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EXPANDING DISCRETION AND ACCOUNTABILITY IN THE CONTEXT OF AI

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Data-Smart City Solutions at the Bloomberg Center for Cities at Harvard University is working to catalyze the adoption of data projects on the local government level by serving as a central resource for city leaders. We highlight best practices, top innovators, and promising case studies while also connecting leading industry, academic, and government officials. Our research focuses on the intersection of government and data and explores innovations in open data, predictive analytics, and civic engagement technology. We seek to discover and preemptively address civic problems by integrating cross-agency data with community data.

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Executive Summary

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Digital tools expand the ways officials engage with the public, providing them more opportunities to anticipate and respond. Meaningful action requires public employees to possess the agility, flexibility, and authority to understand a need and its causes before promptly delivering a solution, as explained in our paper *The Responsive City Cycle* (Goldsmith & Gardner, 2022)

That agility has been restricted by the widely adopted commitment to the Weberian bureaucracy, characterized by rules, standardized processes, and specialization of labor and hierarchy. These structures, which limit problem solving and service delivery, may have been required in an analog era, but as cities become fully digital and technology rapidly improves it becomes possible to fully realize the public servant as a knowledge worker.

Emerging artificial intelligence (AI, and in particular generative AI (GenAI, is poised to significantly enhance the capacity of public systems and employees and in so doing to reshape bureaucratic processes. When we refer to AI in the context of enhancing public systems, we encompass both basic and advanced forms of GenAI. Basic AI applications might include automating routine tasks, such as data entry or scheduling, thereby freeing up human labor for more complex issues. On the other hand, advanced GenAI refers to systems that can generate new content, propose solutions, or even predict future trends by learning from vast datasets. These AI applications are capable of identifying hidden patterns and insights. Advanced GenAI capabilities hold the potential to reshape administrative processes, providing officials with innovative tools to enhance decision-making and ensure reliable public services. This pivotal transformation arrives on the heels of the essential full digitization of operational processes. Such AI-assisted digitization yields vast amounts of usable information, allowing for a more in-depth examination of the role of outcomes and the rules and supervision that guide democratic governance.

Central to an exploration of the role of AI in governance is the concept of **discretion**. We build on Michael Lipsky's (1980) definition that refers to discretion as the latitude exercised by government employees in their decision-making processes, especially when taking official action in intricate and uncertain problem spaces. This exercise of discretion occurs when public officials are attempting to solve problems as intended by their training and the applicable rules but where there exists a permissible range of choices about what to do or how to do it. Abuse of discretion would be an extra-legal or unethical decision contrary to the purposes of the job or when a public employee just does not agree with a policy goal and is resisting it.

AI-assisted tools can guide employee decision-making in a wide range of difficult circumstances, from those efforts focused on fraud and abuse to roles like those of police officers or child welfare workers who must exercise a different kind of discretion.

Street-level bureaucrats inherently possess discretion because their roles call for nuanced human judgment – a quality that, until now, was considered separate from the role of machines. The concerns of Bovens and Zouridis’s (2002) that human discretion would unfortunately diminish in a wholly automated system is understandable but imprecise. There is ample room for blended actions with better human decision making informed with AI and guided by constant vigilance and evaluation.

Accountability emerges as another pivotal component in this discussion. It encapsulates the ethical, legal, and technical obligations of governmental actors to adhere to standards, justify their actions under societal norms, or face consequences for their conduct. Addressing accountability in the AI context requires both internal and external approaches, where the former advocates accountable behaviors by human actors and algorithms through self-enforced norms and guidelines, and the latter utilizes institutional setups that hold individuals and AI uses explainable, justifiable, and responsible.

In this article we frame the discussion on blended decision-making involving humans and machines, where governmental officials and employees using advanced AI may understand root causes and alternative solutions, rather than either blindly complying with Weberian restrictions or too heavily relying on data-driven, machine-generated instructions. Such a vision resonates with Goldsmith and Crawford’s (2014) concept of accountable discretion, where enhanced data-driven decision-making has been considered a significant enabler to ensure improved public outcomes without eroding democratic controls.

