

AI-AUGMENTED CORPORATE COMMUNICATION AND ORGANIZATIONAL DECISION INTELLIGENCE: THE MEDIATING ROLE OF DIGITAL TRUST AND THE MODERATING EFFECT OF ANALYTICAL CULTURE

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ABSTRACT

Artificial intelligence (AI) has become a strategic organizational capability that reshapes corporate communication and managerial decision-making processes. Particularly in the banking sector, AI-supported communication technologies facilitate information sharing, improve communication efficiency, and support evidence-based strategic decisions. However, the effectiveness of these technologies depends not only on technological capabilities but also on employees' digital trust and the organization's analytical culture. Therefore, this study examines the effect of AI-Augmented Corporate Communication on Organizational Decision Intelligence, while investigating the mediating role of Digital Trust and the moderating effect of Analytical Culture. The study employed a quantitative research design using a relational survey model. Data were collected from 371 **employees** working in public and private banks located in Nicosia and Kyrenia in the Turkish Republic of Northern Cyprus (TRNC) through a structured questionnaire. The measurement instrument consisted of four constructs: AI-Augmented Corporate Communication, Digital Trust, Analytical Culture, and Organizational Decision Intelligence. The collected data were analyzed using IBM SPSS Statistics 28.0 and AMOS 24.0. Frequency analysis, reliability analysis, confirmatory factor analysis, independent samples t-test, one-way ANOVA, Pearson correlation, multiple regression, structural equation modeling, bootstrapping mediation analysis, and moderation analysis were performed. The findings indicate that AI-Augmented Corporate Communication has a significant positive effect on Organizational Decision Intelligence. Digital Trust was found to partially mediate this relationship, while Analytical Culture significantly strengthened the positive effect of AI-Augmented Corporate Communication on Organizational Decision Intelligence. Furthermore, all proposed hypotheses were supported, and the structural model demonstrated satisfactory goodness-of-fit indices.

This study contributes to the literature by integrating corporate communication, artificial intelligence, organizational decision intelligence, digital trust, and analytical culture into a comprehensive conceptual framework. The findings also provide practical implications for banking managers seeking to improve strategic decision-making through AI-supported communication systems and strengthen organizational competitiveness during digital transformation.

Keywords: Artificial Intelligence, Corporate Communication, Organizational Decision Intelligence, Digital Trust, Analytical Culture, Banking Sector, Digital Transformation.

1. Introduction

Artificial intelligence (AI) has rapidly evolved from an emerging digital technology into a strategic organizational capability that fundamentally reshapes communication, management, and decision-making processes. Advances in generative AI, machine learning, natural language processing, and predictive analytics have enabled organizations to transform traditional communication systems into intelligent platforms capable of supporting real-time information exchange, knowledge management, and executive decision-making. Consequently, AI has become an essential component of organizational digital transformation strategies across both public and private sectors (Dwivedi et al., 2023; Feuerriegel et al., 2024).

Corporate communication has similarly undergone substantial transformation as organizations increasingly rely on AI-powered systems to facilitate communication among managers, employees, customers, regulators, and other stakeholders. AI-augmented corporate communication enables organizations to automate communication processes, improve message accuracy, personalize stakeholder interactions, and rapidly analyze large volumes of organizational

information. Rather than functioning solely as an operational communication tool, artificial intelligence has become a strategic resource that enhances organizational responsiveness, communication effectiveness, and managerial performance (Huang & Rust, 2022; Korzynski et al., 2023).

The banking industry is among the sectors most profoundly influenced by artificial intelligence. Banks increasingly employ AI technologies to improve customer communication, fraud detection, financial risk assessment, credit evaluation, regulatory compliance, and strategic planning. AI-supported communication systems allow banking managers to access accurate and timely information, monitor organizational performance, anticipate market changes, and make more informed strategic decisions. As financial institutions continue their digital transformation, the integration of AI into communication processes has become a critical determinant of organizational competitiveness and sustainable performance (OECD, 2024; World Economic Forum, 2024).

