the accounting aspect of sustainability, such as social accounting, environmental accounting, and so on, sustainability accounting and sustainability reporting are the terms of reference in the current scholarly debate [20]. Sustainability accounting and reporting (SAR) constitute a process through which an organization's sustainability performance is measured and communicated, thus, enforcing accountability to internal and external stakeholders for its social, environmental, and economic performance [21]. Sustainability Accounting represents an information management and accounting method that creates and provides information aimed at demonstrating an organization's progress towards its sustainable goals [22]. Sustainability Reporting completes the process by formalizing the information to disclose about the organization's sustainability performance. Although Sustainability Accounting and sustainability reporting are two distinct terms, together, they form a unique accountability system able to record and communicate information on organizations' sustainable performance. This explains why they have both converged within a unique literature debate.

Such a concern on SAR is remarkably seen as a means through which public sector organizations can both enhance the accountability towards their stakeholders and improve the involvement of these latter in decision making [23,24]. Indeed, aiming at pursuing sustainable policies, public sector organizations acknowledge the relevance of involving stakeholders not only for developing practices of SAR [25,26], but also to identify what is valuable for them and what is their information demand [27,28]. In this regard, the involvement of private partners and civil society in the definition of policies, design, and provision of public services, as well as in the processes of allocation and reporting of the use of public resources, has become so fundamental that scholars by now refer to PV co-creation [29,30]. Precisely, PV co-creation arises when stakeholders' knowledge, information, skills, experiences, and resources are brought into the processes of PV creation [31,32].

Whereas the attention paid to SAR as an accountability innovation in public sector organizations is increasingly growing [33], and despite the relevance of stakeholders' involvement for PV, co-creation is emphasized from many respects [34,35], the two related streams of literature have not reached a meeting point. On the one hand, SAR literature is relatively young, and therefore knowledge on the topic is still scattered and lacks a comprehensive assessment of how the academia has been debating it. On the other hand, although the involvement of stakeholders is deemed to be crucial for developing practices of SAR and despite this is, in turn, a key element for co-creating PV,

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there is not a clear understanding of whether and how the SAR literature is dealing with the theme of PV co-creation. Nevertheless, a deep inquiry of their connections should be promoted in order to grasp whether and how SAR practices support PV co-creation in public sector organizations.

This appraised, this paper focuses on the need to explore and summarize the extant research on SAR in the public sector, which would both identify unexplored areas needing priority and detect how the PV co-creation theme is emerging within that literature. Therefore, this paper reviews the literature on SAR in the public sector, with the aim to develop insights into how the literature has been developing so far, offer a critique of the state-of-the-art to date, and outline future research opportunities. In doing so, the critical attention of the authors is specifically paid to the theme of PV co-creation, that is, to the way through which the academic debate has dealt, consciously or not, with the connected theme of PV co-creation. Thus, this paper aims at contributing to the extant knowledge on SAR in the public sector by attempting to shed light on a possible link between SAR and PV co-creation that would remain latent as long as these topics are considered as two separate "silos". As literature reviews can be performed for a variety of reasons, several approaches have been developed accordingly [36,37]. The structured literature review (SLR) is chosen as the most appropriated method for the purpose of this paper. Indeed, the SLR, building on precisely defined research questions and steps of investigation, enables studying the corpus of scholarly literature, and thus developing insights, critical reflections, and future research paths [37].

The remainder of the paper is structured as follows: Section 2 describes the SLR methodology, highlighting its suitability for the purpose of this work; Section 3 delineates the SLR method followed to select and analyze the articles; Section 4 offers insights and critiques on the literature investigated; Section 5 discusses the findings and depicts the avenue for future research paths on the topic; and finally, Section 6 provides conclusive remarks to the paper.

2. Methodology

The production and consumption of knowledge has experienced tremendous changes in the last decades, not the least due to the technological advancement achieved to share it [38,39]. This has resulted in the proliferation of a huge amount of academic research, on the production side, which often makes it challenging to sum up on a given phenomenon, on the consumption side. In this context, literature reviews represent a helpful kind of academic writing for summarizing extant knowledge, deliver policy suggestions, and supporting practice [27,33,40]. Literature reviews in social sciences can be undertaken for a variety of purposes, such as for classifying extant knowledge according to specific concepts [41] or understanding the relationship between two distinguished concepts [42]. Although all these instances share a common starting point that is the summary of the evidence, the multiplicity of purposes that they may have has implied the development of several methodologies and approaches to conduct them.

Massaro and Guthrie [37] recall the main labels currently adopted by researchers in the social science field to refer to different literature review methodologies, the divergency of which stems from the rules they follow. Specifically, from the rapid review to the SLRs, these labels can be appraised as they were on a continuum from no rules at all to rigid rules (see Figure 1).

