



Article

# Sustainable Development, Governance and Performance Measurement in Public Private Partnerships (PPPs): A Methodological Proposal

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Abstract: Institutionalized Public Private Partnerships (PPPs) are a widely debated phenomenon, addressed by both scientific literature and policymakers. The most important contribution of this work is to describe the various theories used for understanding the performance expectations of PPPs, as the focus on performance is still poor despite the growing interest in participant companies (mixed-owned companies), especially at the local level. While analyzing the evaluation of the performance of these entities, a wide stream of literature has focused on profitability and efficiency, showing a substantial difference in terms of the performance of such companies compared to private capital ones. All this leads us to consider the Public Value theory as the best framework in literature to address the many dimensions of performance and business strategy in PPPs while pursuing sustainable development. The interest in this area has increased lately, mainly due to the growing complexity within this dynamic context. Therefore, it seems meaningful to carry out a systematic review of the relevant published literature in this field. This study contributes to the literature on sustainable development in Public Private Partnerships (PPPs) that are seen as a form of mixed-owned companies, trying to address their multilayered performance expectations within the public value perspective and to understand how the role of performance measurement is influencing business strategies and the attitude towards sustainable environment. This will prove useful to scholars, policymakers and practitioners alike.

**Keywords:** sustainable development; governance; public value; performance measurement; PPPs; mixed-owned companies; SLR; methodological proposal

#### 1. Introduction

Since the advent of the New Public Management paradigm [1], companies owned by public bodies have been one of the most debated topics not only in scientific literature but also by legislators [2–5]. Public administrations, particularly local ones, have in fact been externalizing public services, such as water supply, waste and transportation through forms of corporatization, public-private collaboration, outsourcing and full privatization, with different organizational forms and ownership structures [6–9]. The rationale behind the new approach was to separate public policy from management aspects and to improve the provision of public services in terms of proximity, representativeness and innovation.

In the present article, we focus on mixed ownership and particularly on institutionalized Public Private Partnerships (PPPs) as discussed in the EU Green Paper on PPPs [10]. PPPs consist of joint ventures between public sector entities on one side and private operators and/or financial investors on

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the other [11]. As a result of this evolution, Public Private Partnerships (PPPs) have become one of the main instruments for the supply of many public services [12,13]. Even now, despite growing outsourcing to the private world, they play a crucial role in economies throughout the world [14,15]. This work presents a theoretical study of the performance of PPPs, through an analysis of the international literature. An important contribution is that of describing the various theories used to study the performance of PPPs since, despite the growing interest in them—especially at the local level—the focus on their performance and impact on society is still poor [16–19]. A wide stream of literature has focused on evaluating the performance of PPPs in terms of profitability and efficiency, showing a substantial difference in performance compared to private capital companies [20]. If the latter tend to maximize their market value or to 'make money' for shareholders [21-25], public organizations act according to more complex and layered perspectives [26,27], such as the goals of elected politicians, predominant social values, the needs of citizens and all other stakeholders [28–30]. The issue of performance in PPPs can be examined from different points of view [17] which involve, beside that of the participating public body, those regarding the interests of the company itself, of the citizens/users and of the legislators [31]. The recent global financial crisis has had important effects on performance management, increasing the pressure on public managers in particular, who have been forced to maintain the same levels of performance by using fewer resources within a regulatory framework focused on downsizing and budget cuts [32]. Measuring the performance of local PPPs—beside representing a topic still little studied in the literature—remains a complex problem, as it involves more dimensions compared to companies with only private capital [33]. The analysis of the different paradigms of Public Administration can help us find a theory capable of accounting for the parameters established in recent scientific literature, within the regulatory framework devised by the legislators [34–36]. All this leads to consider the Public Value theory and its measurement dimensions as the best framework in literature to address the many dimensions of performance and business strategy in publicly-owned companies pursuing sustainable development [37–40].

The growing budget restrictions and decentralization processes that public administrations are coping with during recent years is affecting the sustainability of local public services delivered by mixed public-private arrangements [19]. The debate about sustainable development and corporate behavior has flourished [41,42], calling for new approaches to the study of performance, governance [43] and sustainable business models [44–48]. The interest in this area has increased lately, mainly due to the growing complexity within this dynamic context. Therefore, it is meaningful to conduct a systematic review of the relevant published literature in this field.

This study contributes to the literature on the performance of Public Private Partnerships (PPPs), in order to find a theory capable to address its multilayered aspects, particularly when pursuing sustainable development. This will prove useful to scholars, policymakers and practitioners alike. Following the research gap and the observation of empirical phenomena not explained by existing interpretative models, our analysis will provide answers to the following research questions (RQ):

RQ1: Does a theory exist in the literature capable of responding to the multivariate expectations of PPPs? Is there a theory in literature able to respond to the different expectations of PPPs?

RQ2: Does Public Value Theory (PVT) represents an answer to the questions raised in RQ1? Does the Public Value Theory (PVT) represent an answer as well?

RQ3: How can Public Value also encompass sustainable development?

This paper is organized as follows: Section 2 focuses on the theoretical framework; Section 3 presents the research design and method adopted, whereas Section 4 presents the literature review on PPPs. Finally, Section 5 contains a discussion on the results achieved, while Section 6 shows their implications and limitations, while also indicating directions for further research.

