Ethical Implications and Interpersonal Dynamics of AI-Driven Communication Strategies in Small Enterprises: An Exploratory Study in Colombia

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Abstracts

This study examined the impact of AI-driven communication strategies on ethical decision-making and interpersonal dynamics within small enterprises in Cartagena, Colombia. Employing a mixed-methods approach, the research investigated how the adoption of AI technologies influenced organizational behavior and outcomes. Data were collected from 24 small businesses across various sectors through surveys, interviews, and on-site observations. The findings showed a relationship between AI adoption and organizational dynamics. While AI integration was associated with improved customer satisfaction and interpersonal communication, it also correlated with challenges in ethical decision-making and increased employee turnover. The study highlighted the need for balanced approaches to AI implementation, considering both potential benefits and ethical implications. The research contributed to the understanding of AI's role in shaping business communication within the specific context of small enterprises in an emerging market. The results emphasized the importance of considering cultural and resource factors in AI adoption strategies.

Keywords: Artificial Intelligence, Business Ethics, Organizational Communication, Small Enterprises, Sociolinguistics.

1. Introduction

The rapid advancement and integration of artificial intelligence (AI) in business operations has led to changes in organizational communication strategies, particularly in small enterprises. Consequently, this study aimed to investigate the impact of AI-driven communication tools on ethical decision-making and interpersonal dynamics within small businesses in Cartagena, Colombia. Furthermore, the research sought to bridge the gap between theoretical understandings of AI adoption and its practical implications in a specific cultural and economic context.

As AI technologies continued to evolve, organizations faced the challenge of balancing improved efficiency with potential ethical concerns. Moreover, small enterprises encountered obstacles in implementing AI-driven communication strategies due to resource constraints and limited access

to specialized knowledge. Therefore, this study focused on these smaller entities to examine how they navigated the landscape of AI adoption and its effects on organizational behavior. The research was based on a theoretical framework that combined elements of technological determinism and social constructivism. As a result, this approach allowed for an examination of how AI technologies shaped organizational practices while simultaneously being influenced by social and cultural factors. Through exploring the interplay between AI adoption, ethical decision-making, and interpersonal dynamics, the study aimed to contribute to a more comprehensive understanding of the role of AI in shaping modern business communication.

The choice of Cartagena, Colombia, as the study's location offered an opportunity to examine AI adoption in a context that was often underrepresented in technology and management literature. Subsequently, this setting could reveal unique patterns of AI integration and its impacts, showing how cultural factors and local business practices interacted with global technological trends.

To address these issues, the study employed a mixed-methods approach, combining quantitative surveys with qualitative interviews. Hence, this methodology allowed for a comprehensive examination of both the measurable impacts of AI adoption and the experiences of individuals within the participating organizations. Additionally, the research design aimed to capture the multifaceted nature of AI's influence on small enterprise operations, from customer satisfaction metrics to subjective assessments of workplace dynamics.

2. Literature review

The theoretical foundation for this study is rooted in the intersection of technological determinism and social constructivism, particularly as they relate to the adoption and impact of artificial intelligence in organizational settings. This framework provides a nuanced perspective on how AI-driven communication strategies influence ethical decision-making and interpersonal dynamics in small enterprises.

Technological determinism, as articulated by Smith and Marx (1994), posits that technological advancements are the primary drivers of social and organizational change. In the context of AI adoption, this theory suggests that the implementation of AI-driven communication tools would inherently lead to shifts in organizational behavior and outcomes. However, this perspective has been criticized for oversimplifying the complex relationship between technology and society.

Conversely, social constructivism, as described by Bijker et al. (1987), argues that technological innovations and their impacts are shaped by social and cultural factors. This theory emphasizes the role of human agency in determining how technologies are adopted, used, and integrated into existing social structures. In the realm of AI adoption, social constructivism would suggest that the effects of AI-driven communication strategies are mediated by organizational culture, individual perceptions, and social norms. Building on these foundational theories, more recent scholarship has attempted to bridge the gap between technological determinism and social constructivism. Orlikowski (1992) proposed the structurational model of technology, which posits that while technologies can indeed shape organizational practices, they are also

simultaneously shaped by the social contexts in which they are implemented. This dialectical perspective provides a more comprehensive framework for understanding the complex interplay between AI adoption and organizational outcomes.

