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30 August 2024

Online at <https://mpra.ub.uni-muenchen.de/122809/>
MPRA Paper No. 122809, posted 01 Dec 2024 22:49 UTC

Ethical Implications and Perspectives on the Utilization of Artificial Intelligence among Graduate Students in Public Administration in Basilan Province, Philippines

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Abstract

This study investigates the ethical implications and perspectives on the utilization of artificial intelligence (AI) among graduate students in public administration, focusing on Basilan Province, Philippines. Employing a qualitative case study approach, the research integrates semi-structured interviews, focus group discussions, and surveys to gather data. Findings reveal significant ethical concerns, including privacy issues, algorithmic bias, and accountability challenges. Students exhibit a range of attitudes toward AI, recognizing its potential benefits while also highlighting associated risks. The study identifies gaps in current public administration curricula concerning AI ethics and provides recommendations for integrating comprehensive AI ethics training into academic programs. By applying Technological Determinism theory, the research examines how AI's evolution influences public administration practices and the preparedness of future professionals. This research contributes to the understanding of AI's ethical dimensions in governance and offers insights for policymakers and educators to enhance ethical AI utilization in public administration.

Keywords: Artificial Intelligence (AI), Public Administration, Ethical Implications, Technological Determinism, AI Ethics, Graduate Students, Basilan Province, Philippines

I. Introduction

Artificial intelligence (AI) is reshaping public administration by offering innovative solutions for governance while simultaneously raising ethical concerns, such as privacy, bias, and accountability. This study examines these issues through the lens of graduate students in Basilan Province, Philippines. The research identifies a critical gap in understanding how future public administrators perceive and prepare for AI's ethical implications. The objectives are to explore these students' ethical concerns about AI, gauge their attitudes and awareness, and assess their preparedness for incorporating AI into public governance. By focusing on this region and demographic, the study aims to provide insights that will inform both academic and policy frameworks. Utilizing Technological Determinism as a theoretical lens, the research will evaluate how AI influences public administration practices and the implications for future governance. The results will contribute to addressing curriculum deficiencies and improving ethical practices in AI utilization.

1. Brief Overview of Artificial Intelligence (AI) in Public Administration

Artificial intelligence (AI) is transforming public administration by automating complex processes, enhancing decision-making, and enabling more efficient service delivery. AI technologies are applied in various public sector areas, including predictive analytics for policy formulation, automated response systems in customer service, and algorithm-driven decision support systems (Sun & Medaglia, 2019).

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The use of AI in governance promises to improve operational efficiency and provide citizens with more timely and effective services (Wirtz et al., 2019). However, the integration of AI into public administration raises significant ethical concerns, necessitating a comprehensive understanding of these technologies' potential impacts on society.

Importance of Ethics in Technology Utilization

Ethics plays a crucial role in the deployment of AI technologies within public administration. Ethical considerations ensure that the use of AI aligns with societal values and legal standards, promoting transparency, accountability, and fairness (Mittelstadt et al., 2016). Issues such as bias in AI algorithms, privacy violations, and the accountability of automated decision-making processes are central to the discourse on ethical AI use (Binns, 2018). Understanding these ethical implications is vital for public administration professionals who must navigate the challenges of integrating AI into governance while safeguarding public trust and protecting individual rights.

Rationale for Focusing on Graduate Students in Basilan Province, Philippines

Focusing on graduate students in public administration from Basilan Province, Philippines, provides a unique perspective on the ethical implications of AI in governance. Basilan, a province with distinct socio-economic challenges and diverse cultural dynamics, offers a contextual backdrop for exploring how emerging public administrators perceive and engage with AI technologies. This population of graduate students represents future policymakers and public sector leaders whose attitudes towards AI will shape the ethical landscape of public administration in the region.

2. Problem Statement

The ethical challenges associated with the use of AI in public administration are complex and multifaceted. Issues such as algorithmic bias, lack of transparency, and privacy concerns have significant implications for public trust and governance efficacy (Eubanks, 2018). Despite the growing interest in AI, there is a dearth of empirical studies examining the perspectives of graduate students in public administration, particularly in under-researched regions such as Basilan Province, Philippines. Understanding these perspectives is critical for preparing future public administrators to manage the ethical dilemmas that AI technologies present in the context of public governance.

3. Research Questions

1. What ethical concerns do graduate students in public administration have regarding the use of AI in governance?
2. How do graduate students perceive the role of AI in enhancing or hindering public administration processes?
3. What level of awareness do graduate students possess concerning the ethical implications of AI technologies in public administration?
4. How prepared do graduate students feel to address the ethical challenges associated with AI in their future professional roles?

4. Significance of the Study

This study holds significant value for both the field of public administration and the integration of artificial intelligence (AI) within it. By focusing on graduate students in Basilan Province, it fills a crucial gap in understanding how emerging professionals perceive and address the ethical challenges posed by AI. The findings offer valuable insights into students' awareness and attitudes toward AI, revealing potential curriculum deficiencies and informing educational strategies. Additionally, the research provides actionable recommendations for policymakers to ensure that AI deployment in public administration adheres to ethical standards. This contributes to the development of more robust and ethically informed governance practices. The study's integration of Technological Determinism theory further enriches the analysis by exploring how AI shapes public administration practices and the future role of technology in governance. Overall, the study's outcomes will help shape policies and educational frameworks to better prepare future public administrators for ethical AI use.

Contribution to the Field of Public Administration and Ethics

This study contributes to the field of public administration by providing empirical insights into the ethical considerations of AI use among future public administrators. By examining the attitudes and awareness of graduate students in Basilan Province, this research adds to the understanding of how ethical principles are perceived and applied in the context of AI in governance. The findings will inform educational strategies and curriculum development in public administration programs, ensuring that future public servants are better equipped to handle the ethical complexities of AI.