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#### 2. Theoretical Framework

#### 2.1. Public Private Partnerships (PPPs)

PPP arrangements should refer to models for infrastructure delivery [49], public procurement [50,51] or public service delivery [52]. Recession periods have also contributed to the creation of PPPs in various sectors (merely devoted to the provision of public services [53–58]. This has caused management problems and difficulties in combining the various political goals that justify both their low performance and their very existence [59]. During the 1980s and 1990s, the paradigm of New Public Management caused many privatizations of public services in order to reach certain goals: an increase in public revenues and efficiency, the reduction in size of the public intervention in the economy, an increase in competition and a stimulus for PPPs to operate on the basis of free market rules [60], improving new strategies of sustainable innovation [61]. In particular, the public interest theory assumes that regulation and regulators are inherently rational. Experienced public servants design and implement regulation to ensure that positive public outcomes are achieved. The approach rests on the 'trustworthiness and disinterestedness of expert regulators in whose public-spiritedness and efficiency the public can have confidence' [62].

Following a wave of privatizations, there has been a significant reduction in the number of PPPs in most industrialized countries [57,58,63,64], although many governments have chosen to keep some PPPs under their own control, albeit with smaller shares [65–67]. PPPs involve actors from the public and the private sectors who agree to cooperate and to share different kinds of resources to achieve a certain public task [68]. In some of the literature has seen in PPPs—particularly local ones—the best option for the provision of relevant public services (waste collection, water supply, transport) and sustainable development [36,39,69,70] is not only to pursue economies of scale, but also to benefit from the flexibility they allow in staff management, procurement and compliance with financial rules. In order to avoid a standard privatization, several local authorities are looking at PPP models as a way of retaining their dominant influence over companies [71]. Profit maximization is not the main target of PPPs, as they are also required to achieve other goals, such as innovation, job creation and social stability [14,15,72]. Therefore, they cannot be run like private companies [72], even though they share with the same accounting system with these companies. The PPPs examined in this article operate locally—as autonomous organizations owned by both public bodies and private partners—and are used to produce or provide local public services through outsourcing [73].

#### 2.2. The Performance of Local PPPs

Despite the advantages and synergies derived from the interaction between public and private elements [74–77], a wide stream of literature highlights several inefficiencies of PPPs compared to those potentially affecting private companies [60,78–81]. Such inefficiencies are mainly due to limited competition in the markets where these organizations operate, as well as to political influence [82]. Academic literature has analyzed PPPs mainly within the frameworks provided by the agency theory, the theory of property rights and the theory of public choice [83].

The theory of property rights holds that companies with weak ownership may have agency problems that would make them less efficient and less profitable than companies with strong ownership control [84]. The fact that elected politicians represent citizens in general and are not direct owners makes therefore PPPs much more ambiguous than private capital companies [28,30,85]. Furthermore, political action is often poorly controlled, which compromises the efforts towards performance improvement in PPPs compared to private companies [86].

The agency theory approach is based on the other hand on the assumption that PPP managers (agents) are thought to pursue the maximization of their own utility instead of that of the ownership (principal). In private companies this divergence is reduced, however, due to the threat of bankruptcy and of a share sale. In the case of PPPs governed by public bodies, these mechanisms are much less effective: the problem of agency relations is more complex (there is an agency relationship between

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citizens and government and one between government and management) and there is no clear owner of the residual right to profit. This results in a lower incentive to performance control [59], and therefore in a worse overall performance [87–89].

Finally, the theory of public choices has its central tenet in the assumption that politicians pursue the maximization of their utility rather than of the public interest [83]. As a result, they set goals for PPPs that are more compatible with electoral consensus than with efficiency [90]. The performance of PPPs is also affected by the board composition, especially in those cases where the public administration has corporate control and therefore the autonomy to appoint the management [59,91–93]. The *price* of this autonomy is the acceptance of tighter forms of performance control [94], as performance measurements [28,30,59,85] are an essential part of governance and control [95,96]. To citizens, the cost of controlling the activities carried out by these companies generally exceeds the corresponding individual benefit (lower taxes or better efficiency in public spending) meaning that, although the community as a whole can significantly benefit from the performance control of PPPs, this benefit is spread over such a large number of individuals that no one individually has any interest in exercising such control.

Performance measurement is an important issue in local governments' agendas, represents an incentive towards adequate accountability and may improve the quality of decision-making [97–99]. Empirical studies show on average a better performance in private capital companies than in public ones, though there are some elements indicating otherwise [28,30,85]. Public capital can be more sustainable than private capital [40,100,101].

Also, difficulties in accessing credit as well as regulatory and institutional constraints can be better overcome by PPPs, given their exclusive access to public resources [102,103].

Villalonga [83] carried out research examining 153 studies on the subject. She found that 104 of them showed better performance in private companies compared to ones operated by public bodies, 14 studies reached an opposite conclusion while 35 of them were substantially neutral. The analysis was conducted on a sample of PPPs operating as public utilities in a monopolistic context [83,104]. Other empirical studies have found that PPPs show efficiency deficits due to a lack of incentives and inadequate control [20,105,106]. Boardman and Vining [20] carried out one of the first studies comparing the performance of public, PPPs and totally private companies. The result of their study is consistent with the conclusions expressed above: the performance of private companies is significantly higher than those with public capital [28,30,85]. The only exception is—for the latter—related to the high value of sales per employee.

In a study of 623 Italian companies Monteduro [107] showed differences in terms of economic performance among companies providing public services locally and characterized by a different level of public participation. The presence of private capital is positively associated with the company's economic performance, especially in terms of profitability.