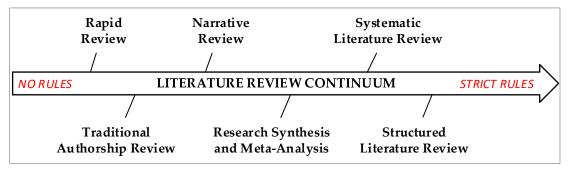


Figure 1. The literature review continuum (source: Adapted from Massaro et al. [37] (p. 769)).

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Traditionally, literature reviews in social science disciplines have been performed by experts in the field, by summarizing and interpreting previous contributions in a narrative and subjective manner. As it does not follow a strictly defined process of inquire, this approach has been argued to be unsystematic, uncritical, and suffering of authors' biases [37,43]. From a methodological point of view, these shortcomings raise concerns on the replicability of the research design, thus, seriously challenging the reliability of such kinds of studies as pieces of research [44].

In the attempt to overcome these limitations and borrowing from the methodologies developed in the medical fields, scholarly attention has recently focused on systematic types of literature review [40,43]. In the words of Cook et al. [43] (p. 377), "systematic literature reviews are scientific investigations in themselves, with preplanned methods and an assembly of original studies as their subjects". In doing so, systematic literature reviews distinguish from traditional narrative approaches, since they build on exhaustive, reliable, and scientifically conducted review of the evidence, which then limit the occurrence of biases. Among the systematic types of literature reviews, the SLR is increasingly resorted to for reviews in the field of social science, including accounting and public sector accounting, as a method which analyses extant research on a topic through precise steps of investigation and research questions, in a way to develop critical insights on that topic and depict possible future research paths [45,46].

As this paper aims at critically analyzing the corpus of extant knowledge on SA in the public sector to finally identify its connection to PV co-creation, the SLR is here chosen as the most appropriated method of investigation. Precisely, this paper follows Massaro and Guthrie [37] (p. 771–772), by articulating the literature review on SA in 10 steps of development, which are:

- 1. writing a literature review protocol;
- 2. defining the questions that the literature review is setting out to answer;
- 3. determining the type of studies and carry out a comprehensive literature search;
- 4. measuring article impact;
- 5. defining an analytical framework;
- 6. establishing literature review reliability;
- 7. testing literature review validity;
- 8. coding data using the developed framework;
- 9. developing insights and critique through analyzing the dataset;
- 10. developing future research paths and questions.

Although these steps which are listed in chronological order must be followed in order to carry out a SLR, it is important understanding that a research endeavor is not a mere series of events, but rather a much more fluid implementation. Therefore, we have logically organized the review according to these steps reiterating the procedure as needed. The next section details the SLR as it applies to the purpose of this paper.

3. The Structured Literature Review

3.1. The Literature Review Protocol

The replicability of a study is a fundamental dimension of research reliability [47]. In order to increase the methodological straightness as compared with looser approaches to literature reviews, the SLR method relies on a review protocol that precisely explains the ideas and choices made by the researchers when conducting the review. Hence, a protocol details the review questions and the way through which the author(s) will collect and analyze the data that are all operations impacting on the kind of conclusions that will be drawn [44]. As such, the literature review protocol represents a guide for the remainder of the study.

In this respect, this study focuses on the lack of systematization of extant literature on SA in the public sector, which does not enable understanding the way through which PV co-creation has been dealt with by scholars. Previous studies on accounting have resorted to the SLR methodology for reviewing and systematizing a young field of research, as a means to categorize extant knowledge

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and identify future research paths for enlarging the understanding of that phenomenon [48–50]. This study shares those goals, with specific regard to the field of SAR in the public sector, but it additionally attempts to detect the way through which the theme of PV co-creation has emerged in this respect.

Therefore, the starting point of analysis is the broader field of SAR in the public sector, analyzed through a wide search of published research articles on the topic. Then, analytical criteria have been applied following previous SLR studies [37,47,50]. Accordingly, the following criteria have been considered: jurisdiction, organizational focus, location, topic, research method, and framework/model.

3.2. The Research Questions

Massaro et al. [37] claimed that SLR must both engage into a critical endeavor about the extant knowledge on the topic under review and depict the path for future research. Given these general purposes, this paper specifically focuses on PV co-creation as a specific theme to investigate within the literature on SAR in the public sector. Particularly, this paper aims at reviewing the literature on SAR in the public sector by additionally attempting to shed light on a possible link with the theme of PV co-creation, which would remain latent as long as these topics are not blended in a unique reflection. As such, the research questions (RQs) documented in the protocol of this paper are the following:

- **RQ1** How has the research on SAR in the public sector been developing?
- **RQ2** How is the theme of PV co-creation emerging within the literature on SAR in the public sector?
- **RQ3** What is the future of SAR literature in the public sector?

Sections 5 provides answers to the listed research questions.

