Exploring the Operational Potential of Generative Artificial Intelligence in Local Government Organizations

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Abstract: Generative Artificial Intelligence (Gen-AI) has emerged as a transformative technology with considerable potential to enhance information management and decision-making processes in the public sector. The present study examined how Gen-AI, with specific attention to Microsoft Copilot, can be integrated into local government organizations to support routine operations and strategic tasks. An Integrative Literature Review (ILR) methodology was applied, through which scholarly sources were systematically evaluated and findings were synthesized across predefined research questions and thematic categories. The review emphasized three focal areas: the conceptual foundations of Gen-AI, the challenges associated with its integration, and the opportunities for improving public sector information analysis and administrative practices. Evidence indicated that Gen-AI adoption in local government contexts can substantially improve efficiency in data retrieval, accelerate decision-making processes, enhance service responsiveness, and streamline administrative workflows. At the same time, significant risks were identified, including fragmented data infrastructures, limited digital and Artificial Intelligence (AI) literacy among personnel, and ongoing ethical, transparency, and regulatory challenges. Recommendations were formulated for future research, including empirical assessments of Gen-AI deployment across diverse local government contexts and longitudinal studies to evaluate the sustainability of AI-driven transformations. The insights generated from this study provide actionable guidance for local government organizations seeking to evaluate both the benefits and the risks of integrating Gen-AI technologies into information management and decision-support systems, thereby contributing to ongoing debates on public sector innovation and digital governance.

Keywords: Gen-AI; Government digital transformation; Microsoft Copilot; Public sector innovation; Digital governance

1 Introduction

The introduction provides the background context, research motivation, research objectives, research questions and the theoretical and practical significance of integrating Gen-AI to enhance data accessibility and service efficiency in government entities. Gen-AI adoption is transforming how government institutions interact with data and public services. Studies show that AI is getting highly used for predictive analysis, automated decision-making and interactive digital services [1]. However, governments face significant challenges when ensuring AI implementations are transparent, unbiased and align with legal and ethical standards [2]. These trends highlight the importance for local government organizations in New Zealand and around the world to adopt AI solutions with critical thinking to maximize benefits while reducing risks associated with automation and decision-making bias. The motivation and support for this study has come from the local government organizations for Hawke's Bay/Napier City in New Zealand (the details of which remain anonymous and confidential in the rest of the article). These local organizations are responsible for managing public services, infrastructure, and governance, and are interested in exploring Gen-AI to improve data accessibility for managers and for customer service agents, enabling them to retrieve and process information more efficiently. By integrating AI-powered solutions into customer support systems and projects, the motive is to enhance response times, optimize service delivery and improve stakeholder engagement with various data. AI-powered tools can streamline access to records, policies and service requests, reducing response times, supporting local projects, and improving service accuracy.

Furthermore, AI for IT Operations (AIOps) is an emerging technology that provides intelligent automation in government IT systems. AIOps integrates AI, machine learning and big data analytics to enhance system efficiency, reliability and real-time decision-making [3]. Due to the complexity of IT environments in public sector institutions, AIOps can provide proactive insights while ensuring system reliability and reduced downtime [3, 4]. Overall, Gen-AI can assist in structuring, analyzing and retrieving information efficiently [5]. Apart from the potential of Gen-AI, government institutions face significant challenges in data analysis. Many government entities struggle with being data-rich but knowledge-poor. Retrieving and analyzing information causes inefficiencies, leading to delays [6]. Staff also face challenges in making timely decisions from data from diverse sources.

Gen-AI tools, e.g., Microsoft Copilot, help address the challenges by streamlining information retrieval and empowering staff with self-service capabilities [5]. Integrating Copilot with Microsoft 365 apps, including Teams, SharePoint and Confluence, can improve efficiency, accuracy and accessibility in data management. The integration also features encryption for data at rest and in transit and user access controls for better security. Understanding user needs and technical feasibility are important points to be addressed [1]. Existing literature on Gen-AI integration in local government and applications for improving public services is limited. In New Zealand, in line with the Privacy Act of 2020, one must not input any personal information into a public Gen-AI system. This research is timely in New Zealand where the general public has a lower optimism toward the potential of AI to improve jobs in comparison with public opinion in other Organization for Economic Co-operation and Development (OECD) countries (https://hai.stanford.edu/assets/files/hai_ai_index_report_2025.pdf). Additionally, there is a gap in research focusing on Microsoft Copilot's capabilities for municipal environments. Addressing these gaps can provide valuable insights into AI-driven knowledge management within government organizations.

This study aims to explore how Microsoft Copilot can be integrated into a local government data ecosystem to enhance accessibility and operational efficiency. The objectives include:
- Identifying the current data accessibility challenges faced by staff and managers.
- Assessing how Microsoft Copilot can improve information retrieval in organizations.
- Investigating the key considerations for ensuring secure and ethical AI implementation.
- Examining how potential policies can be effectively adopted and maintained over time.

The main objective of this study is to research Gen-AI-powered systems that enhance data accessibility for employees and managers in government institutions. This investigation focuses on intelligent data retrieval, data governance, and employee training to ensure efficient, secure, and sustainable use of Gen-AI technologies. The main research questions are as follows:

RQ1: How can Microsoft Copilot be integrated into the government data ecosystem to enhance decision-making and operational efficiency?

RQ2: What are current data accessibility challenges faced by staff and managers?

RQ3: How can Microsoft Copilot improve information retrieval in public entities?

RQ4: How can Gen-AI systems be effectively adopted and maintained over time?

This research expands the understanding of how Gen-AI, specifically Microsoft Copilot, can be leveraged for government data accessibility. For policymakers and government IT professionals, this study provides insights into the benefits and limitations of Gen-AI in managing public sector data. By identifying best practices and challenges, the findings can guide decision-makers in developing policies that promote effective and responsible AI implementation [1]. Additionally, this study highlights key areas for successful adoption, including:
- Ensuring authenticity and transparency in AI-driven solutions.
- Understanding AI and ensuring fair, explainable outputs.
- Developing training strategies for staff adoption.

By addressing these points, this study aims to provide actionable recommendations for future implementation and scaling of Gen-AI in government institutions while using a local approach.

2 Literature Review

This section provides a related review of the existing literature on Gen-AI adoption in government institutions. First, it highlights three foundational studies that cover the challenges, opportunities, and implications of Gen-AI in public sector data management and analysis. After a thematic review, this section also identifies gaps in the literature. Gen-AI is a subset of AI that focuses on generating new content, such as text, images and graphs, by learning patterns from datasets. Gen-AI models generate these outputs to improve human creativity and decision-making [5]. These models use deep learning techniques and neural networks to analyze input data and produce clear, contextually relevant responses [1]. The rise of Gen-AI has been fueled by advancements in computing power, large-scale data availability, and improvements in self-supervised learning, making it a powerful tool in public administration [7, 8].

To find how much Gen-AI is being used in the public sector of the United Kingdom (UK), Bright et al. [6] evaluated employees' knowledge in the public sector and use of Gen-AI in multiple domains, such as emergency services, healthcare, education and social care. In addition, to find how these professionals view Gen-AI's effects on

their role, especially how it is supposed to increase productivity and enhance overall service delivery, a survey-based methodology was used to gather data from public sector professionals in the UK. Participants were selected from multiple fields, including healthcare, education, social care and emergency services. The statistical approach allowed researchers to examine differences in survey responses based on multiple factors, including profession, age, and years of experience in the field. The findings revealed that Gen-AI is already widespread in the public sector, with a high share of professionals optimistic about the potential to enhance productivity and reduce time-consuming workloads. Furthermore, the survey highlighted that 22% of them were using Gen-AI in their work, while 45% of them were aware of peers and colleagues utilizing these technologies. This suggests a growing trust in Gen-AI tools among public sector workers. This study also highlights the rapid adoption of Gen-AI in government institutions and the need for frameworks and critical thinking to ensure effective implementation.

Feuerriegel et al. [1] analyzed the role and implications of Gen-AI within the context of socio-technical systems, highlighting its ability to generate meaningful content and automate tasks that used to be done by humans manually. Furthermore, both the opportunities and challenges from the integration of Gen-AI technologies into multiple domains were identified. In addition to exploring the potential benefits of Gen-AI, such as increased efficiency and the emergence of new business models, the importance of improved design principles was highlighted to enhance the usability and trustworthiness of the AI systems. A conceptual and analytical approach was utilized to explore the implications of Gen-AI within information systems. A thorough literature review was included to synthesize existing theories and research on the interaction between humans and AI by gathering insights from previous studies. The findings highlight several key implications and opportunities regarding the integration of Gen-AI into information systems. In addition, the research discussed that Gen-AI can significantly enhance various business processes by automating routine tasks that used to be done manually, thereby increasing efficiency and productivity. Additionally, the research highlights how Gen-AI could lead to the development of new business models and innovative products and services. It provides valuable insights into the various applications of Gen-AI across industries, showing how this technology can enhance decision-making, content generation, and process automation. Furthermore, the study emphasizes that Gen-AI can transform organizational processes, leadership styles, and collaboration methods. This is important for management that looks forward to navigating the AI landscape.

Knutsen et al. [5] studied the views of IT practitioners regarding Gen-AI in the context of the public sector. Specifically, the study aims to understand how the stakeholders view the adoption of Gen-AI technologies, as well as the expected benefits and potential drawbacks associated with AI use in digital solutions. The research method used involves a survey designed to collect data from IT practitioners concerning their views of Gen-AI in the public sector. The survey was created with the use of Gen-AI, specifically ChatGPT, as a structured questionnaire that addressed key research questions about practitioners' knowledge of Gen-AI and its potential applications, benefits, and risks. The design process included prompts that guided the AI to generate relevant questions, which were then refined to maintain clarity and relevance. The survey was conducted in a hybrid seminar titled "How AI Works in Practice," attended by IT professionals from both public and private sectors. After data collection, the responses were analyzed to identify trends and themes relating to the interest, knowledge, and concerns regarding Gen-AI. The findings highlight several key insights regarding the perceptions of IT practitioners about Gen-AI in the public sector. The study found that Gen-AI interest among respondents is higher than the current understanding. Senior managers show greater interest and their knowledge is relatively high, which could mean they're either confident or overly confident. Respondents feel positive about the potential of Gen-AI. However, they doubt whether the public sector can effectively and responsibly use Gen-AI. Developers had low scores for the collaboration between institutions possibly due to their own past experience. Respondents believe Gen-AI might cause slightly more harm than good, particularly in automation, decision-making, and personalized content. Finally, the AI-generated survey was considered as credible, relevant, and logically structured, but lacking creativity. Respondents guessed it was made by Gen-AI, however they were not completely confident about identifying AI-generated content. The significance of the paper is its contribution to understanding IT practitioners' perceptions of Gen-AI in the public sector. It highlights the importance of awareness and education regarding AI technologies.

Large language models (LLMs) like OpenAI's GPT series and Google's Gemini have demonstrated the ability to process and generate text with high coherence and fluency, making them valuable for automating tasks with varying needs such as policy drafting [2]. Apart from text, Gen-AI has been widely used in visual media, where it can create realistic images, videos and even deepfake content, which raises both opportunities and ethical concerns [1]. Additionally, public institutions must focus on improving AI literacy among employees to enable effective oversight and mitigate potential risks [9]. AI is being implemented across various government operations to improve decision-making processes that enhance service delivery and optimize internal processes [10]. The public sector has recognized its potential to transform governance with AI applications that have already been deployed in areas such as regulatory compliance, public safety and many citizen engagement processes [11]. However, the integration of AI in public organizations faces multiple challenges, ethical considerations, and issues related to workforce adaptation [10]. AI adoption in the public sector is clear in its use for automating repetitive administrative tasks. Government entities

utilize AI-driven automation to improve efficiency that reduces manual workload and allows employees to focus on more complex decision-making tasks. Furthermore, predictive analytics plays an important role when supporting forecasting potential social and economic trends while enabling proactive decision-making for public officials [11].

Another key area of AI adoption in the public sector is citizen services, where AI-enabled chatbots and virtual assistants help process public inquiries and provide real-time responses. AI-powered tools are used to improve accessibility by automating communication between government agencies and the public. Governments are exploring AI for policy recommendation systems and using data-driven insights to refine legislative proposals and public service offerings [11]. Apart from AI's potential, public sector organizations must address operational challenges to ensure responsible implementations. Enhancing AI literacy among public employees is critical to ensure effective AI-driven decision-making outputs [11].

Traditional data access and analysis methods in the public sector often include manual processes such as manual data entry, manual document retrieval, and legacy information management practices that are time-consuming and subject to human error. These traditional approaches limit the ability of public institutions to efficiently analyze and act on large volumes of data. As per the study by Kaushik and Rathore [11], the integration of AI supports the automation of repetitive administrative tasks, such as document processing and data entry, allowing users to focus on more complex responsibilities. In a practical way, Portillo and Carson [12] highlighted how Gen-AI tools were used in a library setting to analyze collections and identify subject gaps. While traditional methods required manual listing and evaluation of data, AI models such as ChatGPT, Google Gemini, Perplexity and Microsoft Copilot could process and interpret collections of data to suggest the improvements and address content in an efficient way. These AI applications support automated reasoning and are able to work with structured data files like CSVs. AI tools have proved especially helpful in tasks like classification and identifying gaps in subject coverage, showing marked improvement over traditional review processes that typically lack speed, scale and analytical depth [12].

Gen-AI significantly enhances data retrieval and knowledge management in government institutions by addressing the issue of data silos. As highlighted by Kumar [4], fragmented data across departments leads to inconsistency, duplication, limited data accessibility and reduced data quality and usability. AIOps frameworks help integrate this data, enabling real-time insights, anomaly detection, and root cause analysis across systems [4]. For example, Microsoft Copilot's data anomaly detection abilities can be used as a part of AIOps. As per Patel [13], big data integration powered by AI allows seamless access to structured, semi-structured and unstructured data from multiple sources, including cloud systems and enterprise applications. This integration supports timely decision-making and eliminates barriers to collaboration across departments. Ferreira [14] highlighted that AI applications such as Natural Language Processing (NLP) and text mining can extract valuable insights such as policies and citizen queries, supporting interpretability and informed decisions. In addition, Tangi et al. [10] showed that AI can improve governance by enabling predictive analysis and improving feedback loops, supporting data-driven policymaking. Finally, Gen-AI transforms data retrieval from a fragmented and manual process to an intelligent and efficient process.

AI can automate repetitive and mundane tasks, such as answering frequently asked questions, processing standard requests and handling common inquiries. This can reduce the workload on human resources, allowing them to focus on more complex issues that require human intervention [11]. Another key benefit of Gen-AI is its ability to improve data analysis by converting large volumes of fragmented and complex information into actionable insights. It can analyze data such as logs, traces and metrics and provide valuable insights [4]. This reduces manual workloads, improves operational efficiency and ensures trustworthy service delivery [3]. AI-driven tools also enhance public service operations by analyzing unstructured data, such as social media posts and service logs, to give personalized responses and automate information triage [5, 8, 11]. One of the most highlighted benefits of Gen-AI in government institutions is its role in enabling more effective and efficient feedback loops in policymaking and public service delivery. As per Tangi et al. [10], AI can support feedback loops by providing faster and more accurate identification of issues and offering predictive capabilities that help public institutions evaluate the effects of implemented policies. These enhanced feedback mechanisms, supported by AI-generated insights, contribute to providing more proactive and adaptive public services.

The integration of AI in decision-making and policy formulation in the public sector is gaining attention due to its transformative potential. AI-driven systems are increasingly getting used to improve traditional methods by enabling more data-driven, efficient, and responsive policy formulation. AI helps policymakers by identifying key issues for the public agenda by understanding citizens' opinions and comparing different policy options, and contributes to more inclusive and transparent governance [8]. Furthermore, the challenges of data fragmentation and quality significantly affect AI's capacity to provide reliable insight. Data silos in government institutions can obstruct centralized, consistent information access essential for accurate AI outputs, thereby undermining the quality of policy decisions [4, 13]. In conclusion, AI has the potential to transform decision-making and policy formulation in the public sector by introducing automation, intelligence, and responsiveness. However, the realization of these benefits hinges on the quality of data, ethical governance structures, and the active inclusion of human oversight. Tangi et al. [10] conducted a study on eight AI implementation cases in the public sector in Europe. The research highlighted

that AI has been successfully applied to areas like fraud detection, infrastructure project planning, immigration control, and citizen support services. These cases demonstrated AI's capacity to improve decision-making accuracy and operational efficiency. For example, efficiency gains were mainly achieved through automation of routine tasks and support systems for staff, while policy formulation benefited from enhanced prediction capabilities and data-driven simulations.

In the study by Van Noordt and Misuraca [8], 250 AI implementations in the European Union (EU) were classified based on their contribution to public service delivery, internal management and policy-making. Most successful AI use cases in the public sector were centered on enhancing public service deliveries such as by the use of chatbots, decision support systems and AI for fraud detection. The study highlights that successful use of AI largely depends on strategies and governance structures for AI integration [8]. Additionally, Beltran et al. [2] provided a comparative analysis of Gen-AI usage guidelines across multiple countries, including New Zealand, Canada, and the UK. One successful case highlighted was Iceland's government collaborating with OpenAI to help preserve the Icelandic language. It shows how AI can support cultural and linguistic goals in public governance. In the above case studies, there is a contrast between greater grassroots or informal (i.e., shadow) adoption in the UK versus a more regulated adoption in the EU under the EU AI Act. However, similarly, successful AI adoption in governments in different countries depends on common considerations such as strategic alignment with public values and goals, cross-sector collaboration, AI literacy among public servants, clear governance, and tailored implementation depending on each situation. These considerations can also guide local institutions in designing Gen-AI-enabled decision support systems.

Despite the growing interest in Gen-AI for public sector innovations, existing literature reveals significant gaps in understanding its practical application in government settings. Research on using Gen-AI on data accessibility and public service operations remains limited, often confined to exploratory studies and policy discussions rather than empirical analysis. A notable gap is the lack of studies on deploying tools like Microsoft 365 Copilot at the local government level. Most of the first council-wide trials of Copilot were only launched around the year 2024, underscoring the novelty of this technology in practice and the absence of scholarly evaluation in such environments [14]. Few studies in the literature have suggested guidance on building Gen-AI tools effectively. In addition, integrating AI copilots into siloed data systems presents more unresolved challenges. However, current research offers little insight into how Gen-AI solutions can be integrated with legacy systems and diverse data sources. Real-world implementation barriers, such as organizational resistance, limited technical infrastructure and policy constraints, generally remain under-examined in the academic literature on Gen-AI in government. Finally, these gaps in the existing literature highlight the significance of the current research. This contribution is highly relevant and practical as government entities seek to modernize their operations and enhance data accessibility.

3 Methodology

This section explains the research design, search terms and literature review eligibility criteria. ILR is an approach that reviews, critiques and combines the relevant literature on a topic in a way that leads to better understanding and viewpoints on the desired topic. ILRs feature a synthesis logic as they compare various publications and try to identify how they are related or may have different viewpoints [15]. Firstly, the following key terms were used for the literature review: Gen-AI, AI, government, Microsoft Copilot, AI ethics, AI governance, data governance, and AI literacy. The terms "government" and "public sector" were used interchangeably in this study, while recognizing that the public sector may be wider, e.g., including state-owned companies.

A systematic approach was employed to identify relevant literature on Gen-AI in government institutions. The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) framework was used to ensure a structured and transparent selection process. The initial search involved screening academic databases, followed by an eligibility assessment and final inclusion of high-quality sources. Key databases used in this study include ProQuest, Google Scholar, IEEE Xplore, Scopus, ACM Digital Library and Web of Science. The following Boolean expressions were used to refine the search results:

- ("Generative AI" OR "Gen-AI") AND ("Government" OR "Public Sector")
- ("Microsoft Copilot" OR "AI-powered Assistant") AND ("Data Accessibility")
- ("Microsoft Copilot" OR "AI-powered Assistant") AND ("Knowledge Management")
- ("AI Ethics" OR "AI Governance") AND ("Policy" OR "Regulation" OR "Compliance")
- ("Data Security" OR "Data Privacy") AND ("Government AI Adoption")
- ("AI Literacy" OR "AI Training") AND ("Public Sector")
- ("Generative AI" OR "Gen-AI") AND ("public sector" OR government) AND ("customer relations" OR "data management")

Out of 146 search results, 51 were selected for the main bibliography of this study after excluding duplicates, irretrievable articles, and uncited articles. The eligibility criteria ensure that only high-quality and relevant studies are included:

• Peer-reviewed journal articles, conference proceedings, and government reports.
• Studies published after 2020.
• Research focused on Gen-AI, AI governance, data security, and AI adoption in the public sector.
• Empirical studies with qualitative, quantitative, or mixed-methods approaches.

The exclusion criteria helped to omit non-peer-reviewed articles, blogs, opinion pieces lacking empirical evidence, studies unrelated to AI applications in government institutions, and papers published before 2019 unless foundational or highly relevant.

4 Findings

This section revisits and answers the research questions based on the literature review. As a preliminary step, this section discusses the progress of the practical research that has been initiated.

4.1 Practical Critique of Gen-AI Document Analysis

To find and select a project management template for projects within the organization, Microsoft Copilot was used to assist with this task. Then the result of the outputs received from Microsoft Copilot was critically evaluated to better understand the current-state potential of Gen-AI for daily organizational work. First, three project management templates were short listed through a web browser search. They were downloaded as Word documents to feed into Microsoft Copilot for a detailed comparison and AI-based advice. Microsoft Copilot generated a comparison according to three criteria: (a) the formatting differences (layout style, visual elements, branding/attribution, and use of tips/guidance), (b) the structural differences (project header info, project scope and objectives, project tasks and schedule sections, roles and responsibilities section, budget, risk management, change management, quality and procurement, communication plan, and appendices), and (c) the content differences (level of detail, intended use, intended audience, and customization and guidance). These criteria were used as they were found in an older document analysis guide published at Oxford University [16]. The Gen-AI tool then created a visual comparison chart with its ratings (out of three) for the project management templates. Finally, it provided a brief assessment on May 31, 2025, of each of the three template files in layman's terms below. The templates were referred to as Samples 1, 2, and 3 to maintain their anonymity. Sample-Project-Plan-1 "is a minimalist, table-based template suitable for quick task tracking but lacks depth." Sample-Project-Plan-2 "is a comprehensive, professional-grade document ideal for formal project management with full lifecycle coverage." Sample-Project-Plan-3 "is a client-oriented, moderately detailed template with practical advice and flexibility."
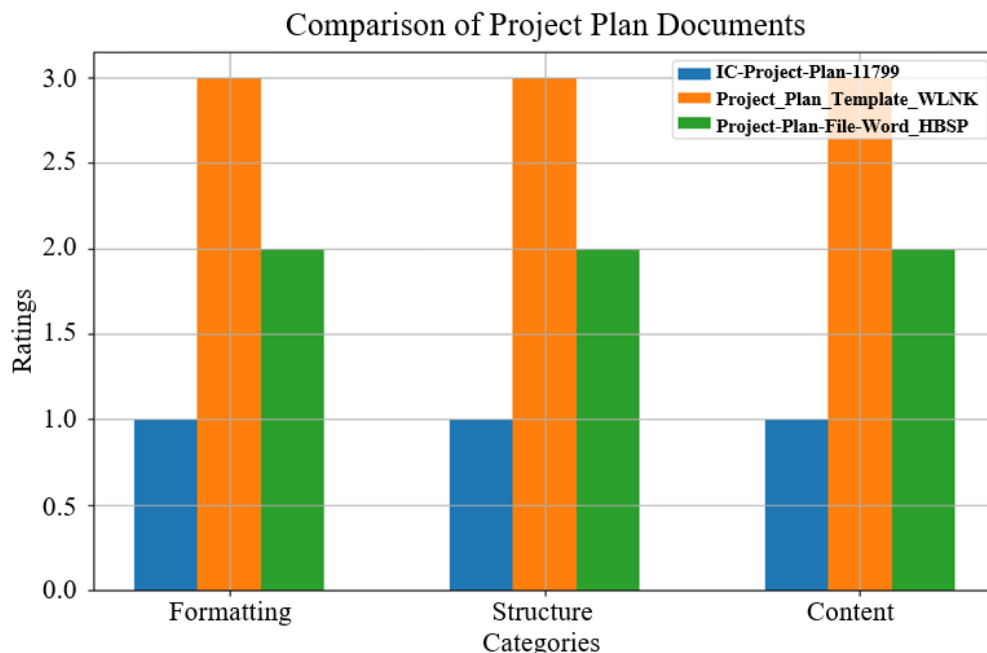

Figure 1. Gen-AI assessment comparison chart

Next, human evaluators were consulted to first give their own initial assessment of the same project management templates and then review Copilot's assessment and comment on this Gen-AI assessment. The participating human

evaluators were not named to maintain their anonymity. One participant commented that Sample-Project-Plan-2 "is formal, and it is the larger, full, and formal plan of the project, with co-pilot rightly saying so." Another participant noted, "I think co-pilot has done a very good job of distinguishing these three options, and the user could pick one suitable based on this analysis." Then, another evaluator stated, "I leaned toward selecting [Sample-Project-Plan-3] (sic) because its compact nature suits small to medium IT projects better, especially when project parameters may be modified easily." Of course, this perspective was not provided in the prompt to the Gen-AI tool, so it could not have recommended that one. Therefore, it is evident that prompts and conversations with Gen-AI could be worded and expanded in different ways to get a variety of results as may suit the users. Finally, another human evaluator noted that the rating system was a bit simplistic with Gen-AI merely ordering them and giving them the same scores. The results are as follows: 1.0 out of 3 (Sample-Project-Plan-1, blue bars), 2.0 out of 3 (Sample-Project-Plan-3, green bars), and 3.0 out of 3 (Sample-Project-Plan-2, orange bars) across all the comparison criteria, resulting in a simple bar chart, with the template names whited-out for anonymity, as shown in Figure 1.

The evidence gained from this experiment provides the justification to expand the research into more work-related documents and participants. In summary, this study moves on to the goal of creating a more complicated testing plan and creating a quantitative-oriented (online) questionnaire (with Likert-scale items) based on the Technology Acceptance Model (TAM), to be published in a future paper. For example, TAM areas such as perceived usefulness and perceived ease of use will be formulated into questions around specific task or job-related examples in local government office scenarios.

4.2 Integration of Microsoft Copilot into Government Data Ecosystems (RQ1)

The integration of Microsoft Copilot into government data ecosystems, as highlighted in this research, can address the inefficiencies caused by fragmented and manual data retrieval systems that are common within public sector entities. Copilot provides a seamless interaction with current Microsoft 365 applications like SharePoint, Outlook, Teams, and Dynamics 365, enabling fast and convenient data retrieval that enhances operational efficiency [17, 18]. The practical application of Copilot suggested a considerable improvement in productivity and the potential of Gen-AI to streamline data management and operational workflows [17]. In addition, integrating Copilot aligns with the existing ecosystem as familiar interfaces can reduce the learning curve and support user adoption. Overall, the strategic deployment of Copilot highlights how well Gen-AI can transform traditional government operations into more responsive, efficient operations.

4.3 Data Accessibility Challenges (RQ2)

Data accessibility remains a critical challenge for government. Issues such as fragmented data across multiple systems, difficulty in efficiently locating relevant information, and frequent delays caused by manual retrieval are concerning [5, 6]. This study identified significant problems from manual data searches within large datasets and unstructured databases such as policy documents and historical records. The manual retrieval processes reduce productivity and also result in inconsistent service delivery. Addressing these data accessibility issues through technologies like Microsoft Copilot can drastically improve information accuracy, retrieval speed, and operational effectiveness [5]. Therefore, clearly understanding and resolving these specific challenges is important for improved data-driven decision-making services.

4.4 Enhancing Information Retrieval with Copilot (RQ3)

Copilot provides fast access to structured, semi-structured, and unstructured data, enabling staff to quickly and accurately locate critical information such as corporate policies, regulatory details, and past service requests [14, 17]. Additionally, Copilot can interpret user queries naturally and contextually to retrieve data which ensures that information provided to customer service officers is accurate and relevant to their tasks [19]. Finally, Copilot shows a great improvement in information retrieval capabilities, streamlining administrative processes and supporting more informed decision-making for the public sector.

4.5 Adoption and Maintenance of Gen-AI Systems (RQ4)

Effective adoption and maintenance of Gen-AI systems require strategic planning and continuous management practices. The study highlights the importance of continuous training and AI literacy programs tailored for employees to support long-term adoption and effective usage of AI tools [5]. In addition, timely maintenance and updates for AI tools are essential to keep up with rapidly evolving AI technologies. Continuous monitoring through Copilot analytics provides insights for more AI effectiveness, usage trends and what needs more attention [19]. Furthermore, adopting change management strategies and providing systematic user feedback mechanisms are also important to maintain advancing operational requirements and technological advancements.

5 Discussion

This study contributes to the literature to understand the AI implementation in the context of the public sector, mainly focusing on data accessibility. Theoretically, the study explores the knowledge of how Gen-AI can be integrated into government operations in the context of Microsoft Copilot. Prior studies on AI in the government context have mostly centered on high-level adoption trends or specific applications like chatbots for citizen services [20, 21]. Furthermore, this study focuses more on local government-level AI implementation in depth. As pointed out by the recent publications, it is a significant gap in the literature and a highly under-explored area [22]. The discussed challenges and considerations in the study contribute to evaluating Gen-AI deployment in public organizations. These findings point to future research using theoretical models such as the Technology-Organization-Environment (TOE) model with specific factors such as prompt training for staff and regulatory compliance mechanisms which are specific to Gen-AI adoption [23]. Overall, this study's conceptual analysis and initial real-world experiment are novel contributions to the literature.

Practically, this study offers insights for local government institutions that are interested in improving data accessibility using Gen-AI. The main contribution can be highlighted as a set of actionable insights and best practices for implementing Microsoft Copilot in a public sector environment. Following these aspects can help organizations deploy responsible integrated systems and build trust with employees and citizens about the new technology. In summary, this study provides local government organizations with a clear and practical guide for integrating Gen-AI. By following the recommendations, organizations can provide efficient services by integrating Gen-AI for their processes. The main limitation is that the study focuses on one use case, which causes limited generalizability. For example, it includes a brief example of Copilot assisting with information analysis in a project management scenario, which cannot be extended to customer service or other government scenarios. There may also be a need for contextual insights for each case. For example, a government institution that already has advanced data infrastructure might not encounter the same data silo issues, but it may face different challenges that are not addressed in this study.

Another limitation is the reliance on existing publications and reports, which may have publication bias. For example, organizational culture regarding AI adoption and literacy was assumed based on general literature about the public sector. There is also a researcher bias during source interpretation. The study tries to overcome that by following a structured review process. Another limitation is that the technical benefits of the implementation have not been practically tested or measured. Gen-AI is evolving at a high pace. The latest solution or best practice today tends to be outdated no sooner. This concerns another limitation to this study. Microsoft Copilot and other comparable Gen-AI tools are continuously being updated (model improvements, new features or policy changes) and it can significantly impact the integration. The study is based on information available up to early 2025. Gen-AI is transforming how governments interact with information. On this topic, future research should study broader Gen-AI applications in the public sector other than just Microsoft 365 Copilot. Comparative studies are needed to evaluate and compare how different Gen-AI platforms perform in each government context. Official government entities recognize various tools such as OpenAI ChatGPT, Google Gemini, Meta LLaMa, and Anthropic Claude for more convenient AI for public services [24]. Systematically comparing multiple platforms on similar use cases would help identify their relative strengths, limitations and suitability for the requirements more clearly. Each comparison can highlight what specific models are effective at enhancing data accessibility for the operations.

Furthermore, future studies should focus on designing and implementing chatbots within local public institutions and testing them with actual end users, including public sector employees and citizens. Another important future direction is scaling AI infrastructure as it is getting highlighted for AI-powered services. Government entities need strategies to deploy large AI models efficiently and AIOps offers support to achieve this. AIOps techniques can automate processes like monitoring and optimization of AI processes in real time, helping to balance workloads, for example, through anomaly detection and root cause analysis [25]. Future research may develop AIOps-driven tools specialized for government AI platforms, providing scalable Gen-AI implementations in an effective way. Future research may also design and evaluate AI literacy training programs for different government positions.

6 Conclusion

This study explored the integration of Gen-AI, specifically Microsoft Copilot, into government data ecosystems to address the traditional data accessibility-related challenges, operational inefficiencies and concerns of service delivery for public institutions. The findings highlight that implementing Copilot can significantly increase data management practices, enhancing both information retrieval processes and overall productivity. The Copilot's seamless interaction with Microsoft 365 applications provides practical benefits, mainly improving response time and the accuracy and efficiency of operations. The study contributes theoretically by expanding existing literature on Gen-AI applications within local government contexts. Methodologically, it integrates comprehensive academic and practical insights to provide guidance for similar public organizations. The reflections offer actionable recommendations to streamline government operations by making them more efficient. Finally, this study highlights the potential of Gen-AI for local

government institutions through a review of strategic adoption and responsible management issues.

Author Contributions

Conceptualization, L.D; E.E.; methodology, L.D.; formal analysis, L.D.; E.E.; writing—original draft preparation, L.D.; writing—review and editing, E.E.; supervision, E.E.; project administration, L.D.; E.E. All authors have read and agreed to the published version of the manuscript.

Data Availability

The data used to support the research findings are available from the corresponding author upon request.

Conflicts of Interest

The authors declare no conflict of interest.

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