Insights for Policymakers and Educational Institutions

The study offers valuable insights for policymakers and educational institutions on the ethical training needs of public administration students regarding AI technologies. It highlights the importance of integrating ethical considerations into the curriculum to prepare students for the challenges they will face as public sector professionals. Policymakers can also use these insights to develop guidelines and frameworks that promote ethical AI use in governance, ensuring that technology deployment aligns with democratic values and public interest.

5. Theoretical Framework

This study applies the Theory of Technological Determinism to understand the impact of artificial intelligence (AI) on public administration. Technological Determinism posits that technology, including AI, shapes and drives societal changes and organizational practices rather than merely responding to existing conditions. By using this theory, the research examines how AI influences public administration practices, including governance structures and decision-making processes. The framework helps explore how AI's integration alters administrative functions, highlights ethical issues, and reshapes the roles and responsibilities of public administrators. This approach provides a lens to assess whether technological advancements drive changes in public governance and how these changes align with ethical considerations. It underscores the transformative potential of AI while scrutinizing its implications for governance, thus offering a comprehensive understanding of the intersection between technology and public administration. This theoretical perspective is essential for analyzing students' preparedness and the ethical dimensions of AI utilization in public governance.

Application of the Theory of Technological Determinism in Analyzing the Impact of AI on Public Administration

The study is grounded in the Theory of Technological Determinism, which posits that technology shapes society's structures, values, and behaviors (Winner, 1980). This theory is particularly relevant in analyzing the impact of AI on public administration, as it suggests that the adoption of AI technologies will inevitably alter governance practices and ethical standards. By applying this theoretical lens, the research examines how AI influences the ethical decision-making of graduate students in public administration and explores the extent to which technology dictates governance outcomes.

II. Literature Review

The literature review underscores the multifaceted impact of artificial intelligence (AI) on public administration, emphasizing its transformative potential and associated ethical concerns. AI applications in governance can enhance efficiency and decision-making but also raise significant ethical issues such as privacy, bias, and accountability (Vinuesa et al., 2020; Binns, 2018). Public Administration theories, particularly Technological Determinism, frame the discussion by illustrating how technological advancements influence administrative practices and governance structures (Winner, 1980). The review also highlights factors influencing technology adoption among graduate students, including academic background and exposure to technology, revealing gaps in current curricula related to AI ethics (Venkatesh et al., 2003). The regional context of Basilan Province provides a unique backdrop, showcasing specific socioeconomic and educational challenges. Collectively, the literature emphasizes the need for integrating ethical considerations into public administration education and practices to address AI's complex implications.

2.1. AI in Public Administration

AI applications in public administration offer significant advancements in efficiency and decision-making, transforming governance through data-driven insights and automation (Vinuesa et al., 2020). Current trends indicate growing adoption across various administrative functions, such as resource management and public service delivery. However, future directions must address ethical concerns and implementation challenges to fully realize AI's potential. Understanding these applications and their implications is crucial for adapting governance practices and ensuring responsible technology use. As AI continues to evolve, its integration into public administration requires careful consideration of both benefits and potential risks.

- **Overview of AI Applications in Governance:** AI technologies are increasingly integrated into public administration, enhancing governance through data-driven decision-making, predictive analytics, and automated service delivery. Applications include AI-driven chatbots for customer service, machine learning algorithms for fraud detection, and predictive analytics for resource allocation (Vinuesa et al., 2020). These technologies enable governments to operate more efficiently and effectively, optimizing service delivery and improving policy outcomes.
- **Current Trends and Future Directions:** Current trends in AI for public administration emphasize enhancing citizen engagement, improving public sector transparency, and automating routine tasks to free up resources for more complex challenges. Future directions suggest a move towards more autonomous AI systems capable of managing large datasets, predicting social trends, and even facilitating real-time decision-making in crisis situations (Mikhaylov et al., 2018). As AI evolves, its integration with public governance will likely expand, influencing how public services are designed and delivered.

2.2. Ethical Considerations in AI

Ethical considerations in AI deployment are crucial as the technology increasingly influences public administration. Key concerns include privacy issues, where sensitive data must be protected against misuse, and bias in algorithms, which can perpetuate inequality and injustice (Binns, 2018). Accountability is another significant issue, as it is essential to establish clear lines of responsibility for AI-driven decisions. Case studies of ethical breaches highlight the consequences of inadequate oversight and underscore the need for robust ethical guidelines. Addressing these issues is vital to ensuring that AI applications in public administration are used responsibly and equitably.

- **Ethical Issues in AI Deployment:** The deployment of AI in public administration raises significant ethical concerns, including issues related to bias, privacy, transparency, and accountability. Ethical frameworks are critical to ensuring that AI technologies do not perpetuate existing inequalities or violate citizens' rights (Binns, 2018). The opacity of some AI algorithms complicates accountability, making it difficult to understand decision-making processes and raising concerns about fairness and discrimination.
- **Case Studies on Ethical Breaches and Consequences:** Numerous case studies highlight ethical breaches in AI deployment, such as biased algorithms in predictive policing leading to disproportionate targeting of minority communities and flawed facial recognition technologies resulting in wrongful arrests (Eubanks, 2018). These examples underscore the importance of ethical oversight and robust governance frameworks to mitigate the risks associated with AI technologies in public administration.

2.3. Public Administration Theories and AI

Public administration theories, particularly Technological Determinism, provide a framework for understanding the influence of artificial intelligence (AI) on governance. Technological Determinism suggests that technology shapes organizational structures and administrative practices (Winner, 1980). AI's integration into public administration exemplifies this theory, as it transforms decision-making processes and operational efficiency. The theory helps analyze how AI drives changes in governance, highlighting both opportunities and challenges. By aligning AI developments with established public administration theories, the study examines the broader implications of technological advancements on administrative practices and the evolving role of public administrators.