Alongside these technological developments, the concept of Organizational Decision Intelligence has emerged as a new managerial capability. Decision intelligence integrates artificial intelligence, data analytics, organizational knowledge, and human expertise to improve the quality, speed, consistency, and effectiveness of managerial decisions. Rather than replacing managerial judgment, AI-supported decision intelligence enhances managers' analytical capabilities by providing evidence-based recommendations, predictive insights, and comprehensive evaluations of alternative strategic actions. Consequently, organizations capable of integrating AI into their communication and decision-making processes are expected to achieve higher organizational agility and superior strategic outcomes (Shrestha, Ben-Menahem, & von Krogh, 2019; Davenport & Mittal, 2022).

Despite these developments, technological capability alone is insufficient to ensure successful AI implementation. Employees and managers must trust AI-generated information before incorporating it into organizational decisions. Therefore, digital trust has become one of the most important determinants of AI adoption in organizational environments. Digital trust reflects employees' confidence that AI systems operate reliably, transparently, ethically, and securely. Organizations characterized by higher levels of digital trust are more likely to utilize AI-supported communication effectively and benefit from AI-assisted strategic decision-making (Glikson & Woolley, 2020; Choung, David, & Ross, 2023).

Another organizational factor influencing AI effectiveness is analytical culture. Analytical culture refers to an organizational environment that encourages evidence-based management, data-driven decision-making, continuous learning, and analytical thinking throughout the organization. Even highly advanced AI technologies cannot improve organizational performance unless managers possess a culture that values analytical reasoning and effectively utilizes organizational data. Therefore, analytical culture is expected to strengthen the relationship between AI-supported corporate communication and organizational decision intelligence (Ghasemaghaei, 2019; Kiron, Prentice, & Ferguson, 2014).

Within the Turkish Republic of Northern Cyprus (TRNC), banks have significantly accelerated their digital transformation initiatives in recent years. Commercial banks operating in Nicosia and Kyrenia increasingly utilize artificial intelligence for customer relationship management, digital banking services, internal communication, fraud detection, financial reporting, and managerial decision support. However, despite these developments, empirical studies investigating how AI-augmented corporate communication influences organizational decision intelligence within the banking sector remain limited. Furthermore, little is known about the mechanisms through which digital trust and analytical culture contribute to this relationship in the TRNC banking context.

Accordingly, this study investigates the effect of AI-augmented corporate communication on organizational decision intelligence among employees working in banks located in Nicosia and Kyrenia, the two major financial centers of the Turkish Republic of Northern Cyprus. The study further examines the mediating role of digital trust and the moderating effect of analytical culture in explaining this relationship. By integrating communication management, strategic management, artificial intelligence, organizational behavior, and information systems perspectives, this research aims to contribute to the growing literature on AI-enabled organizational transformation while providing practical recommendations for banking managers seeking to improve organizational decision quality through intelligent communication systems.

1.1. Problem Statement

Artificial intelligence has become an indispensable component of organizational communication and managerial decision-making, particularly within the banking industry, where rapid information processing and evidence-based strategic decisions are essential. Financial institutions increasingly invest in AI-supported communication platforms, predictive analytics, intelligent reporting systems, and digital customer interaction technologies to improve organizational performance. Nevertheless, the successful implementation of these technologies depends not only on technological infrastructure but also on employees' trust in AI systems and the organization's analytical culture (Dwivedi et al., 2023; World Economic Forum, 2024).

Although previous studies have extensively examined AI adoption, digital transformation, and organizational performance, relatively few have focused specifically on the relationship between AI-augmented corporate communication and organizational decision intelligence. Moreover, limited empirical evidence explains how digital trust serves as a psychological mechanism linking AI-supported communication with decision intelligence or how analytical culture strengthens this relationship. This gap is particularly evident in developing digital economies, where organizations are still adapting to AI-supported management systems (Shrestha et al., 2019; Choung et al., 2023).