3.3. The Literature Search

In order to select the data sources of the review, a comprehensive and staged search of the Clarivate Analytics Web of Science Core Collection (WoS) and Elsevier Scopus collection was carried out, as they both offer valuable and high-impact collection in many disciplines, included accounting and social science ones [51,52]. Collections were first accessed in February 2020. Complying with the PRISMA guidelines, Figure 2 depicts the study selection that the authors followed to analyze the articles.

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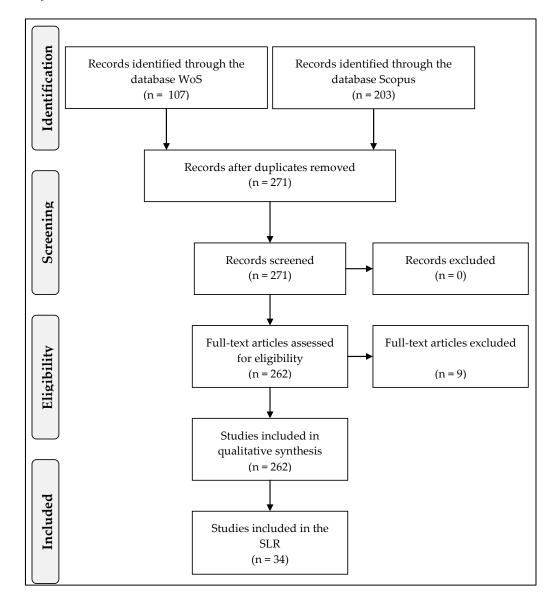


Figure 2. SRL flowchart (source: the authors). Note: WoS, Web of Science Core Collection and SLR, structured literature review.

The first step regarded the research query. As this paper aims at critically investigating the development of a segment of literature in the public sector, that is, SAR, to then detect the theme of PV co-creation, the research query was purposefully ideated to be broad. Hence, the research query "(accounting OR reporting) AND (sustainability OR sustainable)" AND "public sector" was executed with reference to titles, abstracts, and keywords. The word "sustainable" was used as an alternative to the term "sustainability", considering that the authors may have added a different suffix to the same word root, according to the context. Thus, including those alternatives in the search avoided losing some relevant contributions in the analysis. This first step released 311 records in WoS and 480 in Scopus.

In the second step of the analysis, results from both collections were refined according to several criteria. Specifically, the authors selected only (a) published research articles, (b) written in English, and (c) concerning the fields "business economics" and "public administration" (from WoS) and "business, management and accounting" and "social sciences" (from Scopus). Additionally, any time limits were set, except for the exclusion of 2019 and 2020, as metrics for articles published in that year could have not been assessed at the time of the analysis (see Section 3.4 below). This step of the analysis led to the selection of 30 and 32 records, respectively, delivered from the WoS and Scopus search. Matching those results, 34 articles were finally extracted from the databases accessed.

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A further screening of data has been realized in a third step, during which the authors have read the abstracts of 34 articles. In so doing, all those articles previously extracted from the databases, not precisely referring to SAR in the public sector, were eliminated.

All these steps of investigation delivered a final dataset of 31 articles, then, the analytical framework was applied.

3.4. Article Impact

The first insight on the literature analyzed regards the citations as a measure of the impact of the selected papers [37]. In addition to signaling articles quality, citations support the understanding of the evolution of a given topic in the literature by highlighting those contributions that are steering the academic debate in that respect.

To this aim, this paper referred to the Google Scholar Citations (GSC) to assess the total citations, as downloaded on 22 January 2020. Additionally, the Citation Per Year (CPY) was considered too, as a more accurate type of information on articles' impact [53]. Tables 1 and 2 show results on the articles impact by depicting the top ten articles by total citations (GSC) and CPY.

Table 1. Top ten articles by Google Scholar citations (as at 21 February 2020).

| | Reference | Article | GSC * |
|----|---|--|-------|
| 1 | Guthrie and Farneti [54] | GRI Sustainability Reporting by Australian Public Sector Organizations | 284 |
| 2 | Dumay, Guthrie, Farneti [55] | GRI Sustainability Reporting Guidelines For Public And Third Sector Organizations | 255 |
| 3 | Marcuccio and Steccolini [56] | Social and environmental reporting in local authorities: A new Italian fashion? | 167 |
| 4 | Larrinaga-Gonzélez and Perez-Chamorro [57] | Sustainability Accounting and Accountability in Public Water Companies | 96 |
| 5 | Lodhia, Jacobs, Park [58] | Driving public sector environmental reporting the disclosure practices of Australian Commonwealth Departments | 82 |
| 6 | Bello [59] | Intangibles and sustainability in local government reports: An analysis into an uneasy relationship | 54 |
| 7 | Gnan, Hinna, Monteduro, Scarozza [60] | Corporate governance and management practices: Stakeholder involvement, quality and sustainability tools adoption: Evidences in local public utilities | 53 |
| 8 | Alcaraz-Quiles, Navarro-Galera, Ortiz-Rodriguez [61] | Factors determining online sustainability reporting by local governments | 50 |
| 9 | Grossi, Papenfuß, Tremblay, Greiling, Traxler, Stötzer [62] | Sustainability reporting in the Austrian, German and Swiss public sector | 45 |
| 10 | Samkin [63] | Changes in sustainability reporting by an African defence contractor: A longitudinal analysis | 43 |

Note: * GSC, Google Scholar Citations.