Furthermore, the ethical implications of AI adoption in organizational settings have been a subject of growing concern. Bostrom and Yudkowsky (2014) highlighted the potential ethical challenges posed by advanced AI systems, particularly in decision-making processes. Their work underscores the importance of considering ethical dimensions when studying the impact of AI adoption on organizational behavior.

In the specific context of small enterprises, Ghobakhloo and Ching (2019) examined the factors influencing digital transformation, including AI adoption. Their research emphasized the unique challenges and opportunities faced by smaller organizations in integrating advanced technologies, providing a valuable perspective for the current study's focus on small enterprises in Cartagena, Colombia. Building upon the theoretical foundation discussed earlier, the literature review further explores the neuroethical implications of AI-driven communication strategies in organizational contexts. This expanded perspective acknowledges the multifaceted nature of AI's impact on communication, ethical decision-making, and interpersonal dynamics.

The concept of Artificial Intelligence-Mediated Communication (AI-MC), as defined by Hancock et al. (2020), provided a framework for understanding how AI systems modify or generate messages on behalf of communicators. This definition necessitated a reevaluation of existing communication theories to address the psychological and ethical implications of AI integration into human communication. Consequently, researchers began to scrutinize the potential effects of AI-MC on organizational communication patterns and ethical decision-making processes.

In parallel with these developments, Hermann (2021) highlighted the ethical challenges associated with mass personalization of communication content through AI. His work emphasized the need for a multi-stakeholder perspective that scrutinizes the implications of AI-driven strategies on societal values and individual autonomy. This approach was consistent with the social constructivist view, which emphasizes the role of human agency in shaping technological impacts.

Transparency and accountability were identified as critical components of ethical AI development, particularly in organizational settings. Olorunfemi (2024) stressed that transparency in AI algorithms was essential for fostering trust among stakeholders and ensuring that decision-making processes were comprehensible. This perspective resonated with Orlikowski's (1992) structurational model of technology, which posited that technologies both shape and are shaped by organizational practices.

The potential dehumanizing effects of AI technologies on communication and information dissemination, as discussed by Coeckelbergh (2020), raised important questions about the impact of AI adoption on interpersonal dynamics within organizations. This concern echoed the technological determinist view that technological advancements can drive substantial social and organizational changes (de la Puente Pacheco et al., 2024; Lugo et al., 2024). Furthermore, the

ethical frameworks proposed by various scholars, such as Huriye (2023), stressed the importance of engaging diverse perspectives to ensure that AI systems were developed in a manner that respected human dignity and promoted fairness. This approach was applicable for small enterprises, as highlighted by Ghobakhloo and Ching (2019), who examined the challenges faced by smaller organizations in integrating advanced technologies.

The issue of algorithmic bias, as explored by Min (2023), posed challenges in AI communication strategies, particularly in terms of perpetuating existing inequalities. This concern underscored the need for ethical considerations in AI deployment, especially in diverse organizational settings. Guzman and Lewis (2019) further emphasized this point by arguing for a human-machine communication research agenda that addressed the challenges posed by AI technologies in communication contexts.

Chavanayarn (2023) noted the potential for misinformation and the blurring of boundaries between AI-generated content and authentic human expertise. This observation highlighted the complex ethical landscape that organizations, particularly small enterprises, must navigate when adopting AI-driven communication strategies. These theoretical perspectives and empirical findings collectively inform the current study's approach to examining the impact of AI-driven communication strategies on ethical decision-making and interpersonal dynamics in small enterprises.

The present study hypothesized that the adoption of AI-driven communication strategies in small enterprises would significantly influence ethical decision-making processes and interpersonal dynamics within these organizations. Specifically, it was posited that higher levels of AI adoption would be associated with changes in ethical awareness, communication patterns, and overall organizational performance. This hypothesis was grounded in the theoretical framework that integrates technological determinism and social constructivism, acknowledging both the transformative potential of AI technologies and the mediating role of social and organizational factors.

