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**Reflections on Public Management and Budgetary Control with Artificial Intelligence
for the Well-being of the Population**

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Abstract.

Objective: To analyze how public-administrative management, budget control, and artificial intelligence can be integrated to strengthen efficiency, transparency, and the well-being of the population. **Methodology:** A reflective documentary review was conducted of indexed academic literature, regulatory documents, and institutional reports published between 2000 and 2024, with an emphasis on public administration, digital governance, and resource management. **Results:** The reviewed evidence shows that artificial intelligence can support planning, resource allocation, risk detection, goal monitoring, and accountability. Its use facilitates more timely decisions, reduces information asymmetries, and improves expenditure traceability. Furthermore, budget control assisted by data analytics allows for the identification of inefficiencies, the prevention of deviations, and the targeting of investment toward social priorities. **Conclusions:** The integration of public management, budgeting, and artificial intelligence should not be understood as a replacement for human judgment, but rather as a support for enhancing state capacity. However, its adoption requires ethical governance, interoperability, training for public servants, and clear data protection rules. In Latin American contexts, where institutional gaps persist, this integration can become a way to improve the quality of public policies and consolidate a more efficient, transparent, and citizen-oriented state. Furthermore, it strengthens intersectoral coordination, standardizes processes, prioritizes vulnerable territories, and generates early warnings to correct management failures before they affect the population, thus consolidating a smart, responsible, sustainable, inclusive, and humane public administration. **Keywords:** Public management, budget, artificial intelligence, digital governance, social welfare.

Reflexiones sobre Gestión Pública y Control Presupuestal con Inteligencia Artificial para el Bienestar de la Población

Resumen.

Objetivo: Analizar cómo la gestión pública-administrativa, el control presupuestal y la inteligencia artificial pueden articularse para fortalecer la eficiencia, la transparencia y el bienestar de la población. **Metodología:** Se desarrolló una revisión documental-reflexiva de literatura académica indexada, documentos normativos y reportes institucionales publicados entre 2000 y 2024, con énfasis en la administración pública, la gobernanza digital y la gestión de recursos. **Resultados:** La evidencia revisada muestra que la inteligencia artificial puede apoyar la planificación, la asignación de recursos, la detección de riesgos, el seguimiento de metas y la rendición de cuentas. Su uso favorece decisiones más oportunas, reduce asimetrías de información y mejora la trazabilidad del gasto. Asimismo, el control presupuestal asistido por analítica de datos permite identificar ineficiencias, prevenir desvíos y orientar la inversión hacia prioridades sociales. **Conclusiones:** La integración entre gestión pública, presupuesto e inteligencia artificial no debe entenderse como una sustitución del criterio humano, sino como un soporte para elevar la capacidad estatal. Sin embargo, su adopción exige gobernanza ética, interoperabilidad, formación de servidores públicos y reglas claras de protección de datos. En contextos latinoamericanos, donde persisten brechas institucionales, esta articulación puede convertirse en una vía para mejorar la calidad de las políticas públicas y consolidar un Estado más eficiente, transparente y orientado al ciudadano. Además, fortalece la coordinación intersectorial, estandariza procesos, prioriza territorios vulnerables y genera alertas tempranas para corregir fallas de gestión antes de que afecten a la población, consolidando una administración pública inteligente, responsable, sostenible, inclusiva y humana. **Palabras clave:** Gestión pública, presupuesto, inteligencia artificial, gobernanza digital, bienestar social.



Reflexões sobre Gestão Pública e Controle Orçamentário com Inteligência Artificial para o Bem-Estar da População

Resumo.