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Table 2. Top ten articles by Google Scholar CPY (as of 21 February 2020).

| | Reference | Article | CPY * |
|----|--|--|-------|
| 1 | Dumay, Guthrie, Farneti [55] | GRI Sustainability Reporting Guidelines for Public And Third Sector Organizations | 25.5 |
| 2 | Guthrie and Farneti [54] | GRI Sustainability Reporting by Australian Public Sector Organizations | 23.67 |
| 3 | Marcuccio and Steccolini [56] | Social and environmental reporting in local authorities: A new Italian fashion? | 11.13 |
| 4 | Lodhia, Jacobs, Park [58] | Driving public sector environmental reporting the disclosure practices of Australian Commonwealth Departments | 10.25 |
| 5 | Alcaraz-Quiles, Navarro-Galera, Ortiz-Rodriguez [61] | Factors determining online sustainability reporting by local governments | 10.00 |
| 6 | Grossi, Papenfuß, Tremblay, Greiling, Traxler, Stötzer [62] | Sustainability reporting in the Austrian, German and Swiss public sector | 9.00 |
| 7 | Larrinaga-Gonzéle and Perez-Chamorro [57] | Sustainability Accounting and Accountability in Public Water Companies | 8.00 |
| 8 | Montecalvo, Farneti, De Villiers [64] | The potential of integrated reporting to enhance sustainability reporting in the public sector | 8.00 |
| 9 | Gnan, Hinna, Monteduro, Scarozza [60] | Corporate governance and management practices: Stakeholder involvement, quality and sustainability tools adoption: Evidences in local public utilities | 7.57 |
| 10 | Samkin [63] | Changes in sustainability reporting by an African defence contractor: A longitudinal analysis | 5.38 |

Note: * CPY citation per year.

As evidenced in Tables 1 and 2, nine out of ten articles appear in both classifications [54–63]. Findings on articles impact suggest a couple of considerations. First, it is interesting to note that older articles, although significantly contributing to shape the investigated research field, could have resorted to different terms to refer to the same phenomenon, here, studied [56]. In this respect, the convergence towards the terms SA and SR in the academic debate has defined the conceptual borders of a phenomenon, the measurement and the communication of public sectors organizations' sustainable performance that may take different labels according to the national context or the time frame of investigation. Second, the impact recorded by the selected articles, both in terms of total and year citations, suggest a relevant scholars' engagement on the topics of SAR, which have given rise to a vivid literature debate. Not the least, the circumstance, for which newer articles are well positioned in both rankings, evidences the capability of new knowledge on SAR in the public sector to have an immediate impact on the ongoing academic debate.

3.5. The Analytical Framework

The authors of this paper have built a specific analytical framework to understand how the literature on SA in the public sector is evolving and whether and how the PV co-creation theme is emerging in that scientific debate, In particular, by following the suggestions of Dumay and Garanina [65] and Guthrie et al. [45], two of the four authors of this paper have preventively codified five scientific contributions to verify the suitability of the framework and to assess the opportunity to modify the critical analysis criteria of the literature, modifying, adding, or deleting one or more attributes. Following the coding process, no change has been made to the original setting. Therefore, as in the formulation provided in their studies by Guthrie et al. [45] and Dumay and Garanina [51], the authors have used six criteria to outline the analytical framework (see Table 3). The results of the coding process of the scientific contributions have constituted the starting point for debating insights and critiques and for outlining possible future research paths [47] in terms of SA in the public sector and its connection to the theme of PV co-creation.

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Table 3. The analytical framework.

| | Criterion/Attribute | Items |
|----|--|--------|
| A | Jurisdiction | Number |
| A1 | National | 11 |
| A2 | Local/Regional | 10 |
| A3 | Other or Not Applicable | 6 |
| A4 | Supra-national/International | 4 |
| В | Organizational focus | |
| B1 | General | 16 |
| B2 | Environment | 6 |
| B3 | Finance | 3 |
| B4 | Transport | 2 |
| B5 | Taxation | 2 |
| B6 | Society | 2 |
| С | Location | |
| C1 | Europe | 12 |
| C2 | Other or Not Applicable | 6 |
| C3 | Australia | 5 |
| C4 | Africa | 3 |
| C5 | Multi-continental | 3 |
| C6 | Asia | 2 |
| D | Topic | |
| D1 | Regulation/Disclosure | 15 |
| D2 | Strategy | 7 |
| D3 | Accountability | 6 |
| D4 | Transparency | 3 |
| Е | Research methods | |
| E1 | Case study, documentary analysis | 16 |
| E2 | Case Study, interviews | 9 |
| E3 | Conceptual | 2 |
| E4 | Case study, structural equation modeling | 1 |
| E5 | Case study, simulation | 1 |
| E6 | Case study, participant observation | 1 |
| E7 | Literature review | 1 |
| F | Framework/Model | |
| F1 | Applies or considers previous | 29 |
| F2 | Proposes a new | 2 |