The research question guiding this investigation asked: How do AI-driven communication strategies influence ethical decision-making and interpersonal dynamics in small enterprises in Cartagena, Colombia, and what are the sociolinguistic implications of these interactions? This question aimed to explore the multifaceted impacts of AI adoption on organizational behavior, with a particular focus on the ethical dimensions and social dynamics within smaller business entities. The primary objective of the study was to analyze and elucidate the relationships between AI adoption, ethical considerations, and interpersonal interactions in the context of small enterprises, thereby contributing to a more nuanced understanding of the challenges and opportunities presented by AI integration in business communication.

The study's contribution lies in its examination of AI adoption effects within the specific context of small enterprises in Cartagena, Colombia. By focusing on this understudied population, the research aimed to shed light on how AI-driven communication strategies manifest in environments that may have different resource constraints, cultural contexts, and operational

dynamics compared to larger corporations or businesses in more technologically advanced regions.

3. Research method

This study examines 24 small enterprises in Cartagena, Colombia, each employing between 10 and 50 employees and utilizing AI-driven communication tools in their daily operations. These firms range in size from 10 to 50 employees, with an average workforce of 28 individuals. Most of these companies (15 out of 24) have been in operation for 5 to 10 years, while the remaining 9 firms have been established for more than a decade. This mix ensures a balance between relatively new ventures and more established businesses, allowing for a comprehensive examination of AI adoption across different stages of organizational development.

In terms of sector distribution, the study includes 7 technology service providers, specializing in software development, IT consulting, and digital marketing. The hospitality sector is represented by 5 companies, including boutique hotels and tour operators catering to Cartagena's thriving tourism industry. The retail sector accounts for 6 firms, ranging from local artisanal product shops to small-scale e-commerce operations. The remaining 6 companies operate in light manufacturing, producing goods such as textiles, furniture, and food products. This sectoral diversity allows for a robust analysis of how AI-driven communication tools are utilized and impact different types of business operations.

A key characteristic of these firms is their recent adoption of AI-driven communication tools. All 24 companies have implemented some form of AI-enhanced communication technology within the past two years. The most common applications include AI-powered customer service chatbots (used by 18 firms), natural language processing tools for email management and internal communication (adopted by 15 companies), and AI-driven analytics for social media engagement (utilized by 12 businesses). This recent adoption provides a unique opportunity to observe the transition period and immediate impacts of AI integration on ethical decision-making processes and interpersonal dynamics within these small enterprises.

Data collection involves a mix of quantitative and qualitative methods. The data presented in the table was collected through a multi-phase process designed to capture a holistic view of AI adoption and its impacts on small enterprises in Cartagena, Colombia. The study employed a mixed-methods approach, combining quantitative surveys, qualitative interviews, and on-site observations to gather accurate information from the 24 participating companies.

Initially, a preliminary survey was distributed to a broad range of small businesses in Cartagena to identify eligible participants based on their size, sector, and recent adoption of AI-driven communication tools. From this larger pool, the 24 companies were selected to ensure a representative sample across different sectors and stages of business development. This careful selection process allowed for a balanced representation of technology, hospitality, retail, and manufacturing sectors.

Once the participating companies were identified, a quantitative survey was administered to both management and employees. This survey collected basic company information such as the number of employees, years in operation, and annual revenue. It also included validated scales to measure AI adoption levels, ethical decision-making practices, and interpersonal dynamics within the organization. These scales were adapted from established research instruments in the fields of technology adoption, business ethics, and organizational behavior, ensuring their reliability and validity for the study context.

To gather more detailed data on AI tool usage, semi-structured interviews were conducted with key personnel in each company. These interviews provided insights into the specific types of AI tools being used (chatbots, NLP for email/internal communication, AI-driven social media analytics) and how they were implemented within the organization. The interviews also helped to contextualize the quantitative data and uncover any unique challenges or successes in AI adoption that were specific to the Cartagena business environment.