The methodological approach adopted in academic studies on the subject has also been questioned: PPPs are not comparable to wholly private ones, since the motivations behind their creation are different, which in the end affects their performance [60]. Lazzarini and Musacchio [108] carried out an interesting study to measure performance gaps between public and private companies over time [28,30,58,85]. The major differences emerge in two specific moments of economic and political life: electoral campaigns and periods of economic recession. After an economic crisis and during election years, the performance of public sector companies worsens to a greater extent compared to wholly private ones.

An interesting study by Olsen et al. [31] analyzed the performance of local PPPs [58] by sorting them according to three types of stakeholders: the owner(s), the company itself and the citizens/users. Stakeholder groups involved in PPPs can develop different *performance expectations* that result in as many *performance criteria*. Table 1 shows the results as follows:

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Stakeholders	Institutional Logics	Performance Expectations	Performance Criteria
Owner(s)/Control role	Politics and bureaucracy	Service quality Efficiency Transparency Probity Accountability Compliance	Provision and price dividend Information No misconduct Control mechanism Respecting rules
Municipal company/Strategy role	Corporate governance and market	Service quality Efficiency Competitive Attractive Financially robust	Competent and reliable Profitable Wins contracts Recruits good people Able to invest
External stakeholders/Service role	Community	Service quality Responsiveness Probity and decency CSR	Competent and reliable Welcome criticism Behaves properly Supports civic activity

Table 1. Performance of Public Private Partnerships (PPPs).

Source: Linking stakeholders, board roles, institutional logics, performance expectations and performance criteria (Adapted from Olsen et al., [31]).

Doherty and Horne [109] argued that the performance of the public administration is declined in: efficiency, efficacy, cost-effectiveness and ethics. This approach leads us to the definition of a quadrangle of performance rather than of a triangle. In this sense, ethics has a triple meaning: equity, empathy and ecology. The quality of local public administrations is a further variable affecting performance [110]. The academic literature presents some principles that must be pursued if the quality of public performance is to be ensured: the local community is the first important performance assessor; quality—and the prevention of variability—must be ensured in all processes regarding the provision of public services. The best results are obtained through team work and the strengthening of corporate culture.

The most important method for the measurement of performance is the one based on indicators; the public administration must define both the indicators and the performance targets and compare them with default indicators and associated costs [28,30,85,111]. Moore [112,113] argued subtly that the definition of Public Value cannot be based on value (on quantities alone), because its very notion involves elements of an ideological nature. The measurement of Public Value should therefore not refer to the nature of public action but to the ability to be effective and efficient in carrying out public actions, regardless of their orientation. Moore introduced three basic elements that define the *strategic triangle*, as shown in Figure 1:

- the mission and the ability to produce Public Value;
- social and political legitimacy;
- operational and financial sustainability.

This means that: (a) strategic choices in the public sector must focus on the role the institution has in the production of activities and provision of services for its citizens, users and recipients, providing high quality standards in the most efficient manner possible; (b) strategic choices must be legitimized by—and *politically sustainable* within—the environment in which the institution operates, with the involvement of as many different players as possible [36,39,54–57]; (c) strategic choices must be technically and financially sustainable over time with relation to the resources available. The absence of one of these elements can lead to choices that may prove to be incorrect over time.

Managers are asked to create value by trying to maximize the alignment between the three elements of the strategic triangle. Public managers and the organizations they run should be playing a leading role in creating public value, not only by producing—efficiently and effectively—goods and services that can add value to their community, but also by pursuing social and ethical goals.

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The public manager should be the guarantor and the custodian of the public interest, putting her/his citizens'/users' welfare before any personal interest [37].

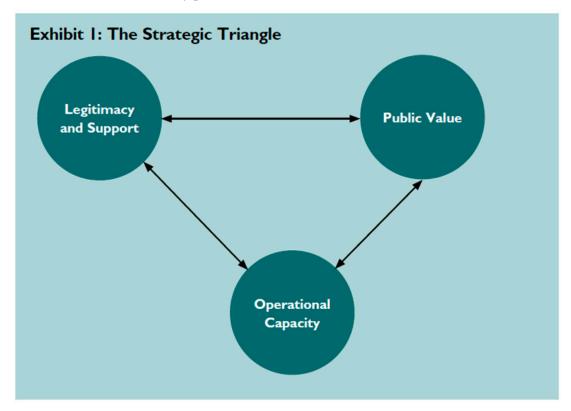


Figure 1. Moore's Strategic Triangle (Moore, [113]).

Consequently, there is creation of Public Value if a public administration succeeds in managing the available resources in a rational manner, making the most of its intangible assets in a way that meets the social needs of users and stakeholders [28–30,114]. Citizens in general, to whom the services are addressed regardless of their direct use [115], should also be considered. This approach aims to reconcile the strictly corporate logic of evaluation of the administrative activity with a more general assessment of the actual capacity of the institution to pursue its institutional goals [116].

Public Value is the level of social well-being of a community that is compatible with the survival or even the growth and development of the Public Administration [37,38,117]. What is the relationship between Public Value and performance, according to the literature? Public Value is a synthetic, standardized and systematic expression of the specific performance of public bodies: in order to increase its level, public administrations must oversee the social dimension of the services provided as well as the economic and intangible dimensions of their behavior, defining clear objectives and measuring them by using appropriate indicators. Even if the most problematic area of public value is measurement [114], the doctrine is currently looking for a meta-measure capable of systematizing the different performances produced, while at the same time considering their contribution to the creation of PV.