The Trade-off Between Accountability and Discretion

The delicate balance between discretion and accountability has long captivated scholars in political science, public administration, and law. Wielding discretion poses challenges to the liberal framework envisioned by the separation of powers, where one entity passes laws and the other enforces them (Pires, 2011). The overarching principle is that to ensure democratic accountability, there is a need to make enforcement more automatic with limited discretion. The methods usually involve instituting procedural mechanisms that attempt to bind policy actions to accountable outcomes (McCubbins et al., 1987) and by enabling citizen oversight mechanisms as a way to examine actions by executive agencies (McCubbins & Schwartz, 1984).

However, this quest for accountability through limiting discretion does not come without pitfalls. Overly reducing discretion can, paradoxically, undermine the effectiveness or fairness of government work. For example, stringent bureaucratic procedures curtail discretion and can undermine public trust and confidence through either precluding common sense or by creating convoluted administrative processes that impede the agencies from functioning at their optimal capacity. While accountability remains paramount in democratic structures, the relationship with discretion is intricate.

Expanded Discretion and Accountability

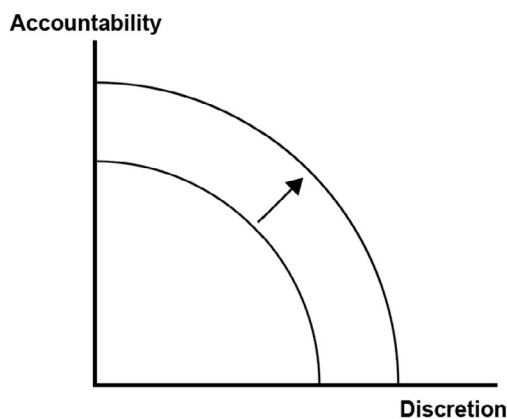


Figure 1 - The trade-off diagram between accountability and discretion. The advent of AI brings the possibility of pushing the trade-off line outward, expanding both accountability and discretion.

The burgeoning wave of AI heralds a transformative phase for the traditional frameworks of accountability and discretion inherent in public sector operations. Imagine a trade-off curve for the traditional relationship between accountability and discretion, where increasing one would come at the expense of the other. AI may provide an opportunity for these tradeoffs to be reexamined and for senior public officials to consider new mechanisms for accountable discretion. The dynamic nature of AI, with its ability to process vast amounts of data in real-time and make predictive assessments, may be both expanding that curve and pushing it rightward.

A closer consideration of AI reveals an intriguing dynamic: the integration of AI should increase the government’s “internal technical capacity” for discretion and accountability (Engstrom et al., 2020). Theoretically, this change suggests a promising shift where it is feasible to achieve heightened levels of both accountability and discretion concurrently. Such AI participation signifies a dual-fold enhancement for governmental employees. On one hand, it endows them with agility, permitting nuanced decision-making; on the other, AI used to ensure adherence to democratic norms should reaffirm citizens of the fairness, objectivity, and consistency embedded in processes. Governmental agencies may serve their constituencies more effectively in day-to-day decision-making processes while still providing supervisors and the public with the tools to insure democratic accountability.