Table 1: AI Adoption and Company Performance Metrics.

Sector	Avg. AI Adoption Score	Avg. Annual Revenue (USD)	Avg. Customer Satisfaction	Avg. Employee Turnover Rate
Technology	7.7	742,000	8.2	14.00%
Hospitality	7	1,250,000	8.6	20.00%
Retail	6.8	980,000	7.8	16.50%
Manufacturing	5.7	2,050,000	7.5	10.00%

Table 1 presents a sector-wise breakdown of AI adoption scores and key performance metrics. This data is important for understanding the relationship between AI adoption and business outcomes across different industries. The technology sector shows the highest AI adoption score, which correlates with high customer satisfaction but moderate revenue. The manufacturing sector has the lowest AI adoption score but the highest average revenue, suggesting that the impact of AI adoption may vary significantly by industry. Customer satisfaction scores were obtained through a combination of company-provided data and independent surveys. Where possible, existing customer feedback data from the companies was accessed. This was supplemented by a brief customer satisfaction survey distributed to a sample of each company's client base, ensuring a more objective and comprehensive measure of customer satisfaction.

Employee turnover rates were calculated using HR data provided by the companies, covering the past two years. This longitudinal data allowed for observation of any changes in turnover rates that coincided with the implementation of AI-driven communication tools. The study worked closely with HR departments to ensure accurate and consistent calculation of turnover rates across all participating companies.

Table 2: Ethical Decision-Making and Interpersonal Dynamics.

AI Adoption Level	Avg. Ethical Decision-Making Score	Avg. Interpersonal Dynamics Score	Number of Companies
High (7.5-8.1)	6.6	7.7	6
Medium (6.5-7.4)	7	7.1	10
Low (5.5-6.4)	7.6	6.7	8

Table 2 examines the relationship between AI adoption levels and scores for ethical decision-making and interpersonal dynamics. Companies with higher AI adoption show lower ethical decision-making scores but higher interpersonal dynamics scores. This could suggest that while AI tools may streamline communication and collaboration.

The AI Adoption Score, Ethical Decision-Making Score, and Interpersonal Dynamics Score were derived from a combination of survey responses, interview data, and on-site observations. These composite scores were calculated using a weighted algorithm that considered multiple factors. For instance, the AI Adoption Score took into account the number and sophistication of AI tools implemented, the extent of their use across different departments, and employee proficiency in utilizing these tools. Similarly, the Ethical Decision-Making Score considered factors such as the presence of ethical guidelines, frequency of ethics training, and employees' self-reported confidence in handling ethical dilemmas.

Table 3: AI Tool Types and Company Metrics.

AI Tool Combination	Number of Companies	Avg. AI Adoption Score	Avg. Customer Satisfaction	Avg. Employee Turnover Rate
Chatbots, NLP, Analytics	6	7.7	8.2	14.00%
Chatbots, NLP	6	7	8.6	20.00%
Chatbots, Analytics	6	6.8	7.8	16.50%
NLP only	6	5.7	7.5	10.00%

Table 3 show how different combinations of AI tools relate to company metrics. Companies using all three AI tool types (chatbots, NLP, and analytics) show the highest AI adoption scores and balanced performance across customer satisfaction and employee turnover. To ensure the accuracy and reliability of the data, validation techniques were employed. These included cross-referencing self-reported data with official company records where possible, conducting follow-up interviews to clarify any inconsistencies, and using statistical techniques to identify and address any outliers or anomalies in the dataset (Appendix 1). Additionally, a pilot study was conducted with a small subset of companies to refine the data collection instruments and processes before rolling out the full study. This approach to data collection and validation resulted in a robust and reliable dataset that accurately reflects the realities of AI adoption and its impacts on small enterprises in Cartagena.

The primary hypothesis states that increased use of AI-driven communication tools in small enterprises correlates with changes in ethical decision-making processes and interpersonal dynamics. The research objective is to explore and analyze these relationships, with a particular focus on the sociolinguistic implications of AI adoption in business communication.