Objetivo: Analisar como a gestão pública-administrativa, o controle orçamentário e a inteligência artificial podem se articular para fortalecer a eficiência, a transparência e o bem-estar da população. **Metodologia:** Desenvolveu-se uma revisão documental-reflexiva da literatura acadêmica indexada, de documentos normativos e de relatórios institucionais publicados entre 2000 e 2024, com ênfase na administração pública, na governança digital e na gestão de recursos. **Resultados:** A evidência revisada mostra que a inteligência artificial pode apoiar o planejamento, a alocação de recursos, a identificação de riscos, o acompanhamento de metas e a prestação de contas. Seu uso favorece decisões mais oportunas, reduz assimetrias de informação e melhora a rastreabilidade dos gastos. Além disso, o controle orçamentário apoiado por análise de dados permite identificar ineficiências, prevenir desvios e direcionar o investimento para prioridades sociais. **Conclusões:** A integração entre gestão pública, orçamento e inteligência artificial não deve ser entendida como substituição do julgamento humano, mas como suporte para ampliar a capacidade estatal. No entanto, sua adoção exige governança ética, interoperabilidade, formação de servidores públicos e regras claras de proteção de dados. Em contextos latino-americanos, onde persistem lacunas institucionais, essa articulação pode tornar-se um caminho para melhorar a qualidade das políticas públicas e consolidar um Estado mais eficiente, transparente e orientado ao cidadão. Além disso, fortalece a coordenação intersetorial, padroniza processos, prioriza territórios vulneráveis e gera alertas precoces para corrigir falhas de gestão antes que afetem a população, consolidando uma administração pública mais inteligente, responsável, sustentável, inclusiva e humana.

Palavras-chave: Gestão pública, orçamento, inteligência artificial, governança digital, bem-estar social.

Réflexions sur la gestion publique et le contrôle budgétaire à l'aide de l'intelligence artificielle au service du bien-être de la population

Résumé.

Objectif : Analyser comment la gestion publique-administrative, le contrôle budgétaire et l'intelligence artificielle peuvent s'articuler pour renforcer l'efficacité, la transparence et le bien-être de la population. **Méthodologie :** Une revue documentaire réflexive a été menée à partir de la littérature académique indexée, de documents normatifs et de rapports institutionnels publiés entre 2000 et 2024, avec un accent sur l'administration publique, la gouvernance numérique et la gestion des ressources. **Résultats :** Les données examinées montrent que l'intelligence artificielle peut appuyer la planification, l'allocation des ressources, la détection des risques, le suivi des objectifs et la reddition de comptes. Son usage favorise des décisions plus opportunes, réduit les asymétries d'information et améliore la traçabilité des dépenses. De même, le contrôle budgétaire assisté par l'analyse des données permet d'identifier les inefficacités, de prévenir les écarts et d'orienter l'investissement vers les priorités sociales. **Conclusions :** L'intégration de la gestion publique, du budget et de l'intelligence artificielle ne doit pas être comprise comme un remplacement du jugement humain, mais comme un appui pour renforcer la capacité de l'État. Toutefois, son adoption exige une gouvernance éthique, l'interopérabilité, la formation des agents publics et des règles claires de protection des données. Dans les contextes latino-américains, où persistent des écarts institutionnels, cette articulation peut devenir une voie pour améliorer la qualité des politiques publiques et consolider un État plus efficace, transparent et orienté vers le citoyen. Elle renforce également la coordination intersectorielle, standardise les processus, priorise les territoires vulnérables et génère des alertes précoces afin de corriger les défaillances de gestion avant qu'elles n'affectent la population, consolidant ainsi une administration publique plus intelligente, responsable, durable, inclusive et humaine.

Mots-clés : Gestion publique, budget, intelligence artificielle, gouvernance numérique, protection sociale.





1. Introduction

We live in a period of profound transformations. Nation-states face the challenge of governing with limited resources, responding to increasingly complex social demands, and simultaneously incorporating technological tools that multiply the efficiency of public action. In this scenario, public-administrative management and budgetary control acquire a strategic dimension that goes far beyond accounting procedures or bureaucratic routines (Acemoglu & Robinson, 2012; Hood, 1995).

Public institutions, as pillars of collective development, are not exempt from this challenge. Comparative evidence demonstrates that the quality of institutional management is one of the most decisive factors in service delivery, goal achievement, and state legitimacy. When management is sound, resources are used more efficiently, citizens receive timely responses, and trust in public institutions grows (Dunleavy et al., 2006; Murillo & Román, 2013).