Repositioning Discretion in the Context of AI

AI is poised to significantly reshape the dynamics of bureaucratic systems, both in terms of vertical (hierarchical) and horizontal (AI participation/inter-agency) relationships. Vertically, the extensive use of AI may lead to the repositioning of human discretion in the bureaucratic system. Currently, the vast majority of low-complexity tasks, which often involve repetitive and predictable processes, usually require human intervention. With the progression of AI, there is a foreseeable shift on the horizon. While we are doubtful that the involvement of AI in decision-making will or should easily displace human decisions and analysis in governance, we anticipate a repositioning of human discretion facilitated by the use of AI (Young et al., 2019; Engstrom & Ho, 2021). This repositioning may turn low-complexity tasks into opportunities for AI-assisted decision making and free up human resources to focus on tasks requiring higher levels of discretion, judgment, and nuanced understanding (see Figure 2).¹

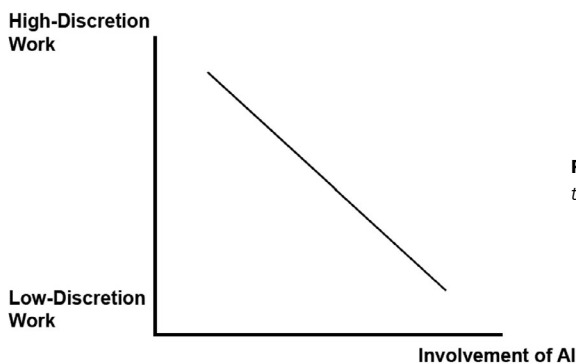
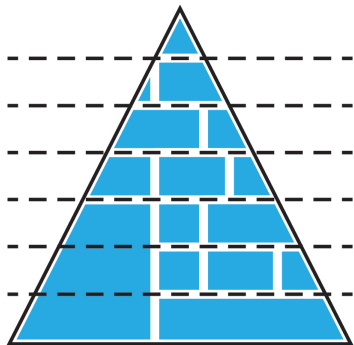


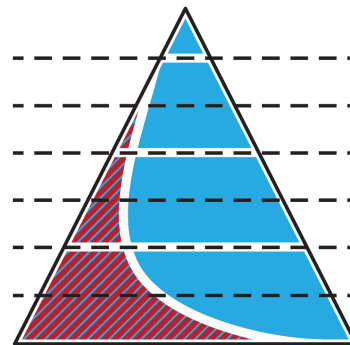
Figure 2 - The conceptual relationship between the levels of discretion and the involvement of AI.

¹ AI discretion in bureaucratic tasks can generally be categorized into low, medium, and high levels, where AI enables automation for low-level discretion work, decision-support tool and predictive analytics for medium-level discretion work, and data generation, reduction of data complexity, relationship discovery for high-level discretion work (Young et al., 2019).

Repositioning human discretion can occur across both lower and higher tiers of administration. AI-assisted discretion is likely to permeate various bureaucratic levels, with greater prevalence at lower tiers characterized by routine tasks such as data entry and management of records like voter registrations and tax filings, scheduling and managing appointments for government services, processing applications and permits for building, social benefits, or business licenses, handling routine correspondence including drafting standard replies to common inquiries, compliance monitoring through regular checks and audits for regulations adherence, and disseminating public information like guidelines and announcements (see Figure 3). Meanwhile, supervisors may gain increased flexibility, bolstered by access to comprehensive information that aids in evaluating street-level discretionary decisions. These developments could foster an environment where human discretion is reserved for tasks that are socially and politically nuanced within public administration. Enhancing government efficiency may not solely hinge on substituting human roles with AI. Instead, it could involve reallocating human resources towards more complex duties that necessitate human interaction and critical thinking.



A bureaucratic system based on rules, procedures, and **human discretion**, where the white lines represent inter-departmental divisions.



A bureaucratic system based on rules, procedures and involving both **human** and **AI-assisted discretion**, where AI involvement may handle most routine tasks, repositioning human resources to complex challenges in governance and reducing bureaucratic procedures.

Figure 3 -The conceptual representation of a traditional bureaucratic system and a system that involves AI.

Horizontally, the introduction of AI in bureaucratic systems can lead to a more streamlined and collaborative environment. AI-powered collaboration platforms can streamline real-time communication, data sharing, and decision-making. Such platforms not only democratize information access but also support consensus-building by offering data-backed insights.