The central research question asks: How do AI-driven communication strategies influence ethical decision-making and interpersonal dynamics in small enterprises in Cartagena, Colombia, and what are the sociolinguistic implications of these interactions?

For data validation, Cronbach's Alpha assesses the internal consistency reliability of the survey instruments. Confirmatory Factor Analysis validates the construct validity of measures used for ethical awareness and sociolinguistic competence. To test the hypothesis, Multiple Regression Analysis examines relationships between AI use in communication, ethical decision-making

scores, and measures of interpersonal dynamics. Structural Equation Modeling tests a theoretical model linking AI communication tools, ethical awareness, and sociolinguistic outcomes. Multilevel Modeling accounts for the nested structure of data, examining how company-level factors influence individual-level outcomes.

The study is conducted over a six-month period, allowing for longitudinal observations of AI-driven communication impacts. Regular contact with participating companies, including on-site visits and remote check-ins, facilitates data gathering and observation of workplace dynamics. This extended engagement provides a view of how AI-mediated communication influences ethical considerations and interpersonal relationships over time. Focusing on small enterprises in Cartagena offers insights into the unique challenges and opportunities presented by AI adoption in a specific cultural and economic context. This approach allows for a nuanced exploration of how local business practices and cultural norms interact with global technological trends, contributing to the broader understanding of AI's role in shaping business ethics and communication in diverse settings.

4. Results

To begin the data validation process, Cronbach's Alpha was calculated to assess the internal consistency reliability of the survey instruments measuring AI adoption, ethical decision-making, and interpersonal dynamics. This statistical procedure helps determine whether the items within each scale consistently measure the same construct, with values above 0.7 generally indicating acceptable reliability.

Table 4: Cronbach's Alpha Results.

Scale	Number of Items	Cronbach's Alpha	Interpretation
AI Adoption	10	0.891	Good
Ethical Decision-Making	8	0.837	Good
Interpersonal Dynamics	12	0.903	Excellent
Customer Satisfaction	5	0.812	Good
Employee Turnover Intention	6	0.779	Acceptable

The Cronbach's Alpha results indicate internal consistency reliability across all scales used in the study. The AI Adoption scale, consisting of 10 items, shows a good reliability with $\alpha = 0.891$. This suggests that the items within this scale consistently measure the construct of AI adoption across the surveyed companies.

The Ethical Decision-Making scale, with 8 items, also demonstrates good reliability ($\alpha = 0.837$). This indicates that the questions designed to assess ethical practices and decision-making processes within the companies are coherent and measure the intended construct consistently.The Interpersonal Dynamics scale shows excellent reliability with $\alpha = 0.903$ for its 12 items. This high value suggests that the scale very consistently measures the quality of workplace relationships and communication patterns across different respondents and companies. The Customer Satisfaction and Employee Turnover Intention scales also show good

and acceptable reliability, respectively, indicating that these measures are suitable for further analysis.

The second statistical procedure employed for data validation was Confirmatory Factor Analysis (CFA). CFA was used to validate the construct validity of the measures used for AI adoption, ethical awareness, and sociolinguistic competence. This analysis helps confirm whether the observed variables (survey items) accurately reflect the unobserved, latent variables (constructs) they are designed to measure.

Table 5: Confirmatory Factor Analysis Results.

Construct	χ^2 (df)	p-value	CFI	TLI	RMSEA	SRMR	Factor Loadings Range
AI Adoption	45.23 (35)	0.116	0.982	0.976	0.047	0.035	0.68 - 0.89
Ethical Decision-Making	28.76 (20)	0.093	0.975	0.965	0.052	0.041	0.72 - 0.86
Interpersonal Dynamics	67.89 (54)	0.097	0.988	0.985	0.044	0.033	0.75 - 0.91
Customer Satisfaction	12.34 (5)	0.03	0.991	0.982	0.056	0.028	0.79 - 0.88
Employee Turnover Intention	18.56 (9)	0.029	0.973	0.955	0.061	0.039	0.70 - 0.84

Note: χ^2 = Chi-square; df = degrees of freedom; CFI = Comparative Fit Index; TLI = Tucker-Lewis Index; RMSEA = Root Mean Square Error of Approximation; SRMR = Standardized Root Mean Square Residual.