### 3. Research Design and Method

The research uses a literature review, which can help understand the complexities and nuances present in PPPs, understanding the determinants of sustainable development, governance and performance measurement in such companies. We adopted a qualitative method, specifically a literature review, to describe the main features of the phenomenon being studied and to understand the dynamics of a given process. Following the research gap and the observation of empirical phenomena

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not explained by existing interpretative models, in the first part of our analysis we will answer the following research questions (RQ):

RQ1: Does a theory exist in literature that is able to address the multivariate expectations of PPPs? Is there a theory in literature that is able to respond to the different expectations of PPPs?

RQ2: Does Public Value Theory (PVT) represent an answer to RQ1? Does the Public Value Theory (PVT) represent an answer to RQ1?

RQ3: How can Public Value encompass sustainable development as well?

The literature review represents therefore in our case a valuable tool to examine the key factors affecting the relationship between performance measurement and the pressure brought by stakeholder engagement in sustainable development and to suggest criteria for further action [40]. The structured literature review (SLR) presented here was developed by analyzing how the public value theory is applied to describe the multilayered functioning of PPPs. This section defines the research criteria adopted to develop the SLR in question [117,118]. Moreover, the analytical framework of our analysis has been laid out according to the summary proposed by Secundo et al. [119] along the following lines: (a) publication timing; (b) geographical distribution of articles; (c) author citations; (d) article citations and relevant publications; (e) keywords and topics. Lastly, we developed "insights and critique through analyzing the dataset" [118], in order to identify future research directions.

Several seminal articles were analyzed to build a strong theoretical support. Then we adopted a longitudinal study of academic articles published in the past 25 years (1995–2019). In order to avoid the highest number of false positive and negative results [118,120], we based our queries on the following groups of keywords: (I) "public value" plus one of the following among "PPP \*", "public-private partnership \*", "public private partnership \*", "participated companies \*" or "public companies \*"; (II) "public value" and "PPPs \*" or "PPP performance measurement \*"; (III) "public value" and "sustainable development".

We collected studies by searching certain entries as "Article title, Abstract, Keywords" through the Boolean operator (AND). In order to come up with the most transparent research process, we obtained the primary results through *Scopus*, used as the leading source to access the documents and collecting only research papers. This means our systematic literature review was strengthened by avoiding the trap represented by the gray analysis [121], where the limited number of documents found is typical of a research field that is still novel or immature [120]. Our first search stream included 122 documents. We only considered documents written in English, limiting the investigation field to Business, Management and Accounting areas (Table 2). Our final search included 36 articles. Having screened their titles and abstracts, we were in a position to better evaluate the connection with our research goals. The final result includes 29 research articles as adjusted sources for SLR. The full list of these articles is provided in Appendix A.

Field:
Literature Typology:
Period:

Business, Management and Accounting
Pure SLR (excluding grey analysis)
1995–2019

(I) "public value" plus one of the following among "PPP \*", "public-private partnership \*", "public private partnership \*", "participated companies \*" or "public companies \*";
(II) "public value" and "PPPs \*" or "PPP performance measurement \*";
(III) "public value" and "sustainable development"

**Table 2.** Criteria adopted for the SLR.

<sup>\*</sup> includes the other possible words allowed and included in the research extrapolation.

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These peer-reviewed journals enjoy a remarkable international standing, as they are all part of the ABS 2018 Academic Journal Guide. Also, they are relevant to the purpose of our work because they have already been considered in other literature reviews focusing on PV [122]. SLR highlights the existence of a common background between public value and PPPs performance measurement, visualizing the influence of PV theory on PPPs performance measurement. We then carried out a bibliometric analysis [119] according to content and keywords. This is based on the method of cluster analysis by document citations, co-occurrence of keywords and bibliographic coupling in order to understand the relevance of the journals [118,122,123].

#### 3.1. Analytical Strategy and Results

The first step of our research was the analysis of the distribution of the 36 research articles over the years and among countries in order to highlight any underlying trends existing in academic literature. The number of published research articles among 1995 and 2019 is shown in Figure 2. The trend regarding the publication year is very uneven. Indeed, there are no more than two years in a row with at least one research article published. Only in 2015 does this irregular trend seem to cease, because of the increasing number of research articles published in the last four years of the series considered.

# 6-4-2-2005 2007 2009 2011 2013 2015 2017 2019

## Annual Scientific Production

Figure 2. Publishing trend. Source: Our Elaboration.

#### 3.2. Most Cited Articles

Appendix A shows the most cited articles in the sample obtained from the Scopus database. This methodology may help to identify the 'superstar' in the field [118] and to reduce the risk of relying only on the Impact Factor of the journal when evaluating the importance of an article [118,122]. The number of citations considers the period from 1995 to 2019 and does not include self-citations. The most cited contribution in Scopus in the one from Warner (2010), with 90 citations, followed by Reynaers and Paanaker [50] with 46. If one looks at the number of publications for each year, it is also possible to consider these 10 articles as seminal works due to the huge increase in contributions registered since 2015. Indeed, 9 out of 10 most cited articles were published from 2016 to 2019 (Appendix A).

# 4. Literature Review: How to Meet the Need for Multilayered Performance Measurement in PPPs?

The aim of this work is to find in the academic literature a theory capable of giving answers to the need for multidimensional PPPs performance measurement that is in line with both the evolution of research on PPPs performance, the regulatory context and the attitude towards sustainable development.