However, it is important to note that while AI could foster an environment conducive to collaboration, it also highlights the urgency to address critical challenges such as overseeing nested algorithmic supply chains (Cobbe et al., 2023), managing collaborations with tech-related vendors (Mulligan & Bamberger, 2019) and digital procurement processes (Goldsmith & Gardner, 2023),² and embedding ethics and accountability in AI (Busuioc, 2021).

In the evolving landscape of AI in public administration, street-level bureaucrats are likely to face a significant shift in their traditional role of discretionary decision-making. Historically, these public employees have been required to make of-the-moment decisions often without the necessary data nor with sufficient information to see if that exercise complied with attendant norms. By leveraging AI, governmental employees may not only be empowered to retrieve vital information with increased efficiency but may also be positioned to make swifter yet more prudent decisions with these digital tools.

This transformation, however, presents challenges in integrating AI recommendations effectively, especially when they align with or contradict bureaucrats' professional judgments (Selten et al., 2023). A nuanced approach is required to balance AI's insights with human discretion, underscoring the need for ongoing empirical research in this domain. Importantly, this shift also brings into focus the critical issue of AI accountability, particularly in contexts where compliance and adherence to standards are paramount. The next section explores how AI's data processing capabilities may be harnessed to address these challenges, shedding light on the dual perspectives of AI accountability in the realm of public administration.

Addressing AI Accountability with Two Perspectives

We look at accountability in two broad ways – the first relates to the public servants themselves – how is their internal moral compass guided by normative boundaries of ethics, fairness and law and how can they access data to insure they are staying inside those boundaries; the second deals with external oversight and supervision to trace any past actions and enforce established norms and values. Such a categorization resonates with Mark Bovens' (2010) framework of accountability as a virtue and accountability as a mechanism, where the former encourages virtuous conduct guided by norms and the latter refers to a narrow stance by emphasizing how institutional arrangements hold actors accountable, structuring a supervisory relation between actors and forum (e.g., an audit body) in which explanation, justification, judgment, and consequences are required (Bovens, 2007: 450).

² See also: Goldsmith, S., & Yang, J. (2023, October 18). Ethical AI Procurement Requires Collaboration, Accountability. *Government Technology*. <https://www.govtech.com/opinion/ethical-ai-procurement-requires-collaboration-accountability>

The potential for an overall elevation of compliance through AI

Both forms of accountability are rooted in norms, rather than in narrower, more restrictive, and prescriptive supervision which attempts to ensure that procedural steps have been taken. AI-assisted compliance means that systems can be designed with ethics, privacy, equity, and other critical values as standards, trained on data rooted in such standards, and constantly tested for improved outcomes and reduced biases. This process of creating real-time AI assistants could guide well intentioned bureaucrats at all levels, helping steer their decisions away from unethical or inappropriate territories. In this way, the advent of AI could help offset concerns that broadened discretion undermines democracy.

Here, it is important to note that the efficacy of such compliance enhancement is dependent on algorithmic accountability being an integral part of AI applications, which raises serious and complex issues in terms of privacy, cybersecurity, and equity. The continued expansion of AI may generally create an imperative to integrate accountability firmly within the architecture of AI tools. Technical solutions must imbue AI with accountability as an inherent quality, rather than as an afterthought simply enforced by external regulations (Novelli et al., 2023). Discussion of these critical regulatory issues is currently underway among various academic and governmental entities and will require thorough exploration and ongoing testing in the future.

Enhancing internal norms through better guidance

For individual bureaucrats, we posit that AI can play an enabling role by improving human actor's capacities to access and process important data, policies, and regulations, hence reducing biases and guess work and promoting better policy-advancing decisions. One potential example is that AI could enable bureaucrats to analyze regulatory documents, which are often lengthy and complex. For example, AI could help in identifying and interpreting relevant passages within a regulatory document that pertain to a specific case or issue. This would reduce the time and effort required for manual analysis, minimize the risk of overlooking important information, and ensure a more accurate and consistent application of regulations.

