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Adopting AI in Medan PR: a study of government reputation management

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Abstract This study examined how the Medan City Government adopts artificial intelligence in government public relations to strengthen reputation management through the lens of algorithmic governance and digital agility, while advancing an inclusivity-oriented civic branding narrative known as 'Medan Untuk Semua'. Using a qualitative case study design, data were collected through in-depth interviews, observation, and documentation. Informants were selected purposively from key internal actors responsible for policy direction, communication governance, and technical implementation, with limited snowballing applied to identify specialised technical personnel. Data analysis followed the Miles, Huberman, and Saldaña framework and was supported by NVivo-based coding and visualisation to map thematic relationships. The findings show that AI-driven Customer Relationship Management (CRM) systems, incorporating automated ticketing, predictive analytics for complaint classification, and integrated dashboards, together with the 'Medan Satu Data' ecosystem, operate as an institutional reputation architecture by enabling data-driven responsiveness, digital traceability, and cross-unit message consistency. AI also reshapes internal communication by orchestrating coordination among public relations units, social media administrators, and IT teams. However, the study identifies persistent tensions between speed and accuracy, uneven technological literacy across bureaucratic units, and the need for narrative sensitivity that algorithmic systems cannot fully automate. Overall, AI adoption in Medan illustrates a hybrid governance model in which technological infrastructure enhances service delivery and communication legitimacy, while human judgement remains essential for contextual interpretation, empathetic messaging, and reputational risk management. The study underscores the strategic value of integrating AI into local government communication systems to support inclusive and accountable public service delivery.

Keywords: artificial intelligence; digital governance; government public relations; reputation management

INTRODUCTION

Development of artificial intelligence has shifted the orientation of public service delivery from administrative procedures towards more responsive and data oriented models (Fleischmann, 2023; Kalampokis, 2021; Saura, 2022). The Medan City Government is moving within this current by utilising technology to strengthen communication capacity and service provision. The increasingly rapid demands of citizens compel the government to rely on systems capable of reading social dynamics in real time. AI becomes a tool that provides this capability through more structured and precise information processing.

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The utilisation of the Cerdas Responsif Melayani platform and the integration of the Artificial Intelligence Central Orchestrator Platform indicate an expansion of technological functions in public service delivery (Gaozhao, 2024; Gharbaoui et al., 2024; Kalliontzi et al., 2024). These systems classify reports, generate digital tickets, and periodically update the knowledge base through machine learning. Each citizen interaction is therefore not only recorded but also processed into patterns that can be learnt. Technology functions as an interpretive instrument that enhances the government's capacity to understand public needs more comprehensively.

Integration of artificial intelligence reshapes how the Medan City Government manages its reputation within the broader framework of a Smart City development, where digital systems function as core infrastructure rather than auxiliary tools. Reputation is no longer produced solely through symbolic communication or episodic responses but is constituted through the performance of urban digital governance reflected in information consistency, response quality, and institutional capacity to address public issues in real time. AI-driven systems enable sentiment mapping and complaint pattern analysis as part of an integrated governance architecture, allowing public communication to operate on predictive and data-informed logics rather than reactive practices. Within this context, reputation emerges as an outcome of digital sovereignty, where the government's ability to control, process, and validate data across platforms becomes central to public trust and legitimacy in the smart city environment (Hameduddin & Vivona, 2023).

This development directly intersects with the symbolic framework of 'Medan Untuk Semua', which functions as the city's communication orientation by emphasising inclusivity and connectedness between the government and citizens. These principles become particularly relevant in the context of fragmented public experiences in accessing services across Medan, where evaluations of government performance vary according to social, economic, and informational conditions. Artificial intelligence operates as a bridging mechanism that links this inclusivity-oriented civic narrative with the heterogeneous realities of citizens by enabling more equitable, data-driven access to services beyond physical boundaries and by mapping diverse interaction patterns across segments of society. Through sentiment analysis and pattern recognition, AI allows the government to translate fragmented public perceptions into structured insights, thereby aligning the Medan Untuk Semua narrative with differentiated service needs and reinforcing the government's capacity to be present for all segments of society in a measurable and operational manner (Benović et al., 2025; Longo et al., 2025; Manias et al., 2023; Said, 2025).

The presence of AI also transforms the internal work structure of the Medan City Government. Public relations units, social media managers, and IT teams now operate within a collaborative framework that depends on data consistency. Public information that is produced must align with system generated findings, making communication more synchronised (Ahmed, 2025; Widjaja & Legowo, 2024). This work pattern enhances governmental legitimacy because each message is supported by an analytical basis that can be examined.

Research on the utilisation of artificial intelligence in the context of government and public relations has shown an increasing trend in recent years with diverse focal points. An Asia (2025) study employed a quantitative approach based on field surveys in government institutions to measure the extent to which AI usage by public relations practitioners contributes to improved job performance, finding that AI plays a significant role in task efficiency and individual productivity. Meanwhile, Harrison (2022) examined AI issues in digital government through a conceptual and analytical approach, emphasising the importance of trust, accountability, and ethical governance in AI implementation, and highlighting that the success of AI in the public sector is highly dependent on institutional design and social legitimacy. Both studies position AI as a supporting instrument for performance and trust, yet they do not specifically explore communication practices and reputation management at the local government level.

Within the perspective of reputation management and government public relations, prior studies have examined the role of artificial intelligence primarily through outcome-oriented and perception-based lenses. Jeljeli (2024), for instance, employed Structural Equation Modelling to test the relationship between AI utilisation in public relations practices and organisational reputation management, demonstrating a positive and significant effect of AI on

perceived reputation. While this study confirms the strategic relevance of AI for reputation outcomes, its quantitative orientation limits insight into the internal processes, coordination dynamics, and narrative construction through which reputation is institutionally produced. Similarly, Ruvalcaba-Gomez (2023) used survey methods and public perception analysis to assess societal views on digital government and AI in Mexico's public sector, finding that AI acceptance is shaped by institutional trust and service quality. From a government public relations standpoint, however, these public-facing assessments do not fully explain how reputational logics are organised within governmental institutions. The present study addresses this analytical gap by positioning reputation management as an institutional practice enacted through GPR, focusing on internal government actors to examine how AI is integrated into communication processes, coordination mechanisms, and narrative governance at the organisational level.

Based on this positioning, the present study employs reputation management theory and government public relations as its main conceptual frameworks because both allow a comprehensive analysis of reputation as a strategic asset of public organisations and of government communication as a planned, coordinated, and legitimacy oriented process (Gilpin & Murphy, 2008; Niskanen, 2017). Reputation management theory is relevant for explaining how responsiveness, message consistency, and accountability facilitated by AI shape public perceptions of the Medan City Government, while the government's public relations approach provides a framework for understanding internal communication orchestration, cross-unit coordination, and the construction of the Medan Untuk Semua narrative as part of the governmental communication strategy. The combination of these two theories enables the study to explain AI usage not merely as a technology, but as an institutional mechanism that shapes the relationship between government, communication systems, and reputation in the digital public sphere.