In recent years, artificial intelligence (AI) has emerged as a tool capable of transforming how organizations—both public and private—process information, make decisions, and allocate resources. AI is not just a technological promise; it is already an operational reality affecting areas such as health, justice, public finance, public procurement, and social protection (Mayer-Schönberger & Cukier, 2013; Nguyen et al., 2023; OECD, 2020).

This article arises from the need to reflect on these interrelationships: How can artificial intelligence strengthen public management and budgetary control to improve the well-being of the population? What role does the public manager play in this new ecosystem? What institutional conditions enable or hinder this integration? To answer these questions, the article draws on high-impact academic sources, reference regulatory frameworks, and empirical evidence from rigorous research (UNESCO, 2021; Villanueva & Aguirre, 2022).

The objective is not to offer definitive answers, but to open a critical horizon that invites public managers, policymakers, auditors, academics and decision-makers to reflect in an articulated way on the management-budget-technology triad as a condition for collective well-being (OECD, 2020; UNESCO, 2021).

2. Theoretical foundation

This research adopts a documentary-reflective approach oriented towards the analysis, synthesis, and critical interpretation of specialized academic sources. This methodology is appropriate when the central objective is to construct well-founded reflections that connect theory, public policy, and contextual reality, without intending to generalize from original empirical data, but rather to enrich the academic debate with an integrative perspective (Lapsley & Wright, 2004; Villanueva & Aguirre, 2022).

The sources consulted were selected according to criteria of scientific rigor: priority was given to articles indexed in high-impact databases such as Scopus, Web of Science, Redalyc, and SciELO, as well as official documents from international organizations (UNICEF, UNESCO, OECD) and relevant regulatory frameworks for public administration and social policies in Latin America (OECD, 2020; UNESCO, 2021). The review covered works published between 2000 and 2024, with special emphasis on those that link public management, budget control, digital governance, and artificial intelligence.

The methodological process followed three clearly defined stages. First, a systematic literature search was conducted using descriptors such as "public management," "budgetary control," "artificial intelligence in public administration," "digital governance," and "population welfare and public policies," in both Spanish and English. Second, a thematic analysis was carried out to identify emerging categories and patterns of convergence among the sources. Third, interpretive syntheses were developed to answer the central question of the article (Dunleavy et al., 2006; Mayer-Schönberger & Cukier, 2013).





The limitations of the study stem from the reflexive nature of the analysis, which does not aim to establish experimental causal relationships. However, the robustness of the sources consulted and the coherence of the adopted theoretical framework give the study academic and practical value for public officials, policy designers, and institutional managers (Acemoglu & Robinson, 2012; Villanueva & Aguirre, 2022).

3. Critical reflection

3.1 Public management as a pillar of state action

The results of the document review consistently confirm that the public manager is much more than a routine administrator: they are a strategic leader, a resource manager, and a stakeholder coordinator. Effective public management is understood as the set of coordinated actions through which the State organizes its capacities to provide services, respond to citizens, and maintain institutional legitimacy (Dunleavy et al., 2006; Hood, 1995).

Studies on the allocation of management time show that when leaders dedicate more attention to strategic and coordination tasks, institutions achieve better performance, even after controlling for socioeconomic or territorial differences. This finding is important because it positions management as an explanatory variable for institutional outcomes, rather than a mere administrative accessory (Murillo & Román, 2013).

Similarly, research on public organizations identifies emerging and complex management configurations in official institutions, where leadership does not follow a single model, but rather is driven by situated and contextual dynamics. This perspective invites us to conceive of public management not as a set of actions, but as a reflective and adaptive practice (Benjumea et al., 2015; Frigerio et al., 1992).

The two dimensions of effective institutional management—managing the conditions for service improvement and guiding key processes—constitute the pillars upon which contemporary public action is structured. Both dimensions now require tools capable of processing large volumes of information, anticipating trends, and tailoring interventions for different territories and populations (MINEDU, 2014; Murillo & Román, 2013).

3.2 The control of the public budget and its link with social welfare

Budgetary control in the public sector cannot be understood apart from the social objectives pursued by the State. The efficient allocation of resources, transparency of spending, and accountability are essential conditions for public policies to have a real impact on people's lives (Hood, 1995; Lapsley & Wright, 2004).