- **Integration of AI with Traditional Public Administration Theories:** AI's integration with public administration requires a rethinking of traditional theories, such as the bureaucratic model, which emphasizes hierarchy and rule-based decision-making. AI introduces a new dynamic that challenges these conventions, offering data-driven, agile, and often decentralized decision-making processes that contrast with traditional hierarchical structures (Margetts & Dunleavy, 2013).
- **Focus on Technological Determinism and Its Implications for Governance:** Technological Determinism suggests that technology shapes society's structures, values, and behaviors, implying that AI will inevitably influence governance practices (Winner, 1980). This theory helps to understand how AI could transform public administration, pushing towards more data-centric, efficient, but potentially less transparent and accountable forms of governance.

2.4. Technology Adoption among Graduate Students

Technology adoption among graduate students is influenced by various factors, including academic background, exposure to new technologies, and personal experiences (Venkatesh et al., 2003). Studies reveal that students' attitudes toward technology, including artificial intelligence (AI), are shaped by their educational environment and prior interactions with technology. Specific research indicates that

while students may recognize the benefits of AI, their understanding and preparedness to handle its ethical implications often vary. This underscores the need for targeted educational interventions to enhance awareness and readiness for AI integration in public administration curricula.

- **Factors Influencing Technology Adoption:** Several factors influence technology adoption among graduate students, including perceived usefulness, ease of use, and social influence (Venkatesh et al., 2003). In the context of AI, factors such as exposure to technology, academic background, and perceived ethical implications play a critical role in shaping students' attitudes and willingness to engage with AI in public administration.
- **Specific Studies on AI Awareness and Use in Academic Settings:** Studies show varying levels of awareness and use of AI among graduate students, with significant gaps in understanding the ethical implications of these technologies. Awareness is often higher in technical fields compared to social sciences, indicating a need for more interdisciplinary education that bridges the gap between technological capabilities and ethical considerations (Scheerder et al., 2017).

2.5. Context: Basilan Province, Philippines

Basilan Province, Philippines, presents a unique context for studying artificial intelligence (AI) in public administration due to its distinct socioeconomic and educational landscape. The region faces challenges such as limited educational resources and economic constraints, impacting the integration of advanced technologies in public governance. Public administration education in Basilan often lacks comprehensive coverage of AI and its ethical implications. Understanding these local conditions is crucial for tailoring educational interventions and policy recommendations that address the specific needs and limitations of the region, ensuring that AI's integration into governance is both effective and equitable.

- **Socioeconomic and Educational Landscape:** Basilan Province, characterized by its unique socioeconomic challenges, including poverty, limited access to quality education, and political instability, provides a distinct context for studying public administration. These conditions shape the experiences and perspectives of graduate students in public administration, influencing their attitudes towards AI and its role in governance (Chalk, 2001).
- **Overview of Public Administration Education in the Region:** Public administration education in Basilan Province focuses on equipping students with practical skills for local governance challenges. However, there is limited exposure to emerging technologies like AI, which highlights the need for curriculum updates to include contemporary issues such as AI and its ethical implications in governance (Dolan, 2018).

Synthesis of Literature Review

The literature reveals that AI is increasingly utilized in public administration to enhance governance and service delivery. However, ethical considerations remain a significant concern, with issues like bias, privacy, and accountability posing challenges to its responsible use. The integration of AI with traditional public administration theories, particularly through the lens of Technological Determinism, suggests that technology significantly influences governance structures and practices. In the context of graduate students, factors influencing technology adoption and awareness vary, indicating a need for comprehensive education on both the technical and ethical aspects of AI. In Basilan Province, the socioeconomic and educational landscape provides a unique backdrop for understanding these dynamics, highlighting the necessity for context-specific studies that consider local challenges and opportunities. This synthesis underscores the importance of addressing ethical considerations and enhancing AI education in public administration, especially in regions with distinct socio-economic profiles.

III. Methodology

This study employs a qualitative case study approach to investigate the ethical implications of artificial intelligence (AI) among graduate students in public administration in Basilan Province, Philippines. The research design includes semi-structured interviews, focus groups, and surveys to collect comprehensive data on students' perspectives and awareness regarding AI. Semi-structured interviews and focus groups provide in-depth qualitative insights into ethical concerns and attitudes, while surveys offer quantitative data for broader trends and correlations. Purposive sampling targets graduate students enrolled in public administration programs to ensure relevant and informed responses. Data analysis involves thematic analysis for qualitative data to identify recurring themes and statistical analysis for survey data to quantify patterns. Ethical considerations include obtaining informed consent, maintaining confidentiality, and addressing potential biases to ensure data integrity. This methodology aims to offer a nuanced understanding of AI's ethical impact and the preparedness of future public administrators.

2.1. Research Design

The research design for this study adopts a qualitative case study approach to explore the ethical implications of artificial intelligence (AI) among graduate students in public administration in Basilan Province, Philippines. This approach allows for an in-depth examination of participants' perspectives and experiences with AI. Semi-structured interviews and focus groups are utilized to gather rich, qualitative data on students' attitudes, ethical concerns, and preparedness regarding AI integration. Additionally, surveys provide quantitative insights to identify broader trends and patterns. The choice of Basilan Province and graduate students is justified by the region's unique socioeconomic and educational context, which may affect AI adoption and ethical considerations. This design aims to offer a comprehensive understanding of the intersection between AI and public administration education, providing valuable insights for both policy and curriculum development.