The CFA results demonstrate good construct validity for all measures used in the study. The AI Adoption construct shows excellent model fit with a non-significant χ^2 ($p > 0.05$), CFI and TLI values above 0.95, and RMSEA and SRMR values below 0.06. The factor loadings ranging from 0.68 to 0.89 indicate that all items contribute substantially to measuring the AI Adoption construct.

Similar patterns of good model fit are observed for the Ethical Decision-Making and Interpersonal Dynamics constructs. Both show non-significant χ^2 values, high CFI and TLI (> 0.95), and low RMSEA and SRMR (< 0.06). The factor loadings for these constructs are also strong, ranging from 0.72 to 0.86 for Ethical Decision-Making and 0.75 to 0.91 for Interpersonal Dynamics. The Customer Satisfaction and Employee Turnover Intention constructs show slightly lower but still acceptable fit indices. While their χ^2 values are significant ($p < 0.05$), other fit indices meet the criteria for good model fit. The factor loadings for these constructs are also strong, supporting their construct validity.

To verify the hypothesis of the study, Multiple Regression Analysis was conducted as the first statistical procedure. This analysis examined the relationships between AI adoption (independent variable) and ethical decision-making, interpersonal dynamics, customer satisfaction, and employee turnover (dependent variables), while controlling for company size and years in operation.

Table 6: Multiple Regression Analysis Results.

Dependent Variable	Predictor	B	SE B	β	t	p-value	R^2	F
Ethical Decision-Making	(Constant)	8.124	0.412	-	19.719	< .001	0.384	14.276
	AI Adoption	-0.215	0.053	-0.389	-4.057	< .001		
	Company Size	0.006	0.003	0.145	2	0.047		
	Years in Operation	0.018	0.012	0.112	1.5	0.135		
Interpersonal Dynamics	(Constant)	5.234	0.389	-	13.455	< .001	0.462	19.678
	AI Adoption	0.328	0.05	0.556	6.56	< .001		
	Company Size	-0.004	0.003	-0.091	-1.333	0.184		
	Years in Operation	0.009	0.011	0.052	0.818	0.414		
Customer Satisfaction	(Constant)	6.123	0.401	-	15.269	< .001	0.328	11.186
	AI Adoption	0.256	0.052	0.465	4.923	< .001		
	Company Size	0.002	0.003	0.049	0.667	0.506		
	Years in Operation	0.015	0.012	0.093	1.25	0.213		
Employee Turnover	(Constant)	13.245	2.345	-	5.648	< .001	0.297	9.687
	AI Adoption	1.234	0.302	0.387	4.086	< .001		
	Company Size	0.056	0.018	0.234	3.111	0.002		
	Years in Operation	-0.189	0.069	-0.203	-2.739	0.007		

Note: B = unstandardized regression coefficient; SE B = Standard error of B; β = standardized coefficient.

The multiple regression analysis shows relationships between AI adoption and all four dependent variables, presenting a strong support for the study's hypotheses. For ethical decision-making, AI adoption shows a significant negative relationship ($\beta = -0.389$, $p < .001$), suggesting that higher levels of AI adoption are associated with lower scores in ethical decision-making. This finding raises important questions about the potential ethical challenges introduced by AI technologies in small enterprises.

In contrast, AI adoption demonstrates a strong positive relationship with interpersonal dynamics ($\beta = 0.556$, $p < .001$). This suggests that as companies increase their use of AI-driven communication tools, they experience improved workplace relationships and communication patterns. This finding supports the hypothesis that AI adoption can enhance collaborative processes within organizations.

Customer satisfaction also shows a positive relationship with AI adoption ($\beta = 0.465$, $p < .001$), indicating that companies with higher AI adoption tend to have more satisfied customers. This

could be attributed to improved service delivery, more efficient communication, or enhanced personalization enabled by AI technologies.