PPPs deliver public value [124] and its pursuit through them can benefit both the public and the private sector [125], although the impact of PPPs on public value is often neglected [50]. Not only do public value dimensions perfectly fit performance expectations related to PPPs activities [31],

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but Moore's strategic triangle [112] also suggests the possibility of public value creation only if the available resources are managed in a rational manner, where sustainability is mainly concerned with preserving resources while operating to achieve long-term growth [126]. Focusing on public value is a way to ponder and then apply some of the sustainable development principles [127]. Despite offering several examples of empirical insights about performance measurement in PPPs [50,128], academic literature has so far fallen short of providing a thorough and systematic theoretical contribution on the issue. The public value theory can bridge this gap—and affect PPP activities accordingly—if PV becomes at last a dominant idea and a new driver for reforms in academic literature on public organizations [129]. This theory can also represent the missing tool to visualize the multidimensional results of PPPs and a sort of treasure map to guide these organizations towards sustainable development, in whose pursuit public managers will be able to balance accountability, equity and efficiency concerns more effectively [52].

Public administrations and PPPs should clearly define their goals and use performance measurement techniques [59,130,131] to represent and measure the socio-economic [132] and intangible dimensions [133] of their policies. The short-sighted focus on one dimension to the detriment of the others is one of the reasons why responses to users' needs are often inadequate.

The abandonment of the paradigm of New Public Management and the introduction of that of public governance have led to the transition from a traditional model based on the three parameters of efficiency, efficacy and cost-effectiveness to another which implies the analysis of other dimensions while assessing the performance [134] of the public administration: equity (especially towards stakeholders with weak bargaining power), quality improvement, transparency [135], as well as economic, social and environmental sustainability [136–138]. Therefore, it is now deemed necessary to use a framework capable of taking into account the need for efficiency, accountability and equity [139].

If firms with private capital tend to pursue the general goal of maximizing their private economic value [140], or to 'make money' for their shareholders [21–24,26,27], public sector organizations operate according to a more complex set of goals. They are not only merely financial but are also affected by the elected administrators' ideas and strategies, preeminent social values, the needs of citizens and all other stakeholders [28–30] with whom they interact [29,133,141–144]. Such organizations aim therefore at creating Public Value. This last concept—introduced in literature by Mark H. Moore [112]—offers a new approach to public management, one that goes beyond the New Public Management framework, with a greater focus on management techniques and economic models borrowed from the private sector [145].

#### 4.1. Public Value As a Tool for Conceptualizing Performance

Public value creation in public service delivery goes through partnership and interactions between public and private able to highlight the need to promote co-operation, fairness and democracy [146,147].

In an interesting study, Deidda Gagliardo analyzed in a comparative key [148] some of the founding elements of those scientific streams that either explicitly or implicitly deal with the issue of Public Value, from Bureaucratic Public Administration (BPA) and New Public Management models, to more recent approaches such as the Public Performance Management and Measurement (PPMM), the Public Value Management and Measurement (PVMM) and the Public Governance stream. If we look at the parameters for the measurement of Public Value, the BPA checks and evaluates the value created according to legitimacy and formal correctness, following a compliance-based notion of management processes [149]. This is achieved by focusing on financial inputs, while paying less attention to cost control and the size of outputs [150]. The New Public Management, on the other hand, borrows the notion of efficiency, efficacy and cost-effectiveness control from the private sector and is therefore oriented to the economic dimension of public value in much the same way as the PVMM [133] and the Public Governance literature [146,151]. The only difference is that the last two approaches widen the notion of cost-effectiveness in order to meet the demands of a higher number of stakeholders by guaranteeing the possibility of also producing value for future generations, according

to a principle of inter-generational equity [133]. The PVMM, in particular, focuses on the impact the Public Administration activity has on its environment [150]. Van Dooren, Bo, Bouckaert and Halligan point out that the notion of Public Value should guide the pursue of performance, which is not worth less than the former: "Values are the frame of reference for the assessment of performance" [98]. Studies on performance are functional to the measurement of Public Value, and therefore of the well-being of the community, through the definition of indicators focusing on efficiency, efficacy and cost-effectiveness [152], also expressed through outcome measures.

Kelly [153] outlined three 'building blocks' of public value: services, outcomes and trust. Services are the means through which public value is provided, while outcomes represent higher goals compared to the mere provision of the service. Trust is obviously also paramount. Alford and O'Flynn [154] believe that performance measurement [59], is a fundamental element for the development of Public Value theory. Moore too [155] identified three reasons for measuring public value: to meet external accountability demands; to establish clear and detailed goals regarding the public organization; and to increase the need for internal accountability.

Some authors identify dimensions such as efficacy, efficiency, outcomes and the impact of public policies and programs. Other dimensions to be taken into account are the participation of citizens or the capacity to meet their demands, integrity, stakeholder involvement processes [28–30,156] as well as the ability to reduce economic costs or to increase citizens' satisfaction levels [155,157]. One of the main merits of the Public Value theory is the ability to overcome previous public sector paradigms [139], in particular the excessive focus placed on compliance typical of BPA or the market-based approach focusing almost exclusively on efficiency, thus overlooking intangible yet important factors such as the satisfaction of citizens or their trust towards the institutions [158]. The tools and methodologies identified in the literature on public performance management and measurement are useful to public value measurement [159]. Kloot and Martin [152] and Moore [113] developed a balanced measurement approach, while Collins [160] developed a model of creation and measurement of public value applying it to the BBC. On the other hand, the public ROI framework [161], Accenture's public service value governance framework [162] and more recently the VP model developed by Papi et al. [163] all provide a holistic view of value. That of measurement looks therefore to still be an unfulfilled aspect of public value theory.

A further and recent study by Faulkner and Kaufman [164] highlighted the different dimensions of Public Value measurement through an accurate and systematic analysis of the literature. Through a qualitative synthesis of the topics analyzed in literature, the authors have identified four dimensions of Public Value measurement that can be adapted to any context. This is summarized in Figure 3.