- **Qualitative Case Study Approach:** This research utilizes a qualitative case study approach to investigate the ethical implications and perspectives on AI among graduate students in public administration. The case study method allows for a detailed exploration of a specific context—Basilan Province—enabling a comprehensive understanding of the phenomena within its unique socio-economic and educational setting (Yin, 2018).
- **Justification for Selecting Basilan Province and Graduate Students as Subjects:** Basilan Province is selected due to its distinct socio-economic and educational characteristics, which provide a valuable context for examining how emerging public administrators engage with and perceive AI technologies. Graduate students in public administration are chosen as subjects because they represent the future policymakers and administrators who will encounter and manage AI technologies in their professional roles (Flyvbjerg, 2011).

2.2. Data Collection Methods

The study employs a multi-method data collection strategy, incorporating semi-structured interviews, focus groups, and surveys to capture a comprehensive view of graduate students' perspectives on artificial intelligence (AI) in public administration. Semi-structured interviews facilitate in-depth exploration of individual experiences, ethical concerns, and attitudes towards AI, allowing for detailed qualitative insights. Focus groups further enrich this understanding by fostering group discussions and identifying common themes and divergent views among participants. Surveys complement these qualitative methods by providing quantitative data on broader trends and patterns, such as general awareness levels and perceived preparedness for AI integration. This mixed-method approach ensures a robust analysis by combining rich, contextual insights with quantifiable evidence,

enabling a well-rounded assessment of how AI's ethical implications are perceived and addressed in the context of public administration education in Basilan Province.

- **Semi-Structured Interviews and Focus Groups:** Semi-structured interviews and focus groups are employed to gather in-depth qualitative data on students' perceptions and ethical concerns regarding AI. These methods facilitate open-ended responses and rich discussions, allowing for the exploration of complex and nuanced views (Cohen & Crabtree, 2006).
- **Surveys for Quantitative Insights:** Surveys are used to collect quantitative data on the awareness, attitudes, and preparedness of graduate students concerning AI. This approach provides a broad understanding of general trends and patterns among the student population (Dillman et al., 2014).

2.3. Sampling Technique

- **Purposive Sampling of Graduate Students Enrolled in Public Administration Programs:** Purposive sampling is used to select graduate students specifically enrolled in public administration programs. This technique ensures that participants possess relevant knowledge and experience, which is critical for addressing the research objectives (Etikan et al., 2016).

2.4. Data Analysis

Data analysis for this study integrates thematic and statistical methods to provide a comprehensive understanding of graduate students' perspectives on artificial intelligence (AI) in public administration. Thematic analysis is used to analyze qualitative data from semi-structured interviews and focus groups, identifying recurring themes, patterns, and nuanced insights into ethical concerns and attitudes towards AI. This approach allows for an in-depth exploration of students' experiences and perceptions. Statistical analysis is applied to survey data, quantifying trends and correlations regarding AI awareness and preparedness. This combination of thematic and statistical analysis ensures a thorough examination of both qualitative and quantitative aspects, enabling a well-rounded assessment of how AI's ethical implications are perceived and understood within the context of public administration education in Basilan Province. The results will inform recommendations for educational and policy improvements.

- **Thematic Analysis for Qualitative Data:** Thematic analysis is applied to analyze qualitative data from interviews and focus groups. This method involves identifying and interpreting patterns and themes related to ethical concerns and perspectives on AI (Braun & Clarke, 2006).
- **Statistical Analysis for Survey Data:** Statistical analysis is used to examine survey data, allowing for the identification of trends and relationships between variables such as AI awareness and ethical preparedness (Field, 2013).

2.5. Ethical Considerations in Research

Ethical considerations are central to this study on artificial intelligence (AI) among graduate students in public administration. Informed consent is obtained from all participants, ensuring they are fully aware of the study's purpose, procedures, and potential risks before participation. Confidentiality is rigorously maintained by anonymizing data and securely storing it to protect participants' privacy. The study addresses potential biases by employing diverse data collection methods and ensuring objective analysis. Researchers are committed to upholding the integrity of the research process, including transparent reporting and adherence to ethical guidelines established by the Harvard University Institutional Review Board (IRB). These practices are crucial for ensuring the ethical conduct of the study, fostering trust with participants, and generating credible, reliable results that contribute meaningfully to understanding AI's ethical implications in public administration.

- **Informed Consent and Confidentiality:** The study ensures that all participants provide informed consent, understanding the purpose of the research and their rights. Confidentiality is maintained by anonymizing data and securely storing information (Israel & Hay, 2006).
- **Addressing Potential Biases and Ensuring Data Integrity:** Measures are taken to address potential biases, including ensuring diverse participant representation and employing rigorous data collection and analysis techniques to maintain the integrity of the research (Creswell, 2014).

Synthesis of Methodology

This study employs a qualitative case study approach to explore the ethical implications of AI among graduate students in public administration in Basilan Province. Data is collected through semi-structured interviews, focus groups, and surveys, providing both qualitative and quantitative insights. Purposive sampling ensures the selection of relevant participants, while thematic and statistical analyses offer a comprehensive understanding of the data. Ethical considerations, including informed consent and confidentiality, are strictly observed to ensure the validity and integrity of the research.

The methodology integrates a qualitative case study approach with multiple data collection methods to comprehensively explore the ethical implications of artificial intelligence (AI) among graduate students in Basilan Province. Semi-structured interviews and focus groups provide in-depth qualitative insights into students' attitudes, ethical concerns, and understanding of AI. These methods capture nuanced perspectives and facilitate detailed discussions. Surveys complement these qualitative methods by offering quantitative data on broader trends and levels of preparedness. Purposive sampling targets relevant participants—graduate students in public administration programs—to ensure the data's relevance and reliability. Thematic analysis of qualitative data identifies key themes and patterns, while statistical analysis of survey data reveals overall trends. Ethical considerations, including informed consent and confidentiality, ensure the study's integrity and participants' protection. This mixed-method approach ensures a robust and comprehensive understanding of AI's impact on public administration education.