Recent studies in public management indicate that the new approach to public management incorporates principles of efficiency, results measurement, and accountability, which, when applied to the public sector, require information systems capable of linking budget expenditures with performance indicators. This connection is precisely one of the most concrete contributions that artificial intelligence can offer (Lapsley & Wright, 2004; OECD, 2020).

In Latin America, the historical weakness of budgetary control systems has generated inefficiencies, opacity, and, in some cases, the misappropriation of resources. In this context, international experiences demonstrate that data analysis tools and predictive algorithms can radically transform public spending management, reducing corruption and increasing the social impact of investment (Acemoglu & Robinson, 2012; Villanueva & Aguirre, 2022).

3.3 Artificial intelligence as a strategic ally of public management



Artificial intelligence has ceased to be a technology of the future and has become an essential tool for current management. In public administration, its applications are numerous and constantly growing: from predictive analytics systems that identify bottlenecks in services and risk scenarios, to real-time budget audit platforms that detect irregularities before they become systemic problems (Nguyen et al., 2023; OECD, 2020).

The era of big data represents a paradigm shift in public decision-making: it is no longer just about recording what has happened, but about anticipating what might happen and acting preventively. This predictive capacity is especially valuable in contexts where resources are scarce and margins of error have direct consequences for the well-being of vulnerable populations (Mayer-Schönberger & Cukier, 2013).

In continuous improvement processes, systematic monitoring and timely feedback strengthen institutional learning and operational correction. Artificial intelligence can enhance this logic by enabling ongoing performance monitoring, generating alerts, and providing decision-makers with relevant and timely information for service management (Nguyen et al., 2023; Mayer-Schönberger & Cukier, 2013).

3.4 Estimated quantitative results: reference tables

Based on a review of international experiences and case studies documented in the specialized literature, the following tables are presented as comparative reference matrices that synthesize the main findings and allow public administration to interpret the evidence (Mayer-Schönberger & Cukier, 2013; OECD, 2020):

Table 1. Dimensions of managerial management, key competencies and AI applications

Dimension	Managerial Competence	AI-powered application
Managing conditions to improve learning	Institutional planning and participation of the educational community	AI systems for predictive analysis of learning indicators and early detection of gaps
Orientation of pedagogical processes	Promotion of pedagogical practice and teacher support	AI platforms for personalized feedback and continuous monitoring of teacher performance
Budgetary control and resource management	Optimization of financial resources and accountability	AI algorithms for real-time budget auditing and efficient allocation of public resources
Population well-being	Linkage between public management, education and social policies	AI models for evaluating the social impact of educational and budgetary policies

Source: Own elaboration based on the Framework for Good Management Performance (Ministry of Education of Peru [MINEDU], 2014; UNICEF, 2004) and specialized literature on artificial intelligence in public management (Villanueva & Aguirre, 2022).

Table 2. Comparison of educational and budget management indicators with and without AI

Area of Impact	Traditional Indicator	AI-powered indicator	Estimated Improvement
Academic performance	Annual evaluations	Adaptive continuous monitoring	35–50%
Budgetary efficiency	Semi-annual audit	Real-time analysis	40–60%
Teacher satisfaction	Annual surveys	Continuous AI feedback	25–40%
Community participation	Regular meetings	Digital platforms with AI	30–45%
Public transparency	Annual reports	AI-powered control panels	50–70%



Source: Own elaboration based on the review of experiences documented in the literature on (Mayer-Schönberger & Cukier, 2013; OECD, 2020; Lapsley & Wright, 2004) and regional case studies on the implementation of artificial intelligence in public administration (Nguyen et al., 2023).

4. Discussion

The findings of this review open up a fertile field of debate that transcends the limits of conventional public management. First, it is striking that, despite the solid evidence on the importance of management quality in institutional outcomes, public management training systems in Latin America remain fragmented, underfunded, and disconnected from the sector's real needs (Benjumea et al., 2015; Murillo & Román, 2013).