The first dimension refers to the pursuit of social, economic, cultural and environmental outcomes [165]. Benington [166,167] also included in this context—as different aspects of Public Value—the benefits of being employed, of enjoying free economic initiative and social cohesion. Many are also the authors who have identified Public Value with the growth of social outcomes [113,158,168–171]. It is quite clear how the outcomes to be pursued vary according to the public organization considered. It is also paramount that the activities of a public administration are legitimized by the different stakeholders involved [28–30], thus increasing the level of trust. Citizens should be in a position to trust the institutions [168,172] as well as the services provided [173] while perceiving that those services are provided in a fair and transparent manner [169,174], so that there is Public Value creation. Talbot and Wiggan even consider public trust and legitimacy as the cornerstones of Public Value creation. The quality of public services provided is a necessary element in the creation of Public Value and is considered maximized when service users are totally satisfied and perceive the service as convenient, accessible and responding to their needs [158,166,167,172,174–176]. Finally, efficiency refers to the ability to maximize benefits with the minimum use of resources: in terms of costs [168], bureaucracy involved [169] and value for money [160,168,175].

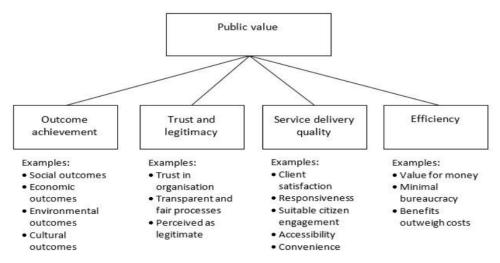


Figure 3. Dimensions for measuring public value. Source: Faulkner and Kaufman [164].

#### 4.2. Predictors of Performance

The determinants and mechanisms that are considered (predicted) to affect performance measurement in PPP literature will be addressed below. It will be also shown how they relate to the public value framework and how they affect PPP performance, in order to advance some research hypotheses [131].

#### 4.3. Public Value, Performance Measurement and Sustainable Development: Determinants and Mechanisms

The multi-faceted concept of public value [154,177–180] goes hand in hand with the multi-dimensional approach to PPPs performance measurement. The latter includes both financial and non-financial performance dimensions, which is important not only in order to view the whole picture, but also for accountability purposes [181,182]. Public and private actors advocate different values because they pursue different goals and this may well generate conflict, but a well planned performance measurement system allows PPPs to deliver better, more transparent and efficient services to citizens, while creating public value in the process [112].

Public Value creation regards both public administration and citizens' perspectives, focusing not only on financial sustainability, but also on key intangible attitudes [171,183].

Literature evidence highlights the demand for a closer relationship between the notions of sustainability and public value [184,185]. It is widely understood in fact that public value refers not only to the social and environmental impact of public sector activities, but also to global issues such as climate change, social stability, job creation or even the protection of human life as well as of wildlife [186,187]. Farneti and Dumay [188] attempted a combination of both sustainability and public value by considering the intergenerational perspective of the Brundtland Report definition [126] and the call for private and public organizations to deliver (public) services satisfactorily. The 2016 Global Sustainable Development Report identified Public Value as a fundamental key for pursuing sustainable development goals and for improving public service delivery. This means it is more and more crucial to decision makers understanding the notion of public value in order to better pursue sustainable development [189]. A stream of literature seems to link the role of digitization and e-government with sustainable public value creation [190,191]. E-government helps to reach some dimensions of public value such as accountability, responsiveness, efficiency, citizenship and social equity [191] and the use of digital technologies allows PPPs to deliver better public services more cheaply and faster. Technology, according to the OECD recommendations [192] on Digital Government Strategies, is a strategic vector for value creation and sustainable development. Public value creation and its citizen-centered approach play a significant role in overcoming the barriers towards the development of smart communities [193].

Creating sustainable public value and acknowledging the goals of their public and private partners without compromising the capacity to meet the needs of their reference communities is undoubtedly a fundamental goal for PPPs. However, conceptualizing and reporting public value in terms of sustainability is still at an early stage [185] and this study hopefully contributes to fill this gap.

#### 5. Discussion

Findings and Implications

In the literature, there is a lack of theoretical and empirical frameworks for understanding value creation in public and private interactions [194]. There is therefore the need to define value requirements in the pursuit of economic efficiency and effectiveness in cooperation between different yet inter-functional systems [195]. PPPs represent a potential solution to some governmental challenges, even though the goals of the private and public sectors [125] often differ. They also hold the key to innovative public service delivery, able to balance accountability, equity and efficiency concerns more effectively [52].

This contribution tries to offer a conceptualization in order to address a multilayered performance approach towards sustainable development in PPPs, as the attention on their performance is still poor [17]. In this framework, as discussed above, the theme of sustainable development could be the most effective impetus to renew the debate about corporate sustainability and to provide organizations [41], with new instruments to effectively integrate sustainability into their business models and operations. According to Bebbington and Unerman [46], "The SDGs are likely to further open up new avenues for accounting research, as well as remind us of previous work that has recently been relatively neglected".

Olsen et al. [31] offer an overview of the different PPP performance expectations, investigating their influence on sustainable development under three different stakeholder categories [owner(s); the company; external stakeholders (for example, the citizens)]. Indeed, parameters such as service quality, efficiency, transparency, legitimacy, accountability and financial soundness can be measured in order to pursue performance by different types of PPPs.