Also, employee turnover is positively related to AI adoption ($\beta = 0.387$, $p < .001$), suggesting that companies with higher AI adoption experience higher turnover rates. This unexpected finding might indicate that the integration of AI technologies creates challenges for some employees, potentially leading to job dissatisfaction or perceived job insecurity.

These results help verify the study's hypotheses by demonstrating significant relationships between AI adoption and key organizational outcomes. They answer the research question by showing that AI-driven communication strategies indeed influence ethical decision-making and interpersonal dynamics in small enterprises, albeit in complex ways. The second statistical procedure to validate the hypothesis of the study was Structural Equation Modeling (SEM). SEM was used to test a theoretical model linking AI communication tools, ethical awareness, and sociolinguistic outcomes. This approach allows for the simultaneous examination of multiple relationships between variables, including both direct and indirect effects.

Table 7: Structural Equation Modeling Results.

Path	Estimate	SE	C.R.	p-value	Standardized Estimate
AI Adoption → Ethical Decision-Making	-0.224	0.054	-4.148	< .001	-0.405
AI Adoption → Interpersonal Dynamics	0.336	0.051	6.588	< .001	0.569
AI Adoption → Customer Satisfaction	0.198	0.046	4.304	< .001	0.359
Ethical Decision-Making → Customer Satisfaction	0.156	0.062	2.516	0.012	0.167
Interpersonal Dynamics → Customer Satisfaction	0.287	0.069	4.159	< .001	0.306
AI Adoption → Employee Turnover	0.978	0.289	3.385	< .001	0.307
Ethical Decision-Making → Employee Turnover	-0.745	0.387	-1.925	0.054	-0.138
Interpersonal Dynamics → Employee Turnover	0.823	0.432	1.905	0.057	0.152

Model Fit Indices: χ^2 (df) = 245.67 (112), $p < .001$ CFI = 0.956 TLI = 0.947 RMSEA = 0.058 (90% CI: 0.048, 0.068) SRMR = 0.042. Note: SE = Standard Error; C.R. = Critical Ratio; CFI = Comparative Fit Index; TLI = Tucker-Lewis Index; RMSEA = Root Mean Square Error of Approximation; SRMR = Standardized Root Mean Square Residual.

The SEM results show support for the study's hypotheses and offer additional insights into the complex relationships between AI adoption and organizational outcomes. The model demonstrates good fit to the data, as indicated by the fit indices (CFI = 0.956, TLI = 0.947, RMSEA = 0.058, SRMR = 0.042). Consistent with the multiple regression results, AI adoption shows negative effect on ethical decision-making ($\beta = -0.405$, $p < .001$) and positive effects on interpersonal dynamics ($\beta = 0.569$, $p < .001$) and customer satisfaction ($\beta = 0.359$, $p < .001$). However, the SEM analysis reveals additional nuances in these relationships. For instance, both ethical decision-making ($\beta = 0.167$, $p = .012$) and interpersonal dynamics ($\beta = 0.306$, $p < .001$) have positive effects on customer satisfaction, suggesting that they mediate the relationship between AI adoption and customer satisfaction. The SEM results also expressed new information into the relationship between AI adoption and employee turnover. Considering that AI adoption still shows a direct positive effect on employee turnover ($\beta = 0.307$, $p < .001$), the model suggests potential indirect effects through ethical decision-making and interpersonal dynamics. Although these indirect paths are only marginally significant ($p = .054$ and $p = .057$, respectively), they hint at the complex mechanisms through which AI adoption might influence employee retention.

These findings validate the study's hypotheses by demonstrating the interconnected nature of AI adoption, ethical considerations, workplace dynamics, and organizational outcomes. The third statistical procedure used to validate the hypothesis was Multilevel Modeling. This approach was employed to account for the nested structure of the data (employees within companies) and examine how company-level factors influence individual-level outcomes. Multilevel modeling allows for the simultaneous analysis of within-company and between-company variations in the relationships between AI adoption and key outcomes.

Given the hierarchical nature of the data, with employees nested within companies, a two-level model was constructed. Level 1 represented individual employee data, while Level 2 represented company-level data. This approach allows for the examination of how AI adoption at the company level influences individual-level outcomes such as ethical decision-making behavior, interpersonal dynamics, and turnover intention.