The urgency of this study lies in the need to understand how the Medan City Government embeds artificial intelligence within the broader trajectory of Smart City development as part of its institutional and policy-driven adaptation to digital governance. Initially framed through smart city initiatives aimed at improving efficiency, connectivity, and service integration, this technological agenda has evolved towards the use of AI in public service delivery and government public relations practices. Within this context, the study focuses on how AI is institutionalised as a form of algorithmic government public relations governance, through which institutional orchestration among public relations units, social media administrators, and IT teams structures responsiveness, transparency, and the construction of the Medan Untuk Semua' narrative. Such an analytical focus is essential for assessing how AI-enabled institutional orchestration enhances service quality, bridges fragmented citizen perspectives, and supports the realisation of inclusive governance objectives in Medan City.

METHODOLOGY

This study employed a qualitative case study approach to examine the adoption of artificial intelligence in the public relations practices of the Medan City Government (Creswell & Creswell, 2022; Weyant, 2022). The unit of analysis is defined as the institutional communication system of the Medan City Government, with particular focus on the Medan Satu Data ecosystem and AI-driven Customer Relationship Management (CRM) as digital infrastructures shaping reputation management. This approach is appropriate because the study emphasises internal processes, organisational dynamics, and meaning construction among government actors in institutionalising AI within government public relations, which require contextual and process-oriented analysis (Edmonds & Kennedy, 2020).

The informants (Table 1) were selected using a combination of purposive and snowball sampling techniques (Baum, 2021; Takona, 2024). Purposive sampling was applied as the initial strategy to ensure structural diversity across key functional units, including public relations, information technology, and digital policy governance, thereby reducing the risk of homophily within a bureaucratic hierarchy. Snowball sampling was subsequently used in a limited manner to identify specialised technical actors involved in AI-based communication systems. Data were collected through in-depth interviews, observation of digitally mediated communication workflows, and institutional documentation, and analysed using the Miles, Huberman, and Saldaña framework supported by NVivo-based qualitative coding.

Table 1. Research informants

No.	Initials	Position	Gender	Age (years old)
1	RTPBW	Mayor of Medan	Male	40
2	AP	Head of the Medan City Communication and Informatics Office	Male	48
3	FPA	Mayor's Expert Team	Male	41
4	MG	Mayor's Expert Team	Male	23
5	RF	Head of Cryptography and Public Information Division, Medan City	Female	40

Source: Author (2026)

Data collection was conducted through three main techniques, such as in-depth interviews, observation, and documentation. In-depth interviews were used to explore informants' understandings of AI integration in communication practices, reputation construction, and work dynamics among public relations units, social media managers, and IT teams (Johannesson & Perjons, 2021). Observation was carried out on the Medan City Government's digital communication activities, including response patterns, information distribution flows, and internal interactions among work units. Documentation included the review of policy archives, technical reports, official publications, and relevant digital artefacts such as social media content and government communication materials.

Data analysis followed the framework proposed by Miles, Huberman, and Saldaña (2020), which consists of data condensation, data display, and conclusion drawing and verification. Data condensation was conducted through initial coding, focused coding, and the development of thematic categories emerging from the interaction between empirical data and the research focus. Data display was carried out using matrices, thematic relationship diagrams, and process maps to understand the relationships among actors and the flow of AI-based communication management. Conclusions were drawn iteratively through repeated verification processes to ensure that each identified pattern was supported by strong empirical evidence.

Data validity was ensured through source triangulation by comparing information from various informants occupying different structural positions (Flick, 2022). This triangulation enabled cross-validation of experiences, interpretations, and perspectives from each actor so that the findings reflect not a single viewpoint but a broader representation of internal dynamics within the Medan City Government. This technique ensures that all conclusions produced possess methodological credibility and analytically accountable consistency.

RESULT AND DISCUSSION

Integration of artificial intelligence as the reputation management architecture of the Medan City Government

The transformation of government communication in Medan City indicates a significant shift from administrative service patterns towards reputation governance based on digital systems. The integration of artificial intelligence is not positioned merely as a technical innovation, but as an institutional framework that supports how the government reads, responds to, and manages public perceptions (Almulhim, 2025; Benović et al., 2025; Omonov & Ahn, 2025). In this context, AI CRM and the Medan One Data ecosystem function as media that connect citizen interactions, internal decision-making, and the production of public messages. The research findings show that the reputation of the Medan City Government is increasingly built through response speed, process traceability, and communication consistency facilitated by AI-based systems.

Figure 1 presents an interview map illustrating how informants interpret the integration of artificial intelligence as a reputation management architecture. The map shows thematic relationships between technological dimensions, data governance, organisational capacity, and reputational implications. Each informant positions AI differently according to their role, yet all converge on the understanding that government reputation no longer rests on normative narratives, but on systemic performance that can be directly observed by the public.