The banking sector in the Turkish Republic of Northern Cyprus provides an appropriate context for investigating these issues. Banks operating in Nicosia and Kyrenia have increasingly implemented AI-supported communication technologies; however, empirical evidence regarding their influence on organizational decision intelligence remains scarce. Additionally, no comprehensive study has simultaneously examined the mediating role of digital trust and the moderating effect of analytical culture within the TRNC banking sector.

Therefore, the primary research problem addressed in this study is whether AI-augmented corporate communication enhances organizational decision intelligence in banks operating in Nicosia and Kyrenia, and whether this relationship is explained by digital trust and strengthened by analytical culture. Addressing this problem is expected to contribute to both the theoretical development of AI-enabled organizational communication research and the practical improvement of strategic decision-making in the banking industry.

1.2. Research Hypotheses

H1: AI-Augmented Corporate Communication has a positive and significant effect on Organizational Decision Intelligence.

H2: AI-Augmented Corporate Communication has a positive and significant effect on Digital Trust.

H3: Digital Trust has a positive and significant effect on Organizational Decision Intelligence.

H4: Digital Trust mediates the relationship between AI-Augmented Corporate Communication and Organizational Decision Intelligence.

H5: Analytical Culture moderates the relationship between AI-Augmented Corporate Communication and Organizational Decision Intelligence.

H5a: The positive effect of AI-Augmented Corporate Communication on Organizational Decision Intelligence is stronger in organizations with a high level of Analytical Culture.

H5b: The positive effect of AI-Augmented Corporate Communication on Organizational Decision Intelligence is weaker in organizations with a low level of Analytical Culture.

2. Theoretical Framework

2.1. AI-Augmented Corporate Communication

Artificial intelligence (AI) has fundamentally transformed corporate communication by enabling organizations to integrate intelligent technologies into internal and external communication processes. Unlike conventional communication systems, AI-augmented corporate communication combines human expertise with artificial intelligence technologies such as machine learning, natural language processing, generative AI, predictive analytics, and conversational agents to improve communication quality, organizational responsiveness, and managerial effectiveness. As organizations increasingly rely on digital communication infrastructures, AI has evolved from a supporting technology into a strategic organizational capability that enhances information processing, stakeholder engagement, and decision-making effectiveness (Dwivedi et al., 2023; Korzynski et al., 2023).

Corporate communication refers to the systematic management of communication activities between an organization and its internal and external stakeholders. Traditionally, corporate communication focused on transmitting organizational information through formal communication channels. However, digital transformation has substantially changed communication practices by enabling organizations to manage large volumes of information, personalize communication, and provide real-time responses to stakeholders. AI technologies have accelerated this transformation by automating communication processes while simultaneously improving communication accuracy, consistency, and efficiency (Huang & Rust, 2022; Verhoef et al., 2021).

Recent advances in generative artificial intelligence have significantly expanded the capabilities of corporate communication systems. Applications such as ChatGPT, Microsoft Copilot, Gemini, intelligent chatbots, and AI-supported reporting systems enable organizations to generate communication content, summarize business information, support customer interactions, monitor organizational communication, and assist managers during strategic planning. These technologies reduce communication costs, improve organizational agility, and increase the speed of information exchange across departments (Feuerriegel et al., 2024; Dwivedi et al., 2023).

Within the banking industry, AI-augmented corporate communication has become increasingly important because financial institutions operate in highly dynamic environments requiring rapid information exchange, strict regulatory

compliance, and timely managerial decisions. AI-supported communication systems facilitate internal coordination, automate customer communication, monitor operational risks, and provide managers with real-time business intelligence. Consequently, banks adopting AI-supported communication practices are expected to improve operational efficiency, communication quality, and strategic responsiveness (OECD, 2024; World Economic Forum, 2024).

From the perspective of organizational management, AI-augmented corporate communication enhances knowledge management by collecting, processing, storing, and disseminating organizational knowledge more efficiently than traditional communication systems. Intelligent communication platforms enable employees to access relevant information rapidly, collaborate across organizational boundaries, and transform organizational knowledge into strategic actions. As a result, communication becomes more evidence-based, transparent, and responsive to organizational needs (Nonaka & Takeuchi, 1995; Santoro et al., 2021).