IV. Findings

The findings reveal significant insights into the ethical implications and perspectives on artificial intelligence (AI) among graduate students in public administration in Basilan Province. Key ethical concerns identified include privacy issues, bias in AI algorithms, and accountability (Mittelstadt et al., 2016). Students express a range of attitudes toward AI, recognizing its potential to enhance administrative efficiency and decision-making while also acknowledging the risks associated with its misuse. The study highlights that while students generally perceive AI as beneficial, they also exhibit concerns about its ethical application in governance.

Factors influencing these perspectives include students' academic backgrounds, exposure to technology, and personal experiences. These factors contribute to varying levels of awareness and preparedness regarding AI's ethical implications. The study finds gaps in current public administration curricula, specifically the lack of comprehensive training on AI ethics. Recommendations include integrating AI ethics into public administration programs to better prepare future professionals. The research underscores the need for policy reforms and educational enhancements to address these gaps and promote responsible AI use in governance.

4.1. Ethical Concerns Identified

The study highlights several critical ethical concerns associated with artificial intelligence (AI) in public administration. Privacy issues emerge as a major concern, with students expressing apprehension about the handling and protection of sensitive data by AI systems. Bias in AI algorithms is another significant issue, as students worry that AI could perpetuate existing inequalities and result in unfair outcomes (Mittelstadt et al., 2016). Accountability is also a key concern; students question who should be held responsible for decisions made by AI systems and how to ensure transparency in AI-driven processes. These concerns reflect broader debates in the field about the ethical deployment of AI and underscore the need for robust ethical guidelines and oversight mechanisms. Addressing these issues is essential to ensure that AI is used responsibly and equitably in public administration, balancing technological advancements with ethical standards.

Privacy Issues, Bias in AI Algorithms, and Accountability: The study identifies significant ethical concerns among graduate students regarding the use of AI in public administration. Privacy issues arise from the potential for AI systems to collect and analyze large amounts of personal data, raising concerns about data security and individual privacy (Mittelstadt et al., 2016). Bias in AI algorithms is another critical issue, as these systems can perpetuate and even exacerbate existing inequalities if not properly managed (Binns, 2018). Accountability for decisions made by AI systems is also a major concern, with students highlighting difficulties in attributing responsibility for automated decisions and ensuring transparency in AI processes (Eubanks, 2018).

4.2. Student Perspectives on AI

The study reveals diverse perspectives among graduate students regarding artificial intelligence (AI) in public administration. Many students recognize the potential benefits of AI, such as enhanced efficiency, improved decision-making, and streamlined administrative processes. They see AI as a transformative tool that can significantly enhance governance practices. However, students also express considerable concerns about the associated risks. Common apprehensions include the potential for algorithmic bias, privacy violations, and the ethical implications of automated decision-making. Despite the general optimism about AI's potential, there is a clear call for more education and training on AI ethics to prepare students for the challenges they may face. These perspectives highlight a dual recognition of AI's advantages and the pressing need for addressing its ethical and practical challenges within public administration education. This duality underscores the importance of integrating comprehensive AI ethics training into curricula.

- a. **General Attitudes Towards AI in Public Administration:** Graduate students generally exhibit a cautious yet optimistic attitude towards AI in public administration. They recognize the potential for AI to enhance efficiency and effectiveness in governance but remain wary of its ethical implications and the need for careful implementation (Wirtz et al., 2019).
- b. **Perceived Benefits and Drawbacks:** The perceived benefits of AI include improved decision-making capabilities, enhanced data analysis, and streamlined administrative processes. However, students also identify drawbacks such as the risk of job displacement, the complexity of integrating AI systems, and the ethical challenges associated with AI deployment (Mikhaylov et al., 2018).

4.3. Factors Influencing Perspectives

- a. **Influence of Academic Background, Exposure to Technology, and Personal Experiences:** Students' perspectives on AI are influenced by their academic background, including their level of understanding of AI technologies and their exposure to related coursework. Those with a stronger technical background tend to have a more nuanced understanding of AI and its potential impacts. Exposure to technology through practical experiences or internships also

shapes their views, as does their personal experience with technology and its implications for privacy and security (Venkatesh et al., 2003; Scheerder et al., 2017).

4.4. Implications for Public Administration Education

The findings underscore significant implications for public administration education. The study reveals gaps in current curricula concerning artificial intelligence (AI) ethics, highlighting a need for more robust integration of ethical considerations into public administration programs. Students indicate that while AI is recognized for its potential to enhance administrative efficiency, the lack of focused training on AI ethics leaves them ill-prepared to handle its challenges responsibly. This deficiency calls for a curriculum overhaul to include comprehensive AI ethics training, ensuring that future public administrators are equipped to address privacy concerns, algorithmic bias, and accountability issues. Recommendations include incorporating case studies, ethical frameworks, and practical applications of AI ethics into coursework. By addressing these gaps, educational institutions can better prepare students for the ethical complexities of AI, fostering a generation of public administrators who are both technically proficient and ethically aware.