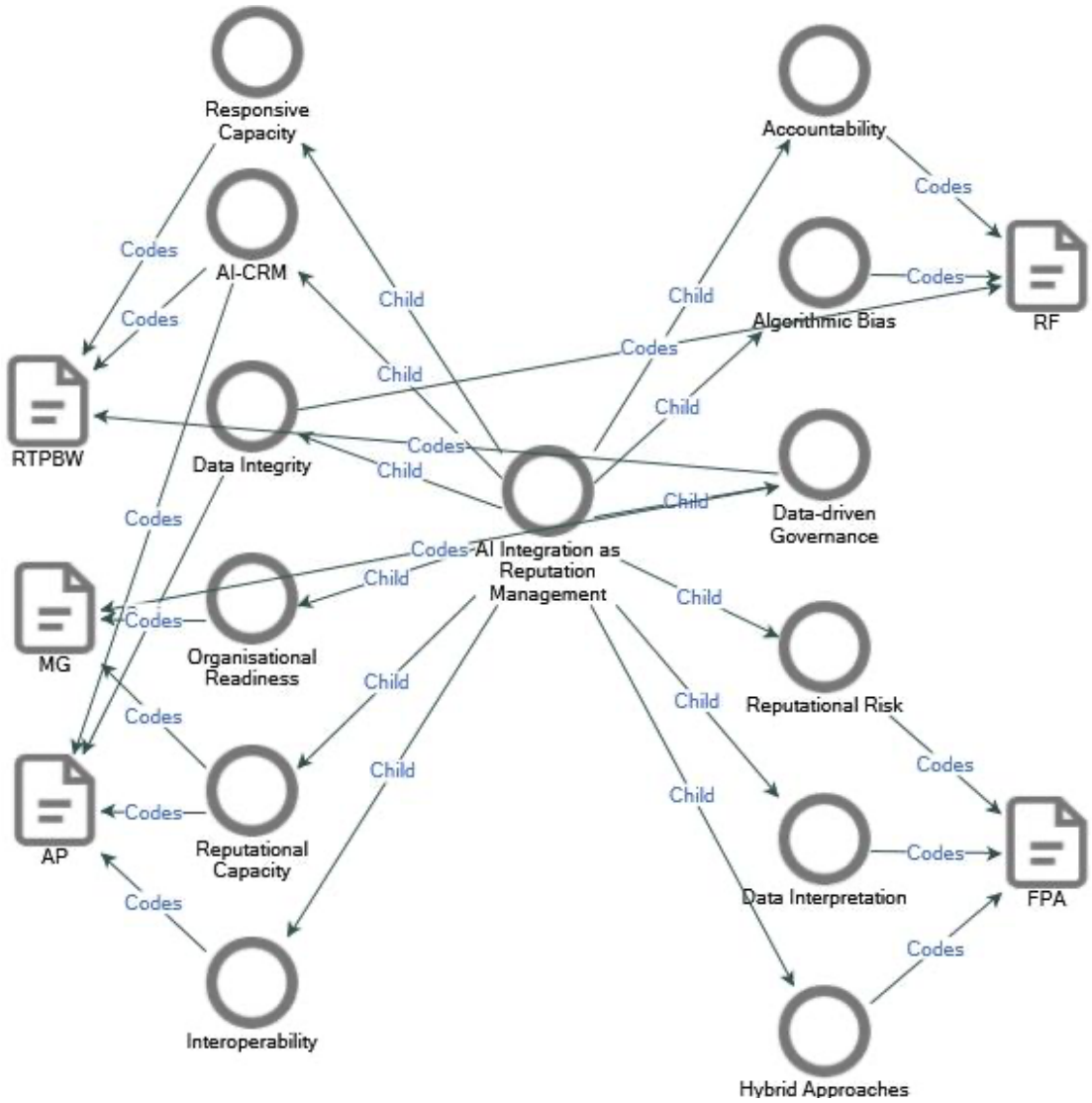

Figure 1. Interview network map
Source: NVivo 15 (2025)

The interview map narrative on Figure 1 indicates that AI integration is primarily understood as a mechanism for enhancing responsiveness. The Mayor and the Head of the Communication and Informatics Office emphasise that AI-based CRM systems enable rapid identification of priority complaints and sensitive issues. This speed is perceived as a key element in maintaining government credibility in the eyes of citizens. Reputation is framed as the outcome of accurate action rather than merely policy statements (Alshahrani, 2024; Maulana et al., 2024; Nzobonimpa, 2023).

The second dimension emerging from the interview map relates to data governance. Informants highlight that the effectiveness of AI is highly dependent on data quality, interoperability, and consistency across regional government units. AI CRM and Medan One Data are perceived as reputational foundations because they enable process transparency and traceability of follow-up actions. Nevertheless, institutional and algorithmic constraints in data standards across units remain obstacles that affect system optimisation.

Another aspect in the interview map highlights the role of organisational capacity and human resources. Several informants assess that not all bureaucratic units are prepared to make decisions based on system-generated recommendations. This institutional friction reflects tensions between traditional bureaucratic work patterns and the new logic offered by AI. In the context of reputation, this lack of synchronisation has the potential to create gaps between public expectations and actual government performance (Jeljeli, 2024; Jeljeli et al., 2023; Wei, 2021).

The findings indicate that the integration of AI within the Medan City Government generates institutional friction rather than merely technical hesitation. This friction emerges from the collision between algorithmic logic, which prioritises speed, data-driven classification, and real-time responsiveness, and bureaucratic logic, which remains hierarchical, rule-bound, and procedurally cautious. Within this tension, AI does not simply coordinate human action but actively reconfigures decision-making authority, producing a structural negotiation between automation, institutional control, and organisational legitimacy.

The interview map also presents dimensions of risk and critical reflection. Expert team members and cryptography officials emphasise the potential for algorithmic bias and the institutional and algorithmic constraints of AI in capturing the emotional nuances of citizen complaints. Government reputation is considered to depend not only on data accuracy but also on the ability to understand the social and psychological contexts of society. Therefore, AI is positioned as a support system that still requires human judgment.

Relationships among dimensions in the interview map demonstrate that AI integration forms a hybrid reputation architecture. Digital systems provide structure, speed, and traceability, while human actors maintain sensitivity, ethical consideration, and local context. This architecture reflects a change in how the city government understands reputation as a continuous process produced through the interaction of technology and institutions (Mukherjee, 2022; Omonov & Ahn, 2025).

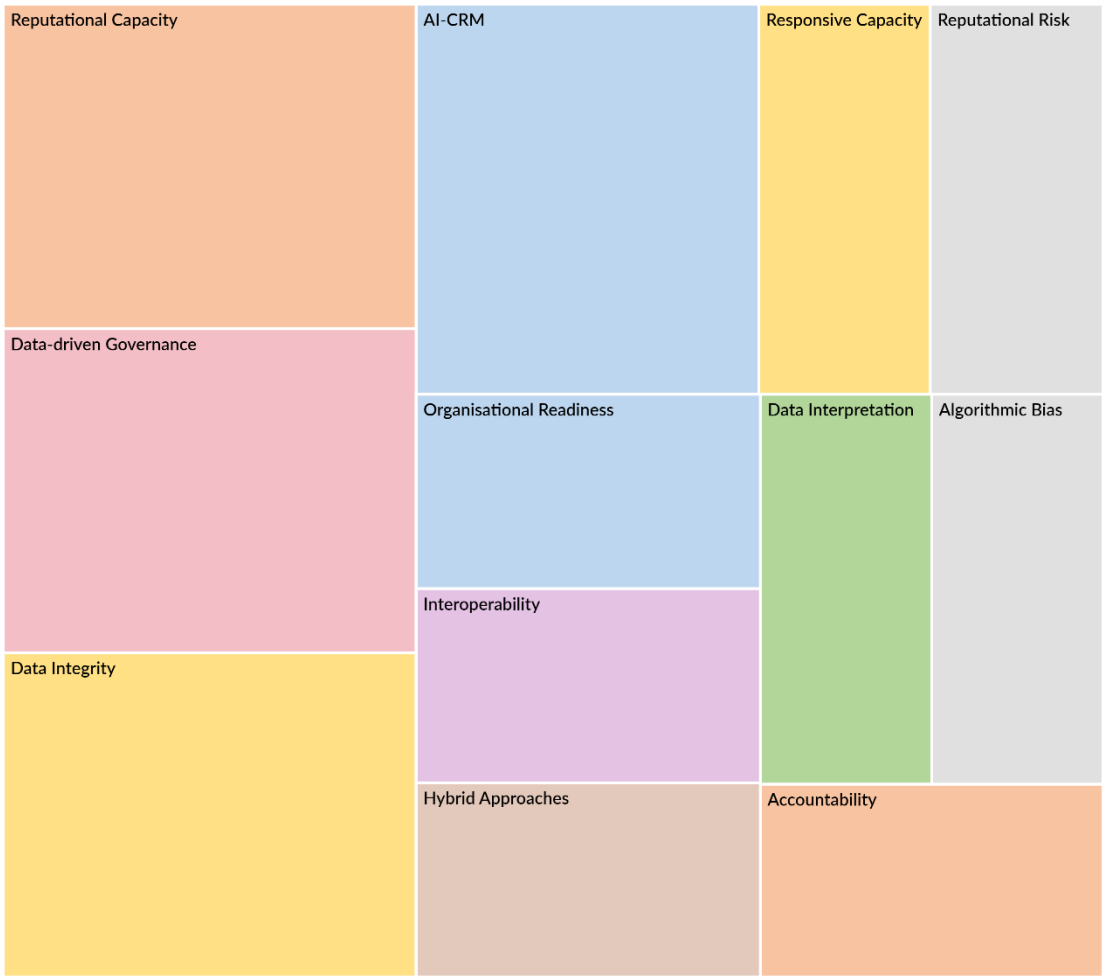

Figure 2. Hierarchical analysis based on interview codes
Source: NVivo 15, (2025)