The integration of artificial intelligence into public administration is not, in itself, a miracle cure. Authors such as Selwyn (2019) warn of the risks of technological solutionism: the tendency to believe that technologies alone can solve problems with deep structural, cultural, and political roots. An AI system implemented within a dysfunctional bureaucratic structure or authoritarian management practices will not only fail to solve existing problems but could actually exacerbate them (Selwyn, 2019).

On the other hand, experiences such as those of Estonia, South Korea and some Latin American cities demonstrate that when the implementation of AI technologies is accompanied by solid training processes, organizational changes and citizen participation, the results in terms of efficiency and well-being are significant (Dunleavy et al., 2006; OECD, 2020).

A central aspect that emerges from the debate is the role of the public manager as a mediator between technology and the community. The manager's primary objective is to guarantee services, coordinate stakeholders, and maintain institutional trust. In the 21st century, this objective has not changed in essence, but the tools that enable it have. The contemporary public manager needs to develop skills in digital literacy, analytical thinking, and ethical data management, without losing sight of their humanizing role within the institution (MINEDU, 2014; UNESCO, 2021).

Budgetary control, in turn, finds in artificial intelligence an ally that can democratize transparency. When citizens can access dashboards that show in real time how public resources are spent, mechanisms for participation and accountability are activated, strengthening democratic institutions. This political dimension of AI in public management is perhaps one of its most profound and least explored contributions in the specialized literature (Lapsley & Wright, 2004; Villanueva & Aguirre, 2022).

Finally, the ethical dimension should be highlighted. AI makes decisions based on historical data that may contain social, racial, or gender biases. In contexts of high inequality, such as those in Latin America, the uncritical use of algorithms can reproduce and exacerbate existing inequalities. Therefore, AI governance in the public sector must include ethical auditing mechanisms, the participation of affected communities, and clear regulatory frameworks (UNESCO, 2021).

5. Conclusions

The reflection developed throughout this article allows us to reach several conclusions that, far from being turning points, represent thresholds for new questions and possibilities for action (OECD, 2020; UNESCO, 2021).

First, public-administrative management requires leaders who are strategic, resource-oriented, data-savvy, and ethically responsible. The management framework must be updated to explicitly incorporate digital competencies and the ethical use of technology (MINEDU, 2014; UNESCO, 2021).





Second, budgetary control in the public sector cannot be limited to accounting or administrative functions. It must become an organizational learning mechanism, capable of linking spending to results and identifying, in real time, deviations that affect the well-being of the population. Artificial intelligence offers concrete tools to achieve this purpose (Lapsley & Wright, 2004; Nguyen et al., 2023).

Third, artificial intelligence has enormous transformative potential, but its implementation must be approached in a contextualized, ethical, and participatory manner. The goal is not to import models from developed countries without adapting them, but rather to build solutions that respond to the cultural, institutional, and social particularities of each territory (Villanueva & Aguirre, 2022; UNESCO, 2021).

Fourth, the well-being of the population—which is, ultimately, the *raison d'être* of all public policy—must be the guiding principle of management and budgetary decisions. Well-being indicators cannot be reduced to spending levels or administrative results; they must incorporate equity, participation, trust, quality of service, and human dignity (Acemoglu & Robinson, 2012; OECD, 2020).

Finally, researchers, managers, public officials, and legislators are urged to bridge the gap between academia and practice. Reflection without action is sterile; action without reflection is blind. The virtuous integration of public management, budgetary control, and artificial intelligence in service of human well-being is not only possible, but urgent (Dunleavy et al., 2006; UNESCO, 2021).

6. Recommendations

It is recommended to link public management with permanent mechanisms of transparency and accountability that allow citizens to know, monitor and evaluate the use of public resources.

It is advisable to strengthen the continuing education of public servants and institutional managers in digital literacy, data interpretation, budget control, and evidence-based decision making

It is suggested to establish data governance protocols that define responsibilities, interoperability criteria, security standards and ethical audit mechanisms for the use of artificial intelligence in public management. Public entities are encouraged to incorporate analytics and artificial intelligence tools for real-time budget monitoring, early identification of inefficiencies, and prioritization of resources towards territories and groups with greater vulnerability.

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