Another example is that AI's capacity for data processing may also contribute to addressing compliance review. It is a long-lasting challenge that government employees need to determine whether applicants for services or benefits comply with applicable eligibility standards. This category ranges from checking simple qualifications to the examination of more sophisticated waste, fraud, and abuse schemes; for instance, the billions of dollars in unemployment funds fraudulently distributed during the COVID-19 pandemic.³ One can, in this situation, theorize compliance solutions where the cases nominated for review are selected through equitable and precise data and where the auditors receive AI aided advice in their examinations.

Empowered managerial supervision

Studies on the applied use of algorithms in public management have illuminated its recognition by both management and street-level employees as a mechanism for management to enhance supervision and ensure clarity regarding the allocation of officers' time on the ground. Building on this understanding, we propose the application of AI tools not merely as a means to extend task control but to foster more normative supervision, enabling managers and/or regulatory bodies to assess the alignment of public employees' actions with established training, standards, and norms (Brayne, 2017; Brayne & Christin, 2021). This enhancement would focus on things such as whether governmental officials treat different people similarly in similar circumstances, whether their decision to impose a fine or make an arrest is based on appropriate considerations, and whether their language exhibits biases.

Connected with real-time monitoring, analytics, and predictive modeling, AI could provide managers with granular insights into the operations and decisions of street-level bureaucrats. This does not just mean stricter supervision, but rather the potential for more informed guidance, training, and support. As a result, public sector managers would have better managerial control over the actions of their field workers, ensuring that discretion is appropriately exercised within the desired policy frameworks while still benefiting from the flexibility and adaptability that these frontline workers bring to their roles (Buffat, 2015; Busch & Henriksen, 2018; Young et al., 2019).

Another example is around performance analysis. AI could be employed to analyze the performance of governmental employees by reviewing recorded interactions with the public. For instance, natural language processing (NLP) can assess whether the language used by officials is neutral and professional across similar cases. This analysis can provide managers with concrete data to address any deviations from expected communication standards (Dixon & Birks, 2021).

Decision-making patterns are another critical focus that AI could contribute to for managerial supervision, by tracking and analyzing decision-making patterns of government officials. For example, it could evaluate the consistency of fines imposed or arrests made across different demographics to ensure fairness and adherence to norms by individual decision-makers. This capability would assist in identifying and correcting any inconsistencies or biases in enforcement actions.

³The U.S. Government Accountability Office mentioned in a [blog](#) and estimated that the total amount of fraud across all Unemployment Insurance (UI) programs during the COVID-19 pandemic was likely between \$100 billion and \$135 billion, which is 11% to 15% of the total UI benefits paid out during the pandemic (GAO Watchblog, 2023). Reuters reported that fraudsters likely stole \$45.6 billion from the United States' unemployment insurance program during the COVID-19 pandemic, using tactics such as using Social Security numbers of deceased individuals (Singh, 2022). According to the Pandemic Response Accountability Committee, nearly \$655 billion in benefits were issued by three programs, with significant fraud detected in pandemic-related UI programs (Pandemic Oversight, 2023).

Institutional Setup for Oversight

While the previous sections discussed the enhancement of managerial supervision through AI, here we focus on the importance of an institutional approach for ex-post oversight. Such an approach is crucial for systematically monitoring and auditing interactions between humans and AI systems. This institutional setup is not merely a supplement to existing processes but a necessary foundation for examining accountability in decisions influenced by AI. We contend that ex-post oversight is essential for any comprehensive accountability strategy when AI is implemented. The distinction lies in the systematic approach and the formal structure dedicated to ongoing scrutiny, which ensures that including AI into public services remains aligned with our social and ethical norms.