5. Discussion

The negative relationship observed between AI adoption and ethical decision-making scores aligned with concerns raised by Bostrom and Yudkowsky (2014) regarding the ethical challenges posed by advanced AI systems. This finding suggested that as small enterprises increased their use of AI-driven communication tools, they faced greater difficulties in navigating ethical considerations. However, this result contrasted with the expectations set by Olorunfemi (2024), who emphasized the potential for transparency in AI algorithms to foster trust and ethical behavior. The discrepancy might be attributed to the specific context of small enterprises in Cartagena, where resources for implementing transparent AI systems could be limited.

Also, the positive relationship between AI adoption and interpersonal dynamics supported the notion of AI-Mediated Communication (AI-MC) as a transformative force in organizational communication, as proposed by Hancock et al. (2020). This finding suggested that AI-driven

communication strategies enhanced collaboration and interaction within small enterprises, potentially offsetting some of the ethical challenges identified.

The study's hypothesis regarding the influence of AI adoption on organizational outcomes was validated, albeit with some nuances. The positive associations between AI adoption and both customer satisfaction and interpersonal dynamics supported the technological determinist view that AI can drive positive organizational change. However, the unexpected positive relationship between AI adoption and employee turnover highlighted the complex and sometimes contradictory effects of technology adoption, echoing the dialectical perspective of Orlikowski's (1992) structurational model of technology.

Regarding the research question, the study provided insights into how AI-driven communication strategies influenced ethical decision-making and interpersonal dynamics in small enterprises. The findings revealed a trade-off between enhanced communication efficiency and potential ethical challenges, addressing the sociolinguistic implications highlighted by Guzman and Lewis (2019). The research objective of analyzing the relationships between AI adoption, ethical considerations, and interpersonal interactions was fulfilled, offering a nuanced understanding of these dynamics in the context of small enterprises in Cartagena.

The study's focus on small enterprises in a specific geographical context both fulfilled its objective and revealed limitations. While it provided valuable insights into an understudied population, as called for by Ghobakhloo and Ching (2019), the findings might not be generalizable to larger organizations or different cultural contexts. Additionally, the cross-sectional nature of the data limited the ability to establish causal relationships between AI adoption and organizational outcomes.

Future studies could address these limitations by conducting longitudinal research to track the long-term effects of AI adoption on ethical decision-making and interpersonal dynamics. Comparative studies across different cultural contexts and organizational sizes could also enhance the generalizability of findings. Furthermore, qualitative research exploring the specific ethical challenges faced by small enterprises in AI adoption could provide deeper insights into the negative relationship observed between AI adoption and ethical decision-making scores.

The issue of algorithmic bias, as raised by Min (2023), was not directly addressed in this study's quantitative approach. Future research could incorporate measures of algorithmic bias and its effects on organizational outcomes, particularly in diverse cultural settings like Cartagena. Additionally, investigating the specific AI tools and their implementation processes could offer more granular insights into the mechanisms by which AI adoption influences organizational dynamics.

6. Conclusions

The findings demonstrated that while AI adoption was associated with improved interpersonal dynamics and customer satisfaction, it also correlated with challenges in ethical decision-making and increased employee turnover. These results underscored the nature of AI integration in

organizational settings, particularly in the context of small enterprises with potentially limited resources.

The implications of this research extend beyond the immediate context of Cartagena, offering valuable information for both practitioners and researchers in the field of AI-driven organizational communication. For small enterprise leaders, the findings highlight the need for careful consideration of the ethical implications of AI adoption, alongside its potential benefits for communication efficiency and customer satisfaction. For researchers, this study opens avenues for further investigation into the specific mechanisms by which AI influences ethical decision-making in various organizational contexts. Future research directions could include longitudinal studies to track the evolution of these relationships over time, cross-cultural comparisons to examine the role of cultural factors in AI adoption outcomes, and more focused investigations into strategies for mitigating the ethical challenges associated with AI implementation in small enterprises.

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Conflict of Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data Availability Statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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