3.6. Reliability

Krippendorff [66] argues that the reliability assessment of the methodology supports scholars in demonstrating their data. To assess the reliability, it is necessary to imagine SLR as a sort of content analysis, whereby the scientific contribution represents the unit of analysis [37]. The reliability of the methodology used in qualitative research is very often underestimated or even completely ignored. This choice is mainly linked to some perplexities about poor uniformity of the assessment parameters, which could lead to controversial considerations [67]. However, as suggested by Yin [68], in order to reduce interpretative biases, it is fundamental to evaluate the methodology reliability by employing a form of control through the triangulation. This technique which includes integrating theories, methods, and data with complementary strengths and non-overlapping weaknesses [69] is especially relevant in the SLRs, which is characterized by the objective of carrying out a critical analysis of the existing literature on a specific theme. To this end, among the different alternatives available (such as Cronbach's α, Bennett et al.'s S", Scott's Pi, Fleiss' K, Cohen's κ), the Krippendorff's α (K-alpha) [70,71] has been employed in this article, since it represents the most suitable parameter to evaluate the methodology reliability in the SLRs [37]. Specifically, it implies taking into account only the variables with reliability higher than $\alpha = 0.8$ [68] (p. 325). Operationally, reliability was assessed by using the SPSS Statistics ver. 23 software (IBM, Armonk, NY, USA) which takes advantage of a macro specifically created for the purpose by analyzing the results arising from the reading of five articles chosen randomly within the set of 34 selected scientific contributions. Preliminarily, as suggested by Dumay et al. [47]), each author

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independently read the five articles by separately recording the codes. The coding process returned a K-alpha score of 0.89, higher than the acceptability threshold [67].

3.7. Validity

Assessing the validity of the methodology is an important step to check the accuracy of findings [72] In this regard, Cho and Trent [72] underline the importance of verifying the correspondence between the claims and evidence in scientific research, subjecting findings to any possible test and avoiding reaching "easy" conclusions based on results that seem to direct the study in a certain direction [73]. According to White and McBurney [74], there are three main kinds of validity as follows: internal validity, concerning the existence of a causal relationship among the claims and evidence; external validity, aimed at assessing the chance to generalize the findings; and construct validity, expressing the overall quality of the measures employed. In this paper, the authors have dealt with all of them.

The internal validity has been verified by following a pattern-matching logic, which compares the empirically based pattern with a predicted one made before the data was gathered [69]. In more detail, as Broadbent and Guthrie [75] suggest, the authors have performed a pilot test on five articles randomly selected within the set of 34 selected scientific contributions to develop first conclusions and detect some elements for further analysis.

To verify the external validity, the authors have followed the Serenko and Dumay's [76] suggestions, who indicate to take into account extant literature to understand whether previous studies support the claims.

Finally, the construct validity was evaluated by considering the importance of the selected articles and the relative journals through a citation analysis [77]. To this aim, as pointed out in Dumay's study [50], the authors have taken into account both GSC and CPY (see Tables 1 and 2 above). Table 4 synthetizes the process conducted to verify the validity of the methodology.

| Test | Procedure | Description | Source |
|----------------------|--|---|---|
| Internal validity | Pattern-matching logic | Comparing the empirically based pattern with a predicted one made before data was gathered | Yin [68] Broadbent and Guthrie [75] |
| External validity | Theory explanation | Taking into account extant literature to understand whether previous studies support the claims | Serenko and Dumay's [76] |
| Construct validity | Total citations (TC) and citation per year (CPY) | Considering the importance of the selected articles and the relative journals through the citations' analysis | Dumay's [53] |

Table 4. Methodology validity.

3.8. Coding

As Stanley [78] proposes, after assessing reliability and validity of methodology, SLRs requires the coding of the scientific contributions selected. With this in mind, the authors have implemented a manual coding, since operating manually overcomes some limits of computer-aided procedures. In fact, although software ensures more efficiency, especially in terms of less time needed to carry out all operations, it exposes researchers to a greater risk of making errors in interpreting the findings. In this regard, Guthrie et al. [46] (p. 71) provide a useful example by highlighting that terms with similar meaning such as "human capital" and "workers" can be more easily recognized by resorting to manual coding. However, since the implementation of manual coding does not exclude software support [79], as well as to facilitate the understanding of the results obtained, the authors of this paper have used Microsoft Excel Professional Plus 2019 (Microsoft Corporation, Albuquerque, NM, USA) to create summary tables of the coding procedure.