Public Private Partnerships are also required to pursue wide-ranging social and environmental goals on behalf of the State [73,196,197]. This way they fit in the prevalent description of sustainability imbuing the three interconnected 'pillars' [196] at the basis of economic, social, and environmental factors or goals. Performance evaluation helps establishing priorities on resources allocation, facilitates the choice of appropriate management methods, and gives citizens correct information about the results and costs of public services. PPP managers can and should therefore adopt performance management techniques to run services effectively [198]. Different performance measurement approaches for PPPs can be found in literature [199], but performance measurement requirements are difficult to meet [200,201]. An effective and efficient performance measurement should be crucial to the success and sustainable development of PPP projects [202] and to better meet the needs of shareholders and stakeholders alike [203]. Lack of an effective and comprehensive performance measurement system might therefore worsen PPPs performance [204].

The adoption of a multidimensional performance measurement framework based on a set of key measures [199,205,206] and able to take into account performance risks in PPPs [207], to look beyond normative constraints [51,208,209] and to integrate the local entrepreneurship ecosystem [210], appears to be needed to counter any negative impact on public value creation and to better use the resources given in order to achieve the goals set forth by the government [200]. Should anyone want to find the theoretical model better equipped to meet the need for specific measurement criteria, the answer would very likely be the public value theory. It is a methodological way that is able to visualize the road map on how public value is created thanks to a set of indicators measuring both social and financial impacts, according to citizens' needs and expectations and at a reasonable cost [162]. Even if the final and most problematic area of public value is measurement [211], the public value

theory represents a robust methodology to achieve public performance measurement, especially in order to provide high quality services in an efficient and effective way. It can also help to increase performance [155] and to observe and understand gaps between citizens' and users' expectations [212]. PPPs have the goal to provide public services to the community [58]. According to recent literature [73], both performance and outcomes can be measured in a public context [213] without necessarily referring to the public value theory, but the study carried out by Faulkner and Kaufman [164] shows an existing framework that can be used to develop a feasible measurement of public value.

#### 6. Primary Conclusions, Limitations and the Future Research Agenda

The academic literature on PPPs clearly shows the multi-dimensional nature of their performance. The analysis carried out here shows that the goal of such companies is not limited to profitability, economic efficiency or mere shareholder remuneration, but it also involves other dimensions of social relevance such as the quality of the services provided, the ability to respond to the needs of citizens/users, the growth of institutional trust and the achievement of targets involving social and environmental issues, fairness and transparency [214,215]. The Public Value theory and its multi-layered measurement approach appears the most suitable framework in literature capable of providing answers to the many performance dimensions of PPPs. Following a literature analysis, Figure 4 shows performance and measurement dimensions of Public Value, for each category of stakeholder potentially interested in evaluating the performance of local PPPs [58]. All the values that have great influence in shaping public goals are therefore important in the pursue of sustainable development [216].



**Figure 4.** Public Value, stakeholder engagement and multidimensional performance of PPPs. Source: Our Framework.

A perfect adherence is shown here, which provides a concrete answer to our research topic: the Public Value theory does represent an exhaustive answer to the complex issue of multidimensional performance measurement in PPPs.

The present work has tried to give an answer to the growing need—still scarcely addressed in the literature—of measuring the performance of PPPs, particularly local ones [33,73], in a context where such measurement seems to have a direct influence on their pursuit of sustainable development and governance. A wide stream of literature has focused its analysis in this regard on profitability and efficiency, showing a substantial difference in terms of performance compared to private capital companies. The Public Value Theory and its approach to measurement emerges as the best framework in literature to address the many dimensions of performance and governance in PPPs, particularly when

pursuing sustainable development. The public value perspective adds momentum to the development of sustainable cities and communities [217] and to the delivery of public services. A constant creation of value can play a key role in meeting social needs and ambitions, and in responding to economic pressure [218].

This study contributes to the literature on sustainable development in PPPs and its relationship with performance measurement, in order to provide suggestions for scholars, policymakers and practitioners alike. To the best of our knowledge, this is the only study that applies this perspective to the investigation of PPP performance measurement.

The approach adopted takes into account the performance expectations of the four categories of stakeholders involved in the management of local PPPs [58] in order to find the most suitable theory within the academic literature. The Public Value model succeeds in meeting current and future citizens' needs [133], is a multidimensional framework focused not only on the creation of outcome but also on the processes generating trust and equity [219] and is a public management approach that allows the constant improvement of public services [112]. On the other hand, however, the development of real managerial tools capable of measuring the creation of Public Value is still at an initial stage [211,220]. An analysis of the frameworks present in literature shows the existence of a tool for the conceptualization of Public Value in terms of key dimensions [164]. Its application will require the implementation of internationally acknowledged policies and procedures, taking into account the relationship between the creation of public value by PPPs and their stakeholders in order to visualize PPP performance measurement in terms of sustainable development and governance. Literature review shows public value as having a significative role in the achievement of the 2030 Agenda. Society in general is demanding more from both the private and the public sector in terms of how they contribute to sustainability [188]. The public value theory can also advance the Brundtland Report perspective, which stresses that organizations need to consider how they deliver (public) services satisfactorily in the future. PVT reports in fact not only focus on financial performance, but also on the environmental and social dimensions of public administration activities [185].

Citizens demand more and more from both the private and the public sector in terms of how they contribute to sustainability [188], yet in literature the conceptualization of Public Value in terms of sustainability is still weak [184].

The study contributes to fill the gaps caused by the scarcity of literature on evaluating public performance and sustainable development goals with a Public Value perspective [193,221-223]. It also contributes towards building a literature stream on the implementation of SDGs in the Public Administration and the development of local government capacity by adopting a Public Value-based approach [123]. This would undoubtedly represent an interesting result, one that would be of use to academics and practitioners alike, with particular regard to issues pertaining stakeholder engagement and the rethinking of strategic and decisional processes. The fact that the design of the present study did not allow for the use of quantitative information represents its most substantial limitation. Future research might therefore move towards the development of a quantitative dimension with regards to the approach adopted. Ideally, that would imply building a framework to produce quantitative measures of the Public Value generated by local PPPs, one that would also take into account the multidimensional aspects of performance. These measurements should include both sustainable development and governance indices. Research activity in the future could be further developed by carrying out interviews with PPP managers, policymakers and citizens who use their services. Such interviews, with all the relevant data coming with them, will then have to be properly processed and analyzed in order to reach conclusions that are both meaningful and scientifically significant.

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## Appendix A

**Table A1.** Literature Review 1995–2019.

Authors	Title	Year	Source Title	Volume
Gultom Y.M.L.	Transaction Costs and Efficiency in Design-Build Contracting: Empirical Evidence from the Transportation Infrastructure Sector in Oregon	2019	Public Performance and Management Review	42
Cabral S., Mahoney J.T., McGahan A.M., Potoski M.	Value creation and value appropriation in public and nonprofit organizations	2019	Strategic Management Journal	40
Hossain M., Guest R., Smith C.	Performance indicators of public private partnership in Bangladesh: An implication for developing countries	2019	International Journal of Productivity and Performance Management	68
Steinfeld J., Koala K., Carlee R.	Contracting for public stewardship in public-private partnerships	2019	International Journal of Procurement Management	12
Yuan J., Li W., Xia B., Chen Y., Skibniewski M.J.	Operation performance measurement of public rental housing delivery by ppps with fuzzy-ahp comprehensive evaluation	2019	International Journal of Strategic Property Management	23
Traxler A.A., Greiling D.	Sustainable public value reporting of electric utilities	2019	Baltic Journal of Management	14
Todoruţ A.V., Tselentis V.	Digital technologies and the modernization of public administration	2018	Quality-Access to success	19
Bao F., Martek I., Chen C., Chan A.P.C., Yu Y.	Lifecycle performance measurement of public-private partnerships: A case study in China's water sector	2018	International Journal of Strategic Property Management	22
Liu H.J., Love P.E.D., Smith J., Irani Z., Hajli N., Sing M.C.P.	From design to operations: a process management life-cycle performance measurement system for Public-Private Partnerships	2018	Production Planning and Control	29
Cappellaro G., Ricci A.	PPPs in health and social services: a performance measurement perspective	2017	Public Money and Management	37
Sundararajan S.K., Tseng CL.	Managing Project Performance Risks under Uncertainty: Using a Dynamic Capital Structure Approach in Infrastructure Project Financing	2017	Journal of Construction Engineering and Management	143
Dyllick T., Rost Z.	Towards true product sustainability	2017	Journal of Cleaner Production	162
Hashim H., Che-Ani A.I., Ismail K.	Public Private Partnership (PPP) project performance in Malaysia: Identification of issues and challenges	2017	International Journal of Supply Chain Management	6
Klijn E.H., Koppenjan J.	The impact of contract characteristics on the performance of public–private partnerships (PPPs)	2016	Public Money and Management	36

Table A1. Cont.

Authors	Title	Year	Source Title	Volume
Häyhtiö M.	Requirements as operational metrics?-Case: Finnish defense forces	2016	Management and Production Engineering Review	7
Liu J., Love P.E.D., Smith J., Matthews J., Sing CP.	Praxis of performance measurement in public-private partnerships: Moving beyond the iron triangle	2016	Journal of Management in Engineering	32
Motoyama Y., Knowlton K.	From resource munificence to ecosystem integration: the case of government sponsorship in St. Louis	2016	Entrepreneurship and Regional Development	28
Reynaers AM., Paanakker H.	To Privatize or Not? Addressing Public Values in a Semiprivatized Prison System	2016	International Journal of Public Administration	39
Greve C.	Ideas in Public Management Reform for the 2010s. Digitalization, Value Creation and Involvement	2015	Public Organization Review	15
Reynaers AM.	Public Values in Public-Private Partnerships	2014	Public Administration Review	74
Mahadi Z., Sino H.	Defining public needs in sustainable development: a case study of Sepang, Malaysia	2013	Pertanika Journal of Social Science and Humanities	21
Karunasena K., Deng H., Harasgama K.S.	An investigation of the critical factors for evaluating the public value of e-government: a thematic analysis	2013	Information System and Technology for Organization in a Networked Society	
Warner M.E.	Private finance for public goods: Social impact bonds	2013	Journal of Economic Policy Reform	16
Diggs S.N., Roman A.V.	Understanding and tracing accountability in the public procurement process: Interpretations, performance measurements, and the possibility of developing public-private partnerships	2012	Public Performance and Management Review	36
English L., Baxter J.	The changing nature of contracting and trust in public-private partnerships: The case of Victorian PPP prisons	2010	Abacus	46
Warner M.E.	The future of local government: Twenty-first-century challenges	2010	Public Administration Review	70
Weihe G.	Public-private partnerships and public-private value trade-offs	2008	Public Money and Management	28
Khadaroo I., Abdullah A.	Private finance initiative (or public private partnership) implementation processes and perception of value for money	2007	International Journal of Economics and Management	1
Maxwell K., Husain T.	Public private partnerships: Building capacity while effecting change	2005	Evaluation and Program Planning	28

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