AI-supported communication also contributes to organizational agility by improving communication speed and reducing uncertainty during managerial decision-making. Intelligent communication systems continuously analyze internal and external information sources, identify emerging risks and opportunities, and provide decision-makers with predictive insights. This capability enables organizations to respond more rapidly to changing market conditions and strengthens organizational resilience in increasingly competitive environments (Raisch & Krakowski, 2021; Davenport & Mittal, 2022).

Despite its strategic advantages, AI-augmented corporate communication also presents several managerial challenges. Organizations must address issues related to algorithm transparency, data privacy, ethical AI governance, cybersecurity, employee acceptance, and communication reliability. Managers should therefore establish governance mechanisms that ensure responsible AI implementation while maintaining stakeholder trust and communication quality. The long-term success of AI-supported communication depends on balancing technological innovation with ethical and human-centered management practices (Floridi & Cowls, 2022; Glikson & Woolley, 2020).

Overall, AI-augmented corporate communication represents a strategic organizational capability that extends beyond communication automation. It supports organizational learning, facilitates knowledge sharing, strengthens stakeholder relationships, and enhances managerial decision processes. Accordingly, organizations capable of integrating artificial intelligence into their communication systems are expected to achieve superior organizational performance and stronger decision intelligence. Therefore, AI-augmented corporate communication constitutes the primary independent variable of the present study and provides the theoretical foundation for examining its influence on organizational decision intelligence within the banking sector.

Organizational Decision Intelligence (ODI) has recently emerged as a multidisciplinary concept integrating artificial intelligence, data analytics, decision sciences, organizational learning, and strategic management to improve managerial decision-making processes. Unlike traditional decision support systems that primarily provide historical information, organizational decision intelligence combines human judgment with artificial intelligence to generate predictive insights, evaluate alternative courses of action, and optimize organizational decisions. Consequently, decision intelligence has become a strategic organizational capability that enhances decision quality, organizational agility, and business performance (Shrestha, Ben-Menahem, & von Krogh, 2019; Davenport & Mittal, 2022).

Decision intelligence extends beyond conventional business intelligence by integrating artificial intelligence, machine learning, and human expertise into a unified decision-making framework. While business intelligence focuses primarily on reporting and descriptive analytics, decision intelligence emphasizes prescriptive and predictive decision support. AI-powered analytical systems continuously process structured and unstructured organizational data, identify hidden patterns, predict future scenarios, and recommend optimal strategic actions. This capability enables organizations to improve both the speed and quality of managerial decisions (Provost & Fawcett, 2013; Feuerriegel et al., 2024).

In modern organizations, decision intelligence has become increasingly important due to the complexity of contemporary business environments. Managers are expected to evaluate large volumes of information, respond rapidly to environmental changes, manage uncertainty, and make evidence-based strategic decisions. Artificial intelligence facilitates these processes by reducing cognitive workload, improving analytical reasoning, minimizing decision bias, and supporting managers with real-time recommendations. Consequently, organizations utilizing AI-supported decision intelligence systems are more capable of achieving strategic flexibility and competitive advantage (Brynjolfsson & McAfee, 2017; Shrestha et al., 2019).

Within the banking industry, organizational decision intelligence plays a particularly important role because financial institutions operate in environments characterized by high uncertainty, regulatory complexity, financial risks, and continuous technological change. Banks increasingly utilize artificial intelligence to support credit evaluation, fraud detection, financial forecasting, customer relationship management, risk assessment, and strategic planning. AI-supported decision intelligence enables banking managers to integrate organizational knowledge with predictive analytics, resulting in faster and more accurate strategic decisions (OECD, 2024; World Economic Forum, 2024).

Decision intelligence is influenced by both technological and organizational factors. Advanced analytical technologies alone cannot improve organizational decisions unless managers possess sufficient competencies to interpret AI-generated information and integrate analytical insights into managerial judgment. Therefore, organizational communication, digital trust, knowