

# Theoretical Approaches to the Quality of Public Expenditure: Public Choice, Transparency and Management by Results

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## Abstract

This theoretical essay addresses the quality of public spending based on the theories of Public Choice, Algorithmic Transparency and Accountability, and Management by Results. The objective is to provide a multidimensional analysis of how efficiency, transparency, and accountability in public management can be improved, using these different theoretical perspectives and applying them to the context of public administration in Brazil. The essay explores how these theories can be applied to improve efficiency, transparency, and accountability in public management, especially when there is a growing demand for public services and a limitation of financial resources.

**Keywords:** algorithmic, accountability, management by results, public choice, public management, quality of public, transparency

## 1. Introduction

Scientific studies on the quality of public sector spending gained prominence from the 1990s onwards. Although initial studies such as those by Easterly and Rebelo (1993), and Hemming, Kell, and Mahfouz (2002) focused on policy and fiscal balance, scholars were growing concerned about the efficiency and effectiveness of the policies applied and the accountability in fiscal management.

Barro (1990) made arguments that also implicitly relate to spending quality. For the author, it was necessary to distinguish non-productive spending from productive spending, which is directly related to economic growth and affected by improvements in infrastructure and public services.

In this sense, the efficient allocation of public resources is essential for economic growth and is related to social control and public transparency. Although transparency is widely recognized as essential for effective governance, political actors often resist it for several reasons. According to Berliner (2014), one of these reasons is related to the substantial costs to politicians. Increasing the ability to monitor and oversee those in power makes it more difficult for these political actors to profit from control of government information or obtain private gains.

In Brazil, the Federal Constitution of 1988 (BRASIL, 1988) established in its article 37 that the direct and indirect Public Administration of any of the powers of the Union, States, Federal District, and Municipalities must comply with the principle of publicity. The Brazilian Public Administration interpreted this constitutional provision for a long time as the obligation only to publicize its acts, which is different from complying with the principle of transparency.

The principles of publicity and transparency are not to be confused. Although not expressed in the Federal Constitution, the principle of transparency derives from several constitutional provisions, such as the caput of article 37 and article 5, item XXXIII. The latter is regulated by Law No. 12,527/2011 (BRASIL, 2011), known as the Access to Information Law (LAI). This law establishes procedures for all federated entities to ensure society's access to information.

The disclosure of information of public interest is necessary both to comply with the recommendations of control bodies and to respond to society's increasingly demanding morality, professionalism, transparency, and excellence from the Public Administration.

For Ackerman and Sandoval-Ballesteros (2006), the Access to Information Act grants citizens and interested parties the right to access government documents without the need to justify a legal interest. Government documents are considered public unless specific exemptions allow access without explaining the need. In short, access to information laws change the principle of providing government information from “need to know” to “right to know.”

Cunha Filho’s study (2019) highlights the feasibility of establishing the autonomy of bureaucratic institutions legitimately within the democratic context; this means that agencies can operate autonomously while remaining obliged to account for their actions. Thus, citizens can monitor this accountability through a matrix such as those established by Resolution No. 01/2023 of the Association of Members of the Brazilian Courts of Auditors (Atricon).

This theoretical essay deals with the quality of public spending based on the theories of Public Choice, Algorithmic Transparency and Accountability, and Management by Results. The objective is to provide a multidimensional analysis of how efficiency, transparency, and accountability in public management can be improved, using these different theoretical perspectives and applying them to Brazilian public administration.

Therefore, the guiding question was: How can the approaches of Public Choice Theory, Algorithmic Transparency and Accountability, and Management by Results contribute to improving the quality of public spending? This question allows the essay to explore the intersections between the different theories and their relevance to the problem of efficiency and quality in public management.

Finally, by developing a theoretical framework that offers insights on how to improve the quality of public spending, this study fosters the debate on behavioral incentives (Public Choice), the need for transparency and equity in the use of technologies (Algorithmic Accountability), and the emphasis on concrete results (Management by Results), serving as a theoretical foundation for the implementation of products or services that are essential for efficient and responsible public management.

## **2. Theoretical Framework**

### *2.1 Quality of Spending*

With the growing demand for public services and limited financial resources, governments must seek ways to optimize their spending. Spending quality is a central theme in discussions about the efficiency and effectiveness of public policies. This quality not only focuses on the number of resources allocated but also on how these resources are used to generate positive societal results.

Afonso, Schuknecht, and Tanzi (2005) discuss the quality of public spending in 23 developed countries, suggesting there is potential for improving public spending through efficiency and performance. In Brazil, the efficiency of public spending is addressed in the study by Rocha and Giuberti (2007), who concluded that the composition of public spending significantly affects the economic growth of Brazilian states. Efficient and balanced management of the different types of public spending is necessary to promote sustainable economic growth.

The quality of public spending refers to the government’s ability to use financial resources efficiently, effectively, and equitably; this implies prioritizing investments that meet the population’s needs and promote social well-being. According to a study by Soares, Raupp, and Tezza (2021), many Brazilian municipalities have public spending quality indexes below 1.000, indicating that they are not obtaining a proportional return concerning well-being concerning the expenditures made. This situation highlights the need to analyze how public resources are managed critically.

Several studies (Rocha & Giuberti, 2007; Gagliardi, Marinho, & de Paula, 2023) have analyzed the quality of public spending in Brazil, focusing on different areas. Gagliardi, Marinho, and de Paula (2023), through a Data Envelopment Analysis (DEA), investigated how public resources are allocated across different Brazilian states and assessed the degree of efficiency in their use, highlighting states that achieve better results with fewer resources. Similarly, Boueri, Rocha, and Rodopoulos (2015) discuss the measurement of efficiency in public spending, proposing methodologies that can be applied to improve the quality.

In this sense, the quality of public spending is crucial to ensuring that resources are used efficiently for the benefit of society. Recent studies highlight the urgent need for improvements in managing public spending in Brazil. Thus, implementing practices that promote continuous evaluation, transparency, and training are fundamental to achieving a more responsible public administration focused on social well-being.

Therefore, principles such as efficiency, effectiveness, transparency, and fiscal responsibility in using public

resources are fundamental for the State to ensure that public money is well spent. In addition, some theories, such as public choice, algorithmic transparency and accountability, and management by results, can help to understand central aspects of efficiency, accountability, and transparency in government decisions and actions.

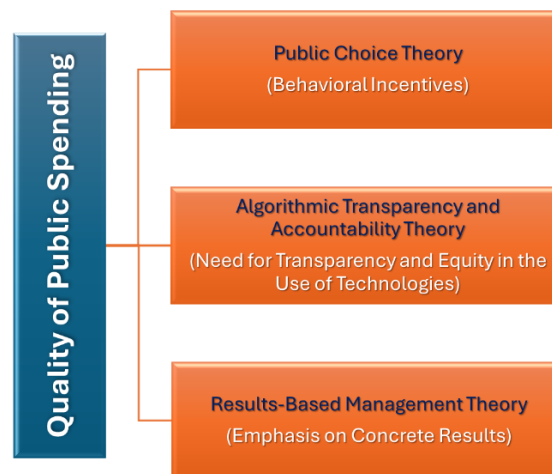


Figure 1. Theoretical framework aligned with the Quality of Public Spending

Therefore, Figure 1 presents a theoretical interface related to the Quality of Public Spending. This relationship seeks to offer insights on how to improve the quality of public spending, fostering the debate on behavioral incentives (Public Choice), the need for transparency and equity in the use of technologies (Algorithmic Accountability), and the emphasis on concrete results (Management by Results), serving as a theoretical basis for the implementation of products or services that are essential for efficient and responsible public management.

### 2.2 Public Choice Theory from Budgetary Data

When addressing the issue of public spending, Public Choice Theory emerges as a central approach to understanding the behavior of political agents. As Ribeiro, Borges, and Da Silva Resende (2022) argued, this theory is based on the premise that individuals and groups involved in the political process make decisions guided by their interests, regardless of their party affiliation (right-wing, left-wing, or center). All agents, therefore, seek to maximize their political capital to secure advantages within the political system.

Public Choice Theory can be analyzed from different perspectives, such as that presented by Martynychen and Silveira (2017). According to the authors, one of the central pillars of this theory is the analysis of “government failures,” which complements the notion of “market failures” by offering a more pragmatic and realistic view of the functioning of public institutions. According to the authors, these government failures often result from the fact that both the government and parliamentarians have their agendas, frequently divergent from the collective interests of society. In this context, the decisions of these agents can be influenced by private interests, leading to deviations from public needs and inefficiencies in government management.

However, not all aspects are negative. Another perspective that can be considered is that, precisely because political capital is of great interest to public agents, they tend to dedicate themselves to popular societal agendas. In this sense, it is possible to argue that these agents will seek to meet the demands and anxieties of the population, aligning their actions with collective interests to ensure electoral support and political legitimacy. This dynamic can, therefore, result in public policies that reflect society’s needs and desires despite the agents’ motivations.

In this context, public agents are encouraged to seek efficiency and optimized results since implementing more agendas can bring significant political benefits. Like private managers, who need a well-structured management project to succeed, these agents also depend on accurate data and information to make effective decisions.

### 2.3 Theory of Algorithmic Transparency and Accountability

Efficient management of public spending, combined with the growing demand for transparency and accountability, has challenged public administrations worldwide. Digital technologies, such as artificial intelligence (AI) and predictive analytics, emerge as an opportunity to transform public administration, making it more effective, agile, and data-driven. However, adopting these technologies requires a solid theoretical basis and a rigorous ethical approach to ensure appropriate use, especially in countries marked by structural

inequalities and institutional complexities, such as Brazil.

In this scenario, algorithmic accountability emerges as a central concept. According to Kroll et al. (2017), algorithmic accountability involves creating systems that operate ethically, fairly, and transparently. Governments must ensure that algorithms are designed with adequate safeguards to prevent potential harm, especially in contexts where automated decisions may exacerbate existing inequalities. O'Neil (2016) warns that poorly monitored algorithms can intensify pre-existing inequalities, which makes it essential that, in public administration, AI tools are used to promote social justice and equity rather than reinforce structural inequalities.

In Brazil, implementing AI in the public sector faces additional challenges due to deep socioeconomic inequalities, a history of corruption, and weak public management. Araújo, Zullo, and Torres (2020) highlight that adopting AI in public administration must be accompanied by mechanisms that ensure that algorithms respect democratic values and fundamental rights; this is especially relevant in Brazil, where social exclusion and inequalities remain major challenges. Thus, algorithmic accountability must transcend the technical correctness of systems, encompassing the critical assessment of automated decisions' social and political impacts.

In this context, algorithmic transparency becomes a fundamental imperative for the effective implementation of AI in public administration. As discussed by Selbst, Boyd, Friedler, Venkatasubramanian, and Vertesi (2019), transparency is essential to ensure that decisions made by AI are understandable and auditable. In Brazil, where corruption scandals and lack of transparency often shake trust in public institutions, it is crucial that algorithms used in public administration are auditable and that their decision criteria are clear to both managers and civil society. Diakopoulos (2016) emphasizes that the explainability of algorithms is an indispensable condition to ensure that stakeholders understand how automated decisions are made. In Brazil, a lack of transparency undermines public trust and the legitimacy of adopted policies.

Pasquale's work (2015) also warns of the danger of algorithms operating as "black boxes," systems whose decision-making processes are inaccessible or auditable to the public. In the Brazilian context, where distrust in institutions and structural inequalities are critical issues, the opacity of algorithms can further aggravate these problems. Therefore, algorithmic transparency, in addition to being a technical issue, must be treated as a democratic imperative, ensuring that automated decisions can be reviewed, questioned, and adjusted when necessary, promoting more open and accountable public governance.

Applying algorithms in key sectors of Brazilian public administration, such as health, education, and public safety, presents specific challenges. If poorly managed, algorithmic systems can exacerbate pre-existing regional and social inequalities. Decisions made by these systems must consider historical disparities between different regions of Brazil to prevent already marginalized areas from being further harmed by decisions based on biased data. Thus, algorithmic accountability and transparency are indispensable to ensure that AI contributes to a fairer distribution of public resources rather than reinforcing structural barriers.

In the context of the Access to Information Law (Law No. 12,527/2011), which promotes transparency in Brazilian public administration, algorithmic transparency should be understood as a natural extension of this legislation. AI tools adopted by the government should be designed so that their decision criteria are auditable and understandable by civil society, ensuring that their implementation is aligned with the principles of transparency and accountability that guide public administration.

Finally, adopting AI and predictive analytics in the Brazilian public administration represents a valuable opportunity to improve the management of public spending. However, this implementation must be guided by a commitment to accountability and algorithmic transparency principles, ensuring that these technologies are used ethically and fairly. Discussions on these aspects, such as those presented by Kroll et al. (2017) and Selbst et al. (2019), are essential to ensure that AI optimizes efficiency and promotes equity and public trust.

Incorporating these ethical and theoretical considerations into practice will allow Brazilian public administration to move towards a more inclusive and effective management model capable of facing contemporary challenges related to inequality and transparency while promoting fairer and more responsible governance.

#### *2.4 Theory of Management by Results*

The Theory of Management by Results can be identified through a management approach that is oriented toward achieving objectives that must be clear and measurable, according to Drucker (2006). This theory, originally developed in the 1950s by Peter Drucker, although it was conceived in the business context, also applies to the public sector, being driven by the New Public Management, which emerged in the 1970s and 1980s, aimed to import the best management practices from the private sector to the public sector.

Over the years, scholars such as Wolter and Velho (2020) and Matias-Pereira (2022) have explored and promoted adopting these principles in the public sector, arguing that improved management and transparency are essential to improving the provision of public services. Reforms implemented in recent decades have incorporated these ideas, seeking to make the State more responsive and efficient in using public resources.

Thus, results-based management is an approach that focuses on the results to be achieved and can use indicators to measure results, contributing to increasing efficiency, transparency, and accountability in public administration, adapting, whenever possible, practices carried out in the private sector to the governmental context. For example, public administration must observe the legislation since it can only do what the law allows.

In Brazil, the application of the Results-Based Management Theory to the public sector is encouraged by several laws and regulations that seek to improve efficiency, transparency and accountability in public administration, such as: the Fiscal Responsibility Law (FRL), which includes the need for budget planning and execution guided by results and fiscal targets; Decree No. 10,531 of October 26, 2020 (Brasil, 2020), which provides guidance and challenges to improve the public planning and budgeting system, with the aim of reducing budget rigidity, increasing the predictability of execution and transparency of public spending; and the Public Governance Policy, established by Decree No. 9,203/2017 (Brasil, 2017) which have, among others, as principles of public governance the capacity to respond, accountability and responsibility and transparency, presenting a concept for public value which is “products and results generated, preserved or delivered by the activities of an organization that represent effective and useful responses to the needs or demands of public interest and modify aspects of society as a whole or of some specific groups recognized as legitimate recipients of public goods and services”.

These standards reflect the Brazilian State’s attempt to modernize its administration, introducing monitoring, evaluation, and accountability mechanisms aligned with the principles of efficiency and effectiveness advocated by Management by Results.

### **3. Final Considerations**

Based on the theoretical reflections addressed in this essay, it can be understood that efficiency, transparency, and accountability in public management are fundamental pillars to ensure that public resources are used more effectively for the benefit of society. The essay explores theoretical approaches and discusses how these theories can be applied to improve Brazil’s public spending quality.

In the context of Public Choice Theory, it is highlighted that the behavior of political agents, often guided by their interests, can influence the efficiency of managing public resources. At the same time, the search for political capital can lead these agents to meet the demands of society, aligning their actions with collective interests.

Algorithmic accountability and transparency are emerging as central themes in the debate on using technologies, such as artificial intelligence, in public administration. Therefore, implementing these technologies offers an opportunity to improve public management but requires care to avoid perpetuating social inequalities and ensure that processes are transparent and auditable.

Therefore, the Theory of Management by Results reinforces the importance of focusing on clear and measurable goals, ensuring that public resources are used efficiently and transparently. It is possible to observe that legislative reforms, such as the Fiscal Responsibility Law and the Public Governance Policy, are essential steps in modernizing public management in Brazil.

Furthermore, improving the quality of public spending in Brazil requires a combination of theoretical and practical efforts. Implementing practices that promote greater transparency, responsible use of technologies, and management focused on concrete results is essential to ensure that public resources meet the population’s needs. Furthermore, despite the challenges, there is great potential for improving efficiency in public management, which can result in sustainable economic growth and more significant social equity.

This essay demonstrates the importance of continuing to advance the debate on the quality of public spending and the adoption of mechanisms that encourage accountability and transparency in the use of public resources. Applying the theories discussed — public choice, algorithmic transparency and accountability, and management by results — to a public transparency product could be essential to increase the efficiency of social control and ensure more responsible public management. The proposal for a transparency product that integrates these theories could materialize in a “Dynamic and Responsive Transparency Portal,” which complies with current legislation, citizen language, and the principles that guide the quality of public spending.

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