4. Insights and Critiques

SLRs require researchers to synthetize results in "a process of assembling the jigsaw of evidence" [36] (p. 164), which does not simply mean highlighting a set of facts, but rather developing a formal

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process to perform search enabling scholars in critiquing the current literature [37]. Consistently, Tranfield et al. [40] point out that through SLRs researchers must avoid limiting themselves to simply describe the findings, since this modus operandi makes their works irrelevantly and tediously descriptive.

On the contrary, they must identify and critically analyzes the core scientific contributions in order to propose insights, enrich the extant state-of-the-art, and ground the conclusions [80]. Similarly, Schimel [81] underlines the role of scientific works in telling "charming" stories. Similarly, Wellington et al. suggest scholars adopt a critical perspective of current thinking. Such an approach implies open minds and skepticism [82] (p. 5). In doing so, it is possible to employ several tools such as ideas, concepts, mental associations, reasoning, and metaphors which are embedded in the language that scholars typically use to write their scientific contributions [83]. In this perspective, performing a SLR helps researchers to be imaginative [37] and to build an analytical framework that critically maps previous studies by means of "visual metaphors" [84] (p. 119). In light of what has been debated so far, the following sub-paragraphs help to understanding how the discussion of the analytical framework previously outlined (see Table 3) fosters the development of insights and critique about the literature on SA in the public sector and its links with the theme of PV co-creation.

4.1. Jurisdiction

The first criterion is jurisdiction (A) of the papers selected [45]. It includes the following four sub-criteria: national (A1), local and regional (A2), other or not applicable (A3), supra-national and international (A4). Interestingly, it is possible to note that one third of the scientific contributions (11 items, corresponding to 36%) focus on national scope. Another third of the articles set (10, 32%) deals with the topic at the local and regional level. Four papers (13%) consider the supra-national/international perspective, while six articles (19%) do not present an empirical base to identify the jurisdiction.

In light of the jurisdiction data of the selected articles, it is possible to deduce that, as occurs in other scientific-disciplinary sectors (such as management, engineering, design, etc.), the theme of co-creation also takes on a wide-ranging connotation in accounting [29]. In addition, the choice of scholars seems to be influenced by the orientation of many countries in the world to foster the international harmonization of institutional arrangements in the public sector [85], characterized by the constant attempt to guarantee uniformity and homogeneity beyond every border [86].

4.2. Organizational Focus

The second criterion is organizational Focus (B), concerning specific features of the organization studied within the literature [37]. It includes the following six sub-criteria: general (B1), environment (B2), finance (B3), transport (B4), taxation (B5), and society (B6).

More in detail, data highlight that more than half of the articles set (16, 52%) investigates SA practices in the public sector by using a wide organizational focus. Environment represents 19% of the organizational focus of the selected papers. Finance follows with three publications (10%). In the set of articles considered, transport, taxation, and society, each present two articles (6%).

Therefore, also with regards to the organizational focus, the wide-ranging connotation of PV co-creation emerges [87]. This consideration is justified by the prevalence of articles that deepen the theme by focusing on a general organizational setting. In addition, the number of sub-criteria emerged in the analysis greater than similar articles that developed an SLR in the area of accounting [30,37,45,47,87] underlines the remarkable transversal of PV co-creation in the public sector [29].

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4.3. Location

The third criterion used to perform this SLR is Location (C), which provides information about the geographic areas that are more investigated and if there are other countries and regions requiring attention [37]. By applying the criterion of location, six areas were identified: Europe (C1), other or not applicable (C2), Australia (C3), Africa (C4), multi-continental (C5), and Asia (C6). Specifically, over a third of the sample (12 items, 39%) investigates SA practices in the public sector within the European Union. Six papers (19%) fall under the sub-criterion other or not applicable. Five articles (16%) are geographically based in Australia, followed by African and multi-continental contributions, with three papers each (10%), and Asia (two works, 6%).

These findings can be interpreted considering that the debate on the (economic, social, and environmental) sustainable impact of public sector organizations has been a hot topic in Europe, especially in the aftermath of the sovereign debt crisis that affected the Eurozone in the last decade [88]. Emerged as a fiscal issue, the crisis has further evolved into a legitimacy crisis affecting the relationship between public sector organizations and the civil society [89,90]. Consequentially, there has been a growing emphasis on the sustainable feature of public sector organizations' performance, as well as the involvement of stakeholders in several aspects of their activities among European countries.