Figure 2 presents a visualisation of further findings that map the flow of AI integration from citizen inputs to reputational implications. This visual shows how public reports enter through digital channels, are processed by AI CRM, integrated with the city database, and translated into policy responses and public communication (Ju et al., 2023; Nielsen &

Jordanoski, 2023). This flow depicts reputation as the result of interconnected processes rather than a product of one-way communication.

The narrative in Figure 2 shows that AI CRM functions as the initial point of reputational processing. Each citizen complaint is converted into structured data that allows issue classification and determination of urgency levels. This process accelerates decision making and reduces the risk of neglecting reports, which previously often became a source of public distrust.

Next stage in the flow highlights the role of Medan One Data as a reinforcement of informational legitimacy. Sectoral data integration enables regional government units to operate with the same reference points. This uniformity of data foundations reduces the potential for contradictory public messages and strengthens narrative consistency. Reputation at this stage is built through information coherence and alignment of actions across units.

Figure 2 also illustrates a critical point in the process of interpretation and validation. Although AI can present patterns and recommendations, final decisions remain with institutional actors. Several informants emphasise that caution in data validation is essential to maintain reputational integrity. Response delays sometimes occur due to verification needs, indicating a trade-off between speed and accuracy.

Another dimension visible in the visualisation is the accountability mechanism (Kamal et al., 2025; Rakšnys et al., 2025). The digital traces generated by the system allow every response to be tracked. This transparency is viewed as strengthening reputation because the public can monitor the complaint handling process. However, this mechanism also demands organisational readiness to accept public evaluation more openly.

The AI integration flow in Figure 2 demonstrates that city government's reputation increasingly depends on system stability. Technical disruptions, data misalignment, or capacity gaps can directly affect public perception. This reinforces the idea that reputation is no longer managed solely through rhetoric, but through the performance of digital infrastructure that supports public service delivery (Hjaltalin & Sigurdarson, 2024; Kahraman, 2025; Lungu, 2024).

Findings in Theme 1 indicate that the integration of artificial intelligence in the Medan City Government forms a systemic and institutional reputation management architecture. Reputation is produced through data-driven responsiveness and internal communication consistency managed by government public relations functions. These findings align with reputation management perspectives that emphasise reputation as a strategic asset of public organisations, as well as with government public relations approaches that view government communication as a planned process to build public trust and legitimacy through tangible performance.

AI-based internal communication orchestration in realising the Medan Untuk Semua narrative

The use of artificial intelligence in the communication practices of the Medan City Government not only affects the technical aspects of public service delivery but also reshapes patterns of internal coordination among governmental actors. The research findings indicate that AI functions as a medium for communication orchestration that connects various work units with different functional backgrounds and interests. In this context, the Medan Untuk Semua narrative is not produced linearly by a single institution but is generated through a data-based coordination process involving public relations units, social media managers, technical teams, and policy makers. AI facilitates this process by providing information flows that are more structured, traceable, and relatively uniform.

Figure 3 presents an interview map that visualises the relationships among actors, thematic codes, and centres of meaning anchored in the concept of AI-based communication for advancing Medan Untuk Semua. The map shows that internal communication orchestration is shaped by a combination of coordination, narrative sensitivity, information validation, and response balance. Each informant contributes to different aspects, yet all are connected through efforts to maintain the consistency of the city narrative through AI based communication systems.

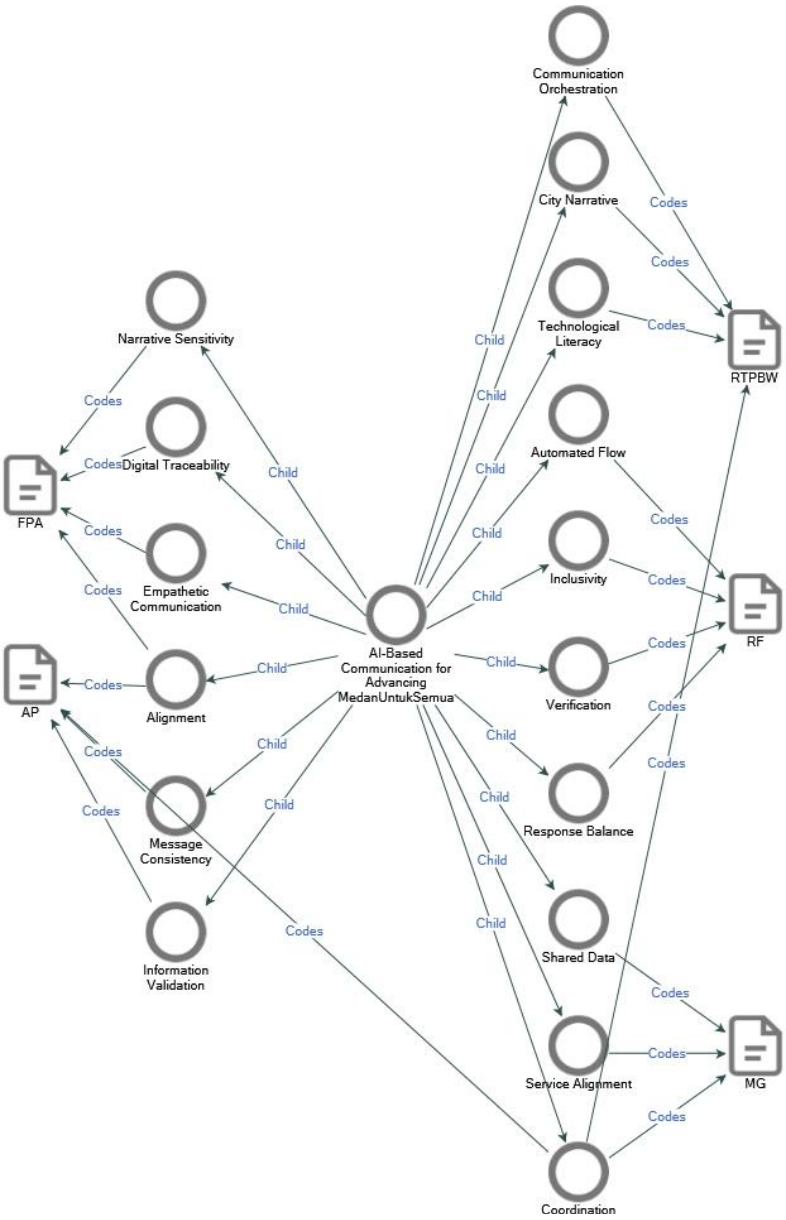

Figure 3. Interview network map
Source: NVivo 15 (2025)

These dynamics reveal a paradox of automated inclusivity within the Medan Untuk Semua narrative. While AI-enabled orchestration enhances inclusivity by standardising access, expanding reach, and reducing service disparities, it simultaneously risks diluting the empathetic dimension of government communication. Messages optimised through algorithmic systems to fulfil inclusivity targets may lose the affective and contextual sensitivity required for perceived legitimacy, thereby exposing a tension between scalable inclusion and human-centred responsiveness.