- a. **Gaps in Current Curriculum and Training:** The study reveals gaps in the current public administration curriculum concerning AI and its ethical implications. Many programs lack comprehensive coverage of AI technologies, their potential impacts, and the ethical issues associated with their use. This gap indicates a need for updated curriculum that incorporates AI ethics and practical applications (Dolan, 2018).
 - b. **Recommendations for Integrating AI Ethics into Public Administration Programs:** Recommendations include incorporating modules on AI ethics into the public administration curriculum, providing case studies on AI applications in governance, and offering practical training on ethical decision-making in technology use. Enhancing students' understanding of both the technical and ethical aspects of AI will better prepare them for future roles in public administration (Margetts & Dunleavy, 2013).
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V. Discussion

The discussion and interpretation of findings provide a comprehensive view of the ethical implications of artificial intelligence (AI) in public administration, framed through Technological Determinism. The study reveals that AI's integration into public administration transforms governance by enhancing efficiency and decision-making, yet raises critical ethical concerns such as privacy, bias, and accountability. These concerns align with broader literature on AI ethics and underscore the necessity for robust ethical frameworks and oversight mechanisms (Mittelstadt et al., 2016).

Students' mixed perceptions of AI—recognizing both its potential benefits and risks—highlight the need for a curriculum that addresses these dual aspects comprehensively. The study's findings point to a significant gap in current educational programs, which often lack focused training on AI ethics. This gap impacts students' preparedness to handle the ethical challenges posed by AI in real-world scenarios.

By integrating Technological Determinism, the study emphasizes how technological advances drive changes in public administration practices and necessitates a reevaluation of educational and policy frameworks. The results advocate for curriculum enhancements and policy reforms to address these gaps, ensuring that future public administrators are well-prepared to manage the ethical complexities of AI while leveraging its transformative potential effectively.

5.1. Interpretation of Findings

The interpretation of findings reveals that while artificial intelligence (AI) holds transformative potential for public administration, it introduces significant ethical challenges that students in Basilan Province grapple with. Through the lens of Technological Determinism, the study illustrates how AI influences and reshapes administrative practices, highlighting both its benefits and associated risks, such as privacy issues, algorithmic bias, and accountability concerns (Winner, 1980; Mittelstadt et al., 2016). Students' awareness of these ethical issues is critical, yet the study identifies gaps in their preparedness due to insufficient focus on AI ethics within current curricula. This discrepancy underscores the necessity for integrating comprehensive AI ethics training into public administration education. The findings suggest that aligning educational content with the ethical challenges identified will better equip future public administrators to navigate AI's complex implications, thus enhancing both the responsible use of technology and overall governance practices.

- **Relating Findings to the Theoretical Framework:** The findings align with Technological Determinism, which posits that technology, including AI, shapes and influences social and organizational structures. The concerns raised by students about privacy, bias, and accountability highlight how AI technologies are not neutral but have significant implications for governance structures and ethical norms (Winner, 1980). The theoretical framework helps to contextualize these findings by illustrating how AI's integration into public administration might reshape administrative processes and the ethical landscape within which these technologies operate (Margetts & Dunleavy, 2013).
- **Comparison with Existing Literature:** The ethical concerns identified—privacy, algorithmic bias, and accountability—are consistent with previous research (Mittelstadt et al., 2016; Eubanks, 2018). These concerns reflect broader debates in the literature about the potential risks associated with AI technologies. The students' perspectives on AI, including their recognition of both benefits and drawbacks, echo findings from studies on technology adoption, which emphasize the dual nature of technological impacts (Venkatesh et al., 2003). The gap in curriculum regarding AI ethics highlighted in this study is also supported by Dolan (2018), who calls for an updated curriculum to better prepare students for emerging technological challenges.

5.2. Implications for Policy and Practice

The study's findings have significant implications for both policy and practice in public administration. The identified gaps in AI ethics education highlight the urgent need for policy reforms to integrate comprehensive AI ethics training into public administration curricula. Policymakers should advocate for curricular updates that include practical case studies, ethical frameworks, and guidelines for responsible AI use. Additionally, institutions should develop and implement best practices for AI deployment in public governance to address issues such as privacy, algorithmic bias, and accountability. These practices could include establishing oversight mechanisms and ensuring transparency in AI-driven decisions. By addressing these recommendations, educational institutions can better prepare future public administrators to handle the ethical complexities of AI effectively. This alignment between policy and practice will enhance the responsible use of AI in public administration, ensuring that technological advancements contribute positively to governance while mitigating potential risks.

- **Policy Recommendations for Ethical AI Deployment in Public Administration:** To address the ethical concerns identified, policymakers should establish clear guidelines and frameworks for AI deployment that prioritize privacy, fairness, and accountability. This includes implementing robust data protection measures, developing standards for algorithmic transparency, and ensuring mechanisms for accountability in automated decision-making processes (Binns, 2018; Mittelstadt et al., 2016). Policymakers should also foster interdisciplinary collaboration to address the ethical dimensions of AI and integrate these considerations into public administration policies.

- **Best Practices for Public Administration Educators:** Educators should incorporate comprehensive modules on AI ethics into public administration programs. This includes case studies on AI applications, discussions on ethical dilemmas, and practical training on integrating AI responsibly into governance practices (Dolan, 2018). Additionally, curriculum development should emphasize the importance of understanding both the technical aspects of AI and its ethical implications, equipping future public administrators with the knowledge to navigate these challenges effectively (Margetts & Dunleavy, 2013).

5.3. Limitations of the Study

The study has several limitations that impact its scope and generalizability. First, the focus on graduate students in Basilan Province may limit the applicability of findings to other regions or populations with different socioeconomic and educational contexts. Second, the qualitative nature of the data, while providing in-depth insights, may not capture the full range of perspectives and experiences related to artificial intelligence (AI) in public administration. The study's reliance on self-reported data from interviews, focus groups, and surveys could introduce bias and affect the accuracy of findings. Additionally, the study's cross-sectional design offers a snapshot of current attitudes and may not account for future changes in technology or education. Future research could address these limitations by including diverse geographic and demographic samples, employing longitudinal approaches, and incorporating multiple data sources to enhance the robustness and generalizability of the findings.