Moreover, the authors expected to find the USA among the first places for the number of scientific contributions dedicated to the topic, acknowledging the cultural sensitiveness to the value co-creation. This theme has originated and developed within two main frameworks in the private sector literature, service-dominant logic (S-DL) [91–93] and service science (SS) [94,95], both originally promoted by all American authors, in particular Stephen Vargo and Robert Lusch [81] for S-DL and Jim Spohrer and Paul Maglio [94] for SS. However, the prevalence of articles geographically based in Europe finds justification in the progressive spread of value co-creation that starting from the first years of the new millennium and has involved an increasing number of scholars operating within the European continent [96–99]. A final interesting aspect regarding the location criterion concerns the presence in the dataset of three articles focused on SA practices in African countries. Although the number of such articles is not particularly high, the data suggest that developing economies will potentially become the new hotspots [45] for this topic.

4.4. Topic

The fourth criterion is Topic (D), which refers to specific aspects investigated by previous studies [38]. Within it, the following five sub-criteria have been identified: regulation/disclosure (D1), strategy (D2), accountability (D3), transparency (D4), and governance (D5). Looking at the data, it is possible to notice that almost half of the selected items (15, 48%) deals with sustainability with regard to regulation or disclosure practices related to economy, society, and environment.

This finding is in line with the vision of sustainability as the summation, and at the same time the synthesis, of following three fundamental components [100–102]: Economic sustainability, understood as the ability to generate income and work to support citizens [103]; social sustainability, defined as the ability to guarantee conditions of human well-being in terms of safety, health, education, democracy, participation, and justice [104]; and environmental sustainability, seen as the ability to safeguard the quality and reproducibility of natural resources [105].

Seven articles (23%) analyze the strategic approach and six (19%) other papers explore the issue of accountability of public bodies in pursuing sustainability in its triple expression. This finding addresses the authors' expectations, who share the idea that in order to co-create value for all stakeholders in the public sector, it is necessary to adopt accountability strategies capable of supporting the triple declination of sustainability, through actions aimed simultaneously at enhancing the economy, society, and environment [106–108].

Finally, three works (10%) focus on the role that transparency plays within the public sector accounting processes in both enhancing the organizations' accountability and fostering the stakeholders' involvement [23,24]. Indeed, aiming at pursuing sustainable policies, public sector organizations acknowledge the relevance of involving stakeholders not only for developing

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practices of sustainability accounting and reporting [22,25], but also to identify what is valuable for them and what is their information demand [27,28].

4.5. Research Methods

Research method (E) is the fifth criterion employed to develop this SLR, referred to the epistemological approach used by precious studies in performing the research [37]. It has been organized into the following seven sub-criteria: Case study, documentary analysis (E1); case study, interviews (E2); conceptual (E3); case study, structural equation modeling (E4); case study, simulation (E5); case study, participant observation (E6); and literature review (E7).

The most employed methodology is case study through documentary analysis with 16 scientific contributions (52%), followed by case study by means of interviews (nine works, 29%). The data also shows that two articles (6, 4%) are written by following a conceptual approach. Only one paper (3, 2%) is based, respectively, on case study, structural equation modeling; case study, simulation; case study, participant observation; and literature review.

These findings suggest that there is an imbalance in the choice of methodology to be used for research. Indeed, the evidence underlines a clear prevalence of case studies approach, since, overall, with some exceptions, almost all the sample (28 papers, 90%) contemplate that methodology.

4.6. Framework/Model

The last criterion is Framework/Model (F), developed according to the Guthrie et al.'s suggestions [53]. It consists of the following two sub-criteria: Applies or considers previous (F1), and proposes a new (F2). As highlighted with regard to the research methods, the data emerged by applying this criterion also indicates that there is a high preponderance within the set of papers considered. In fact, 29 scientific contributions (94%) are written by applying or considering previous conceptual setting, whilst only two articles (6%) proposes a new framework or model.

To explain this evidence, some considerations should be made. First, it should be noted that, over the past fifteen years, the concept of value co-creation has acquired and consolidated its scientific maturity, to the point of becoming a "scientific compass" for many scholars all over the world [88]. In fact, since the early years of the new century, the number of those who have embraced this observational perspective has grown exponentially [29]. Such a consideration is in line with Pellicano et al.'s thinking [107], who underline the growing attention of both scholars and public sector practitioners towards the study and analysis of actions, interventions, and policies capable of promoting all stakeholders' involvement in generating a co-created value. Only in this way, in fact, it appears possible to meet the needs and expectations of citizens, private companies, public bodies, and more generally, of all the stakeholders who co-create public value through the active participation in processes, synergistic integration of resources, and alignment of objectives towards a shared objective [30]. However, on the contrary, the presence of some articles that propose a new framework or model, leads reflecting on the progressive orientation of the literature towards identifying new connections between sustainable accounting, accountability practices, and PV co-creation [30].

5. Research Paths and Future Directions

Outlining the research path to lay the foundation for predicting future directions of literature is the last essential step of any SLR [37]. In doing so, starting from the evidences of the analysis performed, the authors provide an answer to the RQs previously indicated (see Section 3.2).