The interview map narrative demonstrates that coordination emerges as the most dominant element in internal communication orchestration. The Mayor, the Head of the Communication and Informatics Office, and the expert team view AI to reduce fragmentation among work units. AI-based systems allow regional government units to access the same data simultaneously, so that responses to public issues no longer depend on lengthy bureaucratic hierarchies. This coordination is understood as a prerequisite for maintaining the stability of the Medan Untuk Semua narrative in both crises and routine service delivery.

The second prominent dimension in the interview map is narrative sensitivity and empathetic communication. The expert team emphasises that although AI can manage

information flows, the system is not fully able to read the emotional nuances of citizens. Therefore, communication orchestration does not rely solely on message speed and consistency, but also on the ability of human actors to translate data into messages that are sensitive to social contexts (Campo-Ruiz, 2025; Gao & Luna-Reyes, 2025). Narrative sensitivity is positioned as an important factor to ensure that Medan Untuk Semua is not perceived merely as a technocratic slogan.

The interview map also highlights the importance of information validation and response balance. The Head of the Communication and Informatics Office and cryptography officials note that AI accelerates information distribution yet still requires verification mechanisms to ensure data accuracy and security. The balance between response speed and caution becomes a central issue in internal communication orchestration. In the context of reputation, delays resulting from verification are understood as risks that must be managed rather than entirely avoided.

Relationships among codes in the interview map show that internal communication orchestration is hybrid in nature. AI functions as a structural connector that unifies workflows, while human actors safeguard the quality of meaning, ethics, and empathy in public communication. The Medan Untuk Semua narrative is formed through dynamic interaction between systems and institutions, rather than through the dominance of one over the other.

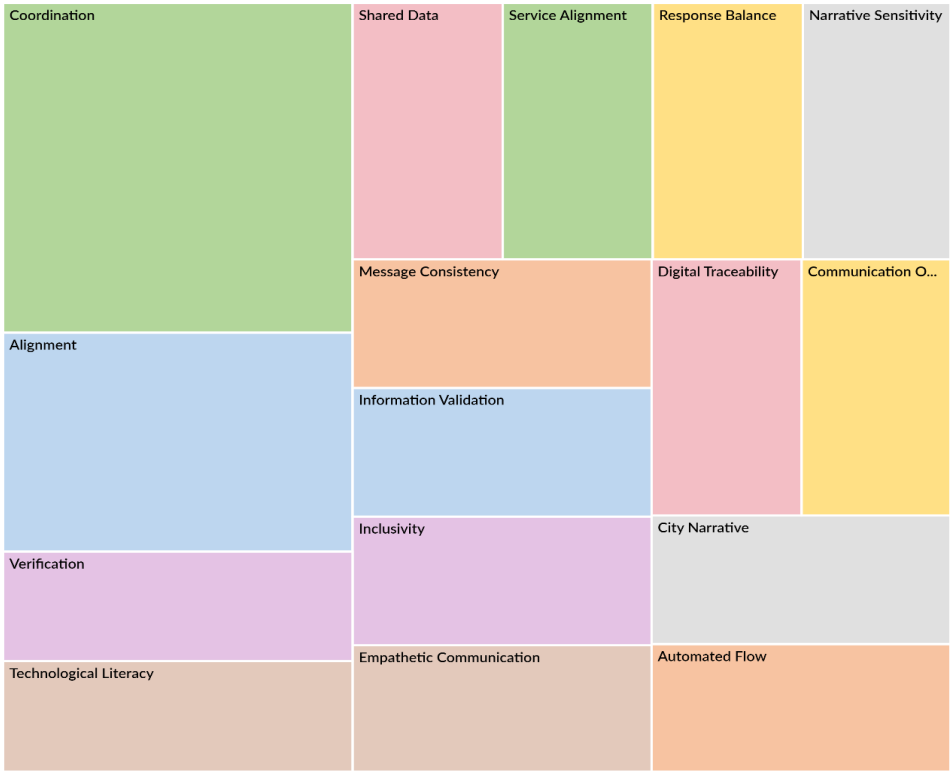

Figure 4. Hierarchical analysis based on interview codes
Source: NVivo 15, (2025)

Figure 4 presents a tree map illustrating the distribution of code intensity resulting from NVivo coding. This visualisation shows that coordination, service alignment, and message consistency carry the greatest weight in the structure of the findings. The dominance of the coordination code reinforces that internal communication orchestration is the primary foundation of AI utilisation in the Medan City Government. Without strong coordination, AI systems are perceived as unable to generate significant communicative impact.

The tree map also highlights the important roles of shared data and service alignment in supporting communication orchestration. Data uniformity enables each regional government unit to operate within the same framework of understanding, while service alignment ensures that public messages are consistent with actions in the field. These codes indicate that government communication does not stand apart from service practices, but rather reflects institutional performance directly (Abed, 2024; Pazos-García et al., 2025).

Codes such as response balance and verification dimensions in the tree map signal internal awareness of digital communication risks. AI accelerates response flows, yet verification is maintained as a reputation protection mechanism. These findings indicate that AI based communication orchestration is not directed towards absolute speed, but towards a balance between efficiency, accuracy, and information security.

Figure 5. Word cloud from interview data
Source: NVivo 15, (2025)

Figure 5 presents a word cloud representing frequency and proximity of meaning across the entire interview dataset. Words such as communication, system, narrative, departments, and Medan Untuk Semua appear as central discursive elements, indicating that communication is understood as a system involving multiple actors and work units. The presence of the terms coordination and information reinforces the finding that internal orchestration is a key issue in AI utilisation.

The word cloud also shows the linkage between the city narrative and organisational structure. The emergence of the words departments and access indicates that Medan Untuk Semua is understood as a cross-unit narrative rather than the property of a single institution. AI functions as a medium that enables this narrative to be circulated, and its consistency maintained across the entire city government structure (Ju et al., 2023).

Main findings in Theme 2 indicate that AI-based internal communication orchestration in the Medan City Government forms a model of government communication that is coordinated, narrative sensitive, and data-driven. These findings align with reputation management perspectives that position consistency and coordination as the foundations of public trust, as well as with government public relations approaches that view government communication as a strategic process for integrating actions, messages, and values in building institutional legitimacy.

Discussion

The AI-based transformation of government communication identified in the Medan City Government reflects a global trend towards digital governance that increasingly relies on intelligent systems to manage dense, rapid, and reputationally risky flows of public information. The findings of Theme 1 show that AI CRM and the Medan One Data ecosystem are positioned as a reputation architecture operating through responsiveness, process traceability, and cross unit consistency, so that reputation is no longer merely the outcome of policy rhetoric, but a service performance that citizens can observe in their daily interactions. The findings of Theme 2 confirm that AI not only accelerates service delivery but also shapes mechanisms of internal communication orchestration that combine coordination, information validation, and narrative sensitivity to maintain the coherence of the Medan Untuk Semua message, thereby constructing city identity through collaborative work among actors and units driven by data and digital flows.

These two findings align with the global digital government agenda that demands a balance between service efficiency and public legitimacy within a real time communication environment (Nielsen & Jordanoski, 2023).

The AI-based architecture in the Medan case demonstrates that city governments are beginning to shift the centre of gravity of communication from slow bureaucratic patterns towards standardised systemic models, while still requiring institutional control to safeguard accuracy and ethics (Baldassarre, 2025; Kleizen, 2023). The balance between responsiveness and verification that emerges in Theme 2 indicates an awareness that speed is not the sole indicator of success, as governmental reputation is also shaped by information integrity and data security. The hybrid pattern between systems and human actors visible across both themes illustrates how local governments negotiate global demands related to AI governance while simultaneously adapting them to the social context and public segmentation of a heterogeneous city.

Comparison with previous studies shows that these findings enrich the understanding of AI in government public relations practices by emphasising internal processes rather than statistical outcomes alone. The Asia (2025) study positions AI primarily as a factor enhancing the individual performance of public relations practitioners in government institutions through quantitative surveys, thereby focusing on efficiency and work productivity (Asia, 2025). The findings of this study reinforce that aspect yet go further by demonstrating that performance improvement is not merely an individual issue, but the result of restructuring cross unit communication systems that transform how governments produce responses, manage data, and maintain narrative consistency in both the short and medium term.

The connection with Harrison (2022) is evident in the findings' emphasis on the importance of legitimacy and trust in the application of AI in digital government. Harrison argues that 'trustworthy' AI requires institutional frameworks that ensure accountability, transparency, and ethical governance in both design and implementation (Harrison, 2022). The Medan City Government findings concretise this idea through practices of digital traceability, verification mechanisms, and attention to bias and organisational readiness, particularly from the perspectives of cryptography officials and expert teams. However, this study adds a practical dimension by showing that trustworthiness emerges not only from design principles, but also from the organisation's capacity to maintain a balance between verification and response speed under conditions of high public communication pressure.

Results of this study also extend the understanding offered by Jeljeli (2024) regarding the relationship between AI, public relations, and reputation management. Jeljeli employed Structural Equation Modelling to demonstrate the positive influence of AI in PR practices on organisational reputation, yet this approach focused on variable relationships and effect sizes (Jeljeli, 2024). The findings in the Medan City Government confirm a similar direction of influence but shift the focus from asking whether AI has an effect to examining how AI operates as a reputation architecture through operational flows, coordination among actors, and communication risk management. The key contribution of this study lies in mapping institutional reputation mechanisms, including critical points such as data interpretation, gaps in technological literacy, and the potential distortion of narratives when systems are unable to capture the emotional nuances of citizens.

A clearer distinction emerges when compared with Ruvalcaba-Gomez (2023), who focused on public perceptions of digital government and AI in the public sector through surveys, finding that acceptance is influenced by institutional trust and service quality (Ruvalcaba-Gomez, 2023). This study does not position citizens as the primary respondents but instead explores the perspectives of internal actors to examine the 'reputation machine' operating behind public experiences. The findings show that service quality and trust observed in the public sphere do not emerge spontaneously but are the outcomes of AI based internal communication orchestration, data uniformity, and validation mechanisms designed to preserve information integrity and service consistency. Thus, this study provides a processual explanation that complements perception-based research by explaining how governments attempt to produce the conditions under which acceptance and trust can be formed.

The integration of findings with reputation management theory demonstrates that the reputation of the Medan City Government is positioned as a strategic asset produced through measurable communication and service performance. AI CRM and Medan One Data function as

infrastructures that enable the government to demonstrate competence, reliability, and accountability more consistently, so that reputation is not maintained through image strategies alone, but through operational evidence visible in responses, digital traces, and cross unit consistency. The tension between response speed and verification shows that reputation management is a managerial practice filled with trade-offs, as reputation can collapse not only due to slow service, but also because of incorrect information or responses that are insensitive to public context.

From a government public relations perspective, AI in the Medan City Government case functions as a reinforcement of the capacity to coordinate messages and align actions within governmental organisations. The findings of Theme 2 show that Medan Untuk Semua operates as an umbrella narrative that demands consistency across channels and regional government units, meaning that government PR cannot be understood as the communication activity of a single unit. AI helps build communication orchestration through shared data, automated flows, and validation mechanisms, which in turn strengthen legitimacy because the city narrative is supported by corresponding service actions. Narrative sensitivity and empathetic communication emerging as key codes further emphasise that government PR requires not only informational accuracy, but also the ability to align messages with diverse citizen experiences.

The novelty of this study lies in its conceptual and empirical mapping of AI as both a reputation architecture and an internal communication orchestration engine at the city government level, positioning Medan Untuk Semua as a policy narrative operationalised through AI CRM flows, the Medan One Data ecosystem, and cross unit validation practices. This novelty is dual in nature because the study does not stop at the claim that AI improves reputation, but reveals how reputation is produced through flow design, actor coordination, and critical negotiation between response speed, data security, and narrative sensitivity in a fragmented public context. In doing so, this study offers a sharp analytical model for understanding the transformation of government public relations in the AI era, particularly for local governments facing real time legitimacy pressures in the digital public sphere.

Taken together, these findings demonstrate that artificial intelligence in government public relations is not a neutral instrument but an institutional force that reshapes power, meaning, and legitimacy. The legitimacy of AI mediated communication depends not on automation alone, but on continuous human intervention to interpret data, mediate empathy, and resolve tensions between algorithmic efficiency and bureaucratic accountability. Without such intervention, AI risks reproducing procedural compliance at the expense of substantive public trust.

CONCLUSION

This study demonstrates that the adoption of artificial intelligence in the Medan City Government signifies a structural shift from traditional government public relations, which primarily manages impressions and symbolic messaging, towards algorithmic government public relations centred on managing data-performance as the foundation of reputation. AI-driven Customer Relationship Management and the Medan Satu Data ecosystem function as institutionalised infrastructures that generate empirical legitimacy through traceable processes, standardised responsiveness, and cross-unit coordination, rather than merely accelerating communication speed. The core contribution of this study lies in revealing that AI's strategic value in a fragmented public sphere is not its capacity for automation, but its ability to provide empirically grounded legitimacy that human actors alone increasingly lack. Within this configuration, human actors do not disappear but assume a critical mediating role by interpreting data, safeguarding narrative empathy, and resolving tensions between algorithmic logic, bureaucratic accountability, and contextual sensitivity. The findings therefore advance reputation management and government public relations theory by conceptualising AI as an institutional mechanism that restructures legitimacy production through algorithmic governance rather than as a neutral technological tool.