We consider two forms of oversight. The first looks at the oversight process for individuals, making street-level decisions including both decisions aided by AI and those without. This necessitates implementing systems capable of capturing the data required for a supervisory system to audit compliance. The supervisory system, as an institutional framework, may be equipped with sufficient capacities and authority to process inquiries and judgments pertaining to actors and their behaviors. AI-driven analytics will allow supervisors to evaluate much more data and to recognize patterns or outliers more quickly. Imagine the supervisor who now can also evaluate their decisions against a range of factors including size and location, the demographics of the person whose business is inspected, conditions like weather or time of day, previous interactions with the city and on and on. When coupled with improved technical abilities to interpret AI systems, this supervisory mechanism will serve as a critical step to ensure transparency and fairness of decision making and in the use of AI tools.

The second form of oversight refers to the capacity for human actors to scrutinize the underlying assumptions of the AI and check AI systems' behaviors. As Busuioc (2021) pointed out, the concept of explainability in AI refers to the ability to understand and provide qualitative understanding of the reasons behind AI predictions and decisions. Justifiability, on the other hand, involves the ability to provide meaningful justifications for AI actions and outcomes, especially in high-stakes decision-making (Novelli et al., 2023).

Achieving explainability and justifiability in AI algorithms is very challenging, particularly for a growing AI ecosystem intertwined with foundational large language models, domain-specific deep learning algorithms, and other derived applications. However, the field of explainable AI is a growing research subject, addressing the challenges of making AI decision-making processes transparent and understandable to humans (see Adadi & Berrada, 2018; Došilović et al., 2018).

Conclusion

Navigating the course of AI-enhanced governance, we encounter the intricate challenges of predictability, cybersecurity, and privacy. Fortunately, the horizon is not bleak; emerging technologies and standards are progressively shaping an environment wherein AI systems should operate without infringing upon individual privacy. The increasing availability of third-party evaluations on AI's transparency is providing the public with additional tools to understand AI as it becomes more prevalent in our society (Bommasani et al., 2023; Siderius et al., 2023).

Accountability also requires careful attention to the use of AI as part of evolving public-private relationships. The integration of highly technical, innovative capacities into private solutions provided to government will stress governance frameworks and affect the power dynamics between the two (Fourcade & Gordon 2020; Mulligan & Bamberger 2019, as cited in Engstrom & Haim, 2023). This emerging paradigm may produce a more progressive and collaborative relationship between governmental agencies and vendors (Gardner & Goldsmith, 2023), but only when organized within the proper normative and technical parameters.

AI tools shall not be mere facilitators of routine tasks but enablers of nuanced judgment, augmenting the human capacity for discretion with data-driven insights. This evolution, however, must be accompanied by robust accountability frameworks that align AI's output with societal values and legal norms. The new paradigm symbolizes a union of human and machine intelligence, reflecting a synergy that enhances decision-making. As such, AI-assisted governance must chart its own course, moving beyond the prior assumptions that machines will replace people (see Barth & Arnold, 1999) and beyond the older Weberian bureaucratic construct that strict, process-based rules are the only means to control public action. These changes presents the opportunity to facilitate cross-agency and cross-sector breakthroughs without the necessity of organizational, structural changes.

By embedding mechanisms of accountability within the AI systems themselves, we can foster a governance where expanded discretion is balanced by the assurance of responsible use – a balance that is the cornerstone of a future where AI supports and enhances the integrity and trustworthiness of bureaucratic functions and democratic institutions. While this shift represents more than just an incremental change, heralding a radical transformation with the potential to unlock unprecedented efficiencies and capabilities in government functionality, it is crucial to acknowledge that such a future is contingent upon our ability to concurrently address critical issues of privacy, security, and bias. By embracing this new paradigm, we stand on the cusp of a renaissance in public administration, where AI may not just support but revolutionize how government operates, promising a future of unmatched efficiency, fairness, and responsiveness. Exploring and understanding this intertwined, shifting relationship is challenging, but if approached intentionally and with care, it can lead to unprecedented gains while minimizing social costs.

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