As concerns RQ1, "How has research on SAR in the public sector been developing?", the SLR carried out in this paper has testified features typical of a young research area, whereby knowledge is scattered and lacking conceptual systematization. Scholars are approaching SAR in the public sector from wide observational perspectives, which privilege the national and local/regional focus in their investigations. On the contrary, the attention paid to the supra-national as a setting is still lacking. From a methodological point of view, it is remarkably noting that the approaches adopted

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so far are also connected to the low maturity of the literature investigated. Indeed, the prevailing research methods used in the analyzed literature primarily serve exploratory and descriptive purposes, which are typical in the first stages of knowledge development within a literature stream. Moreover, the recurring reference to frameworks and models borrowed from previous studies suggests that scholars are still struggling to give SAR literature in the public sector its own theoretical spaces. Finally, it is encouraging observing that the literature promotes interdisciplinary approaches to the topic, which clearly stems from the very nature of the sustainability issue in the public sector.

With regard to RQ2, "How is the theme of PV co-creation emerging within the literature on SAR in the public sector?", results from this SLR evidence the lack of a clear and direct connection between the two streams of literature. In addition to highlighting the focuses of the investigated literature, this paper has additionally paid critical attention to the theme of PV co-creation. Although the involvement of stakeholders is crucial for developing SAR practices in the public sector, scholars have not yet adopted a PV co-creation perspective to this phenomenon. At best, SAR practices in the public sector are studied by focusing on the related involvement of stakeholders. Indeed, in the analyzed literature, stakeholder engagement emerges as a relevant consequence of SAR practices [58,60,108]. Nevertheless, such focus hardly implies a conscious awareness of PV co-creation stemming from those practices, so that the two streams of literature are not directly matched. In other instances, instead, the involvement of private partners and civil society in SAR practices does not even represent a concern in the literature. As such, despite the inherent connections, the theme of PV co-creation represents an underdeveloped area of research in the literature on SA in the public sector.

That said, based on the evidence of this SLR, it is possible to imagine the next evolution of the topic here debated, proving an answer to the RQ3, "What is the future of SAR literature in the public sector?". In this regard, the gaps identified by answering to the former research questions represent the starting point for future research in the field. Specifically, scholars may engage in investigations settled at the supra-national level, in order to broaden the focus on context-related dimensions of the phenomenon. This would additionally benefit the connection with the PV co-creation theme, as the supra-national level, since the increasing orientation of many countries in the world to foster the international harmonization of institutional arrangements in the public sector [85]. As the local level is the one in which the involvement of private partners and civil society primarily takes place, it was reasonably to expect connections between SAR and PV co-creation in the analyzed articles. Unfortunately, as explained above, this connection has not been found. Furthermore, future research on SA in the public sector may direct towards quantitative methodologies, eventually developing new theoretical frameworks. From a geographical point of view, as the research on the investigated topic is overbalanced towards European experiences, scholars wishing to focus on SA practices in developing countries are encouraged to address such knowledge gap. Finally, the critical analysis carried out in this paper has highlighted that the self-evident connection between PV co-creation and SA practices in the public sector has not been thoroughly and directly addressed in the literature. Therefore, building bridges between the two represents a specific path for future research.

6. Final Remarks

In conclusion, it is worth pointing out that, in SLRs, the term "critical" is not employed to find fault with current thinking about a field, but, rather, to critically analyze a literature field [109]. In other terms, the focus is on "critique" and not on "criticism" [110], since the overall goal of this work is to debate on the link among accounting and reporting practices devoted to sustainability, in its triple meaning, i.e., economic, social, and environmental, and PV co-creation by assessing the peculiarities of the literature. To this aim, the originality and innovativeness of such a paper is traceable in the contribution to the extant knowledge on sustainability accounting and reporting in the public sector as a means to highlight a possible connection between SAR and PV co-creation, often considered separately from previous studies.

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Thus, this SLR should be seen as a first step toward a more comprehensive understanding of the past, present, and future of the topic investigated. With this in mind, the authors reaffirm their desire to not express any bad opinion or judgment of what is wrong in the accounting and accountability literature.

Furthermore, this paper is not proposed as a "panacea" for all the gaps and limits characterizing the literature. In fact, regardless of any possible attempt of cognitive effort, although SLRs offer more reliability than the traditional authorship literature, a certain degree of subjectivity in the analysis of the evidence emerged keeps on persisting [47]. In this regard, the authors seize the opportunity to invite interested scholars to provide their interpretation and highlight their critical point of view. Since the theme of PV co-creation has not expressly emerged in the SLR here performed on SAR, future studies are welcomed to investigate the connection between them more directly. Shedding light on their latent link would help to understand whether and how SAR practices support PV co-creation in public sector organizations, thus, significantly contributing to the extant knowledge on both SAR and PV co-creation.

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