From a theoretical perspective, this study extends reputation management theory by repositioning reputation as an outcome of verifiable digital performance embedded in algorithmic infrastructures, while contributing to government public relations scholarship by introducing the concept of algorithmic GPR governance as a mode of institutional orchestration. Practically, recommendations move beyond generic capacity-building towards the

establishment of algorithmic accountability mechanisms, including transparent decision logs, cross-unit data validation protocols, and narrative safeguards to ensure that inclusivity-oriented communication does not lose its empathetic grounding under automation. These safeguards are essential to mitigate institutional friction and the paradox of automated inclusivity identified in the findings. The study is limited by its focus on internal government actors and a single city context, which constrains generalisability. Future research may integrate citizen-centred analyses, comparative smart city cases, and longitudinal designs to further examine how algorithmic infrastructures reshape public trust, narrative legitimacy, and government reputation across diverse governance settings.

REFERENCES

Abed, S. S. (2024). Understanding the Determinants of Using Government AI-Chatbots by Citizens in Saudi Arabia. *International Journal of Electronic Government Research*, *20*(1). https://doi.org/10.4018/IJEGR.349733

Ahmed, R. Q. (2025). The Extent to Which Public Relations Departments in Government Institutions Use Artificial Intelligence Applications in Their Communication Activities: A Field Study. In *Lecture Notes in Networks and Systems* (Vol. 1697, pp. 301–314). https://doi.org/10.1007/978-3-032-09562-6_22

Almulhim, A. I. (2025). Integrating Artificial Intelligence into Smart Infrastructure Management for Sustainable Urban Planning. *Technologies*, *13*(11). https://doi.org/10.3390/technologies13110481

Alshahrani, A. (2024). Artificial intelligence and decision-making in government functions: opportunities, challenges and future research. In *Transforming Government People Process and Policy* (Vol. 18, Issue 4, pp. 678–698). https://doi.org/10.1108/TG-06-2024-0131

Asia, I. I. (2025). The Employment of Public Relations Practitioners of Artificial Intelligence Technologies in Enhancing Job Performance: A Field Study on a Sample of Employees in Government Institutions. In *Lecture Notes in Networks and Systems* (Vol. 1697, pp. 247–260). https://doi.org/10.1007/978-3-032-09562-6_18

Baldassarre, M. T. (2025). Ethics-Driven Incentives: Supporting Government Policies for Responsible Artificial Intelligence Innovation. *IEEE Intelligent Systems*, *40*(4), 55–63. https://doi.org/10.1109/MIS.2025.3583222

Baum, S. (2021). *Research Questions and Research Design*. https://doi.org/10.1007/978-981-16-1677-8_2

Benović, A., Miškić, M., Pantović, V., Vujičić, S., Vidojević, D., Opačić, M., & Jovanović, F. (2025). Assessment of the Impact of Solar Power Integration and AI Technologies on Sustainable Local Development: A Case Study from Serbia. *Sustainability (Switzerland)*, *17*(15). https://doi.org/10.3390/su17156977

Campo-Ruiz, I. (2025). Artificial intelligence may affect diversity: architecture and cultural context reflected through ChatGPT, Midjourney, and Google Maps. *Humanities and Social Sciences Communications*, *12*(1). https://doi.org/10.1057/s41599-024-03968-5

Creswell, J. W., & Creswell, D. J. (2022). Research design - international student edition: Qualitative, quantitative, and mixed methods approaches. In *Research design - international student edition : qualitative, quantitative, and mixed methods approaches*.

Edmonds, W. A., & Kennedy, T. D. (2020). An Applied Guide to Research Designs: Quantitative, Qualitative, and Mixed Methods. In *An Applied Guide to Research Designs: Quantitative, Qualitative, and Mixed Methods*. https://doi.org/10.4135/9781071802779

Fleischmann, K. (2023). German Design Educators' Post-Covid Challenges: Online, Artificial Intelligence (AI) and Government Data Restrictions. *Design and Technology Education*, *28*(1), 135–153. https://doi.org/10.24377/DTEIJ.article1176

Flick, U. (2022). The SAGE Handbook of Qualitative Research Design. In *The SAGE Handbook of Qualitative Research Design*. https://doi.org/10.4135/9781529770278

Gao, L., & Luna-Reyes, L. F. (2025). Implications of Adopting AI-Based Applications in Local Governments: A Systematic Literature Review from a Public Value Perspective. In *Public Administration, Governance and Globalization* (Vol. 6, pp. 363–388). Springer. https://doi.org/10.1007/978-3-032-00514-4_18

Gaozhao, D. (2024). Bureaucrat or artificial intelligence: people's preferences and perceptions of government service. *Public Management Review*, *26*(6), 1498–1525. https://doi.org/10.1080/14719037.2022.2160488

Gharbaoui, O. E., Boukhari, H. E., & Salmi, A. (2024). Chatbots and Citizen Satisfaction: Examining the Role of Trust in AI-Chatbots as a Moderating Variable. *TEM Journal*, *13*(3), 1825–1836. https://doi.org/10.18421/TEM133-11

Gilpin, D. R., & Murphy, P. J. (2008). Crisis Management in a Complex World. In *Crisis Management in a Complex World*. https://doi.org/10.1093/acprof:oso/9780195328721.001.0001

Hameduddin, T., & Vivona, R. (2023). Sector-Switching, Bureaucratic Reputation, and Citizen Evaluation of Performance: Evidence From a Large-Scale Experiment in India. *Administration and Society*, *55*(3). https://doi.org/10.1177/00953997221147231

Harrison, T. M. (2022). Cultivating Trustworthy Artificial Intelligence in Digital Government. *Social Science Computer Review*, *40*(2), 494–511. https://doi.org/10.1177/0894439320980122

Hjaltalin, I. T., & Sigurdarson, H. T. (2024). The strategic use of AI in the public sector: A public values analysis of national AI strategies. *Government Information Quarterly*, *41*(1). https://doi.org/10.1016/j.giq.2024.101914

Jeljeli, R. (2024). The role of artificial intelligence and public relations in reputation management: A structural equation modelling-based (SEM) study. *International Journal of Data and Network Science*, *8*(3), 1815–1828. https://doi.org/10.5267/j.ijdns.2024.2.007

Jeljeli, R., Farhi, F., & Zahra, A. (2023). Impacts of PR and AI on the Reputation Management: A Case Study of Banking Sector Customers in UAE. In A. B., H. A., K. R., & K. R.E. (Eds.), *Lecture Notes in Networks and Systems: Vol. 620 LNNS* (pp. 265–277). Springer Science and Business Media Deutschland GmbH. https://doi.org/10.1007/978-3-031-26953-0_26

Johannesson, P., & Perjons, E. (2021). An introduction to design science. In *An Introduction to Design Science*. https://doi.org/10.1007/978-3-030-78132-3

Ju, J., Meng, Q., Sun, F., Liu, L., & Singh, S. (2023). Citizen preferences and government chatbot social characteristics: Evidence from a discrete choice experiment. *Government Information Quarterly*, *40*(3). https://doi.org/10.1016/j.giq.2022.101785

Kalampokis, E. (2021). Applying Explainable Artificial Intelligence Techniques on Linked Open Government Data. In *Lecture Notes in Computer Science Including Subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics* (Vol. 12850, pp. 247–258). https://doi.org/10.1007/978-3-030-84789-0_18

Kalliontzi, V., Voulgarakis, V., & Delinavelli, G. (2024). Data-driven policy development of Municipalities Preparation steps for Integrating AI tools in the policymaking process. In P. D.N., K. N.N., V. M., C. V., V. I., & E. C. (Eds.), *International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences - ISPRS Archives* (Vol. 48, Issues 4/W10-2024, pp. 85–91). International Society for Photogrammetry and Remote Sensing. https://doi.org/10.5194/isprs-archives-XLVIII-4-W10-2024-85-2024

Kamal, M. B., Hossain, M. B., Islam, J., Alam, I. K., Ibn Sayed, N., Assiri, M. A., & Mia, R. (2025). Digital Ethics: A Review of Leadership Theories, Challenges, and Responsibilities. *SAGE Open*, *15*(4). https://doi.org/10.1177/21582440251386901

Kleizen, B. (2023). Do citizens trust trustworthy artificial intelligence? Experimental evidence on the limits of ethical AI measures in government. *Government Information Quarterly*, *40*(4). https://doi.org/10.1016/j.giq.2023.101834

Longo, F., Padovano, A., Sammarco, C., Ivanov, D., & Jackson, I. (2025). Democratizing human-AI collaborative decision-making in agri-food supply chains: A trust-building framework. In S. F., P. S., A. E., D. A., I. D., & B. D. (Eds.), *IFAC-PapersOnLine* (Vol. 59, Issue 10, pp. 2688–2693). Elsevier B.V. https://doi.org/10.1016/j.ifacol.2025.09.452

Lungu, M. (2024). Enhancing public service delivery in government procurement: A review exploring the role of artificial intelligence and automative structures. In *Handbook of Public Service Delivery* (pp. 188–204). https://doi.org/10.4337/9781035315314.00019

Manias, G., Apostolopoulos, D., Athanassopoulos, S., Borotis, S., Chatzimallis, C., Chatzipantelis, T., Compagnucci, M. C., Draksler, T. Z., Fournier, F., Goralczyk, M., Gucek, A., Karabetian, A., Kefala, S., Moumtzi, V., Kotios, D., Kovacic, M., Kyrkou, D., Limonad, L., Magopoulou, S., … Kyriazis, D. (2023). AI4Gov: Trusted AI for Transparent Public Governance Fostering Democratic Values. *Proceedings - 19th International Conference on Distributed Computing in Smart Systems and the Internet of Things, DCOSS-IoT 2023*, 548–555. https://doi.org/10.1109/DCOSS-IoT58021.2023.00090

Maulana, R. Y., Durnik, M., & Decman, M. (2024). Collaborative Approach on Digital Government Transformation: In-Depth Analysis from Expert Interview. *NISPAcee Journal of Public Administration and Policy*, *17*(1), 94–119. https://doi.org/10.2478/nispa-2024-0005

Miles, M. B., Huberman, M., & Saldana, J. (2020). Qualitative Data Analysis-A Methods Sourcebook -4th edition. In *SAGE* (Vol. 53, Issue 9).

Mukherjee, P. K. (2022). Artificial Intelligence Based Smart Government Enterprise Architecture (AI-SGEA) Framework. In *Communications in Computer and Information Science* (Vol. 1695, pp. 325–333). https://doi.org/10.1007/978-3-031-22485-0_30

Nielsen, M. M., & Jordanoski, Z. (2023). Digital Transformation, Governance, and Coordination in Times of Crisis: An Analysis of Australia, Denmark, and the Republic of Korea. *Digital Government: Research and Practice*, *4*(4). https://doi.org/10.1145/3604569

Niskanen, W. A. (2017). Bureaucracy and representative government. In *Bureaucracy and Representative Government*. https://doi.org/10.4324/9781315081878

Nzobonimpa, S. (2023). Ready but irresponsible? Analysis of the Government Artificial Intelligence Readiness Index. *Policy and Internet*, *15*(3), 397–414. https://doi.org/10.1002/poi3.351

Omonov, M. S., & Ahn, Y. (2025). Towards Smart Public Administration: A TOE-Based Empirical Study of AI Chatbot Adoption in a Transitioning Government Context. *Administrative Sciences*, *15*(8). https://doi.org/10.3390/admsci15080324

Pazos-García, M. J., López-López, V., Vila-Vázquez, G., & González, X. P. (2025). Governance, quality of life and city performance: A study based on artificial intelligence. *Journal of Computational Social Science*, *8*(4). https://doi.org/10.1007/s42001-025-00416-5

Rakšnys, A. V, Gudelis, D., & Guogis, A. (2025). THE USES OF ARTIFICIAL INTELLIGENCE IN THE PUBLIC SECTOR: CHALLENGES AND PROSPECTS. *Public Policy and Administration*, *24*(3), 467–477. https://doi.org/10.5755/j01.ppaa.24.3.39489

Ruvalcaba-Gomez, E. A. (2023). Analysis of the perception of digital government and artificial intelligence in the public sector in Jalisco, Mexico. *International Review of Administrative Sciences*, *89*(4), 1203–1222. https://doi.org/10.1177/00208523231164587

Said, N. A. (2025). Does data privacy influence digital marketing? The mediating role of AI-driven trust: An empirical study of Zain Telecom company in Jordan. *International Journal of Data and Network Science*, *9*(1), 187–200. https://doi.org/10.5267/j.ijdns.2024.8.023

Saura, J. R. (2022). Assessing behavioral data science privacy issues in government artificial intelligence deployment. *Government Information Quarterly*, *39*(4). https://doi.org/10.1016/j.giq.2022.101679

Takona, J. P. (2024). Research design: qualitative, quantitative, and mixed methods approaches / sixth edition. In *Quality and Quantity* (Vol. 58, Issue 1). https://doi.org/10.1007/s11135-023-01798-2

Wei, Y. (2021). Dancing on a tightrope: The reputation management of local governments in response to public protests in China. *Public Administration*, *99*(3), 547–562. https://doi.org/10.1111/padm.12699

Weyant, E. (2022). Research Design: Qualitative, Quantitative, and Mixed Methods Approaches, 5th Edition. *Journal of Electronic Resources in Medical Libraries*, *19*(1–2). https://doi.org/10.1080/15424065.2022.2046231

Widjaja, M., & Legowo, N. (2024). Evaluating Customer Satisfaction on Indonesian Banking Artificial Intelligence-Driven Chatbot Services. *2024 International Conference on Intelligent Cybernetics Technology and Applications, ICICyTA 2024*, 1031–1036. https://doi.org/10.1109/ICICYTA64807.2024.10913449