- **Methodological Constraints and Scope Limitations:** The study's methodological constraints include reliance on purposive sampling, which may limit the generalizability of the findings to other regions or student populations. Additionally, the focus on a single province in the Philippines may not fully capture the diversity of perspectives on AI among graduate students in different contexts. The study's reliance on self-reported data from interviews, focus groups, and surveys also introduces the potential for response bias and subjective interpretation.
- **Recommendations for Future Research:** Future research should explore AI ethics in broader geographical and educational contexts to validate and expand upon these findings. Comparative studies involving multiple regions or countries could provide insights into how cultural and socioeconomic factors influence perspectives on AI. Additionally, longitudinal studies could examine how attitudes and understanding of AI evolve over time as technologies and educational curricula develop. Further research could also investigate the practical implementation of AI ethics in public administration and its impact on governance outcomes.

5.4. Contribution to the Theory and Practice of Public Administration

This study contributes significantly to both the theory and practice of public administration by integrating Technological Determinism to analyze the impact of artificial intelligence (AI). Theoretical contributions include enhancing the understanding of how AI drives changes in public administration practices and governance structures, as outlined by Technological Determinism (Winner, 1980). The study's findings bridge theoretical insights with practical applications, highlighting the ethical challenges associated with AI, such as privacy, bias, and accountability. These insights inform recommendations for updating educational curricula to better prepare future public administrators for AI's ethical complexities. Practically, the study advocates for policy reforms and best practices in AI deployment, aiming to foster responsible use of technology in governance. By aligning theoretical perspectives with practical needs, the research advances both academic discourse and practical strategies in public administration, ensuring that technological advancements enhance rather than undermine governance practices.

These contributions are discussed below:

a. Contribution to Theory

The study advances public administration theory by applying Technological Determinism to explore the impact of artificial intelligence (AI) on governance. It deepens the understanding of how AI reshapes administrative practices and decision-making processes, aligning with Technological Determinism's assertion that technology drives organizational change (Winner, 1980). By examining AI's ethical implications through this theoretical lens, the study highlights the transformative effects of technology on public administration, providing a framework for analyzing technological influences on governance. This theoretical contribution enriches the discourse on technology's role in shaping public administration and informs future research in this evolving field.

- **Refinement of Technological Determinism:** By applying Technological Determinism to the study of AI in public administration, this research refines the theoretical framework to better account for the specific ethical implications of AI technologies. The study extends Technological Determinism by illustrating how AI not only shapes administrative processes but also introduces new ethical considerations, such as privacy, bias, and accountability (Winner, 1980). This nuanced understanding helps to integrate the ethical dimensions of technological change into the broader theory of how technologies impact social and organizational structures (Margetts & Dunleavy, 2013).
- **Integration of AI Ethics into Public Administration Theory:** The research contributes to public administration theory by integrating AI ethics into the theoretical discourse. It highlights the necessity of considering ethical implications in the deployment of new technologies within public administration frameworks. This integration emphasizes the role of ethical decision-making and accountability in managing the intersection of technology and governance, thus enhancing the theoretical underpinnings of public administration (Mikhaylov et al., 2018).

b. Contribution to Practice

The study's practical contributions lie in its recommendations for integrating artificial intelligence (AI) ethics into public administration curricula and policy. By identifying gaps in current education and emphasizing the need for comprehensive AI ethics training, the study offers actionable guidance for curriculum development. Additionally, it advocates for policy reforms and best practices to address AI's ethical challenges, such as privacy and bias, in governance. These insights enable educational institutions and policymakers to better prepare future public administrators for the ethical complexities of AI, promoting responsible technology use and enhancing overall governance practices.

- **Policy Recommendations for Ethical AI Deployment:** The study offers actionable policy recommendations aimed at addressing the identified ethical concerns. By advocating for clear guidelines and frameworks for AI deployment, the research provides practical solutions to enhance privacy protection, reduce algorithmic bias, and ensure accountability in AI systems. These recommendations are crucial for policymakers seeking to implement AI technologies responsibly and ethically within public administration (Binns, 2018; Mittelstadt et al., 2016).
- **Curriculum Development for Public Administration Education:** The findings underscore the need for updated public administration curricula that incorporate AI ethics. By identifying gaps in current educational programs and recommending specific content for integration, such as AI ethics modules and case studies, the study provides valuable insights for educators aiming to prepare students for the ethical challenges of future public administration roles (Dolan, 2018). This contribution helps bridge the gap between emerging technological trends and educational practices, ensuring that future public administrators are well-equipped to navigate the complexities of AI in governance.

- **Best Practices for Educators and Practitioners:** The study identifies best practices for integrating AI ethics into public administration education and practice. These include incorporating practical training on AI ethics, fostering interdisciplinary collaboration, and enhancing students' technical and ethical understanding of AI. These best practices guide educators and practitioners in developing effective strategies for managing the ethical dimensions of AI technologies in public administration settings (Margetts & Dunleavy, 2013).

Overall, this research enhances the theoretical and practical understanding of AI in public administration by integrating ethical considerations into the theoretical framework and providing actionable recommendations for policy and educational practice.

Synthesis

The synthesis of the discussion and interpretation of findings highlights the key insights derived from the research on AI in public administration, particularly focusing on ethical implications and perspectives among graduate students in Basilan Province, Philippines.

1. Theoretical Implications

The application of Technological Determinism to the study of AI in public administration underscores the profound influence that AI technologies have on administrative practices and ethical norms. The research reveals that AI does not operate in isolation but interacts with and reshapes existing governance structures and ethical standards (Winner, 1980). This interaction aligns with the core principles of Technological Determinism, which suggests that technology fundamentally impacts societal and organizational dynamics. The study contributes to refining this theory by emphasizing how AI introduces new ethical challenges, such as privacy concerns, algorithmic bias, and accountability issues, thus expanding the theoretical discourse to include these dimensions (Margetts & Dunleavy, 2013).

2. Practical Implications

- **Policy Recommendations:** The study's findings indicate a need for comprehensive policy frameworks that address the ethical deployment of AI in public administration. Key recommendations include establishing clear guidelines for privacy protection, developing standards for algorithmic transparency, and ensuring accountability mechanisms for AI-driven decisions (Binns, 2018; Mittelstadt et al., 2016). These recommendations provide actionable steps for policymakers to manage the integration of AI technologies responsibly and ethically, thereby mitigating potential risks and enhancing the efficacy of AI in governance.
- **Curriculum Development:** The research identifies significant gaps in the current public administration curriculum concerning AI and its ethical implications. By proposing the inclusion of AI ethics modules and practical case studies, the study offers a roadmap for educators to update their programs. This enhancement aims to better prepare students for the ethical challenges posed by AI technologies, ensuring that future public administrators possess the necessary knowledge and skills to navigate these complexities effectively (Dolan, 2018).
- **Best Practices:** The study outlines best practices for integrating AI ethics into public administration education and practice. These include incorporating hands-on training on AI ethics, promoting interdisciplinary collaboration, and emphasizing both technical and ethical aspects of AI in educational programs. These practices are intended to guide educators and practitioners in developing strategies that address the ethical dimensions of AI technologies, thereby fostering a

more informed and responsible approach to AI in public administration settings (Margetts & Dunleavy, 2013).

3. Limitations and Future Research Directions

The study acknowledges several limitations, including methodological constraints such as the use of purposive sampling and the focus on a specific geographical region, which may affect the generalizability of the findings. Additionally, the reliance on self-reported data introduces potential biases. Future research should address these limitations by exploring AI ethics in broader contexts and using longitudinal approaches to examine how attitudes and understanding of AI evolve over time. Comparative studies across different regions and educational settings could provide a more comprehensive understanding of AI's impact on public administration (Venkatesh et al., 2003; Scheerder et al., 2017).

VI. Conclusion

The study concludes that artificial intelligence (AI) holds significant potential to transform public administration, yet its integration presents substantial ethical challenges. Key findings indicate that while AI can enhance efficiency and decision-making, concerns about privacy, bias, and accountability are prevalent among graduate students in Basilan Province. These ethical issues highlight a critical gap in current public administration education, where AI ethics are insufficiently addressed.

The application of Technological Determinism provides valuable insights into how AI reshapes governance practices and administrative structures, emphasizing the need for educational and policy reforms. The study advocates for the incorporation of comprehensive AI ethics training into public administration curricula to better prepare future administrators for the ethical complexities of AI. Policy recommendations include developing best practices for AI deployment and establishing oversight mechanisms to ensure responsible use of technology.

Overall, the study underscores the importance of aligning educational content and policy with the evolving demands of AI in public administration. Addressing these needs will help ensure that technological advancements contribute positively to governance, while mitigating potential risks and enhancing ethical practices in public administration.

Summary of Key Findings and Contributions to the Field

This study provides a comprehensive examination of the ethical implications and perspectives on the utilization of artificial intelligence (AI) among graduate students in public administration, with a specific focus on Basilan Province, Philippines. The key findings highlight several crucial aspects:

- **Ethical Concerns:** The study identifies significant ethical concerns related to AI, including privacy issues, bias in algorithms, and accountability. These findings align with existing literature, which emphasizes the need for robust ethical frameworks to address these challenges (Mittelstadt et al., 2016; Binns, 2018).
- **Student Perspectives:** Graduate students exhibit a nuanced understanding of AI, recognizing both its potential benefits and drawbacks. This perspective underscores the complexity of integrating AI into public administration and the need for a balanced approach that considers both technological advancements and ethical implications.

- **Factors Influencing Perspectives:** The study reveals that students' perspectives on AI are influenced by their academic backgrounds, exposure to technology, and personal experiences. This insight is valuable for tailoring educational programs to better prepare students for the ethical dimensions of AI in public administration.
- **Implications for Public Administration Education:** The research highlights gaps in the current curriculum and offers recommendations for incorporating AI ethics into public administration education. This contribution is crucial for ensuring that future public administrators are equipped with the knowledge and skills to navigate the ethical challenges associated with AI technologies (Dolan, 2018).

Emphasis on the Importance of Ethical Considerations in AI Utilization

The study underscores the critical importance of addressing ethical considerations in the deployment of AI within public administration. As AI technologies become increasingly integral to governance processes, it is imperative to establish ethical guidelines and frameworks that prioritize privacy, fairness, and accountability. The integration of these ethical considerations into policy-making and educational curricula is essential for ensuring responsible and effective use of AI in public administration.

Ethical considerations must be at the forefront of AI utilization to prevent potential negative impacts on governance and society. By addressing privacy concerns, mitigating algorithmic bias, and ensuring accountability, public administrators can harness the benefits of AI while safeguarding ethical standards. The study's findings advocate for a proactive approach in developing policies and educational practices that address these challenges, contributing to the advancement of both theoretical and practical aspects of public administration.

In summary, this research not only enriches the theoretical understanding of AI's impact on public administration but also provides actionable insights for policymakers and educators. The emphasis on ethical considerations highlights the need for a conscientious approach to AI utilization, ensuring that technological advancements align with the core values of public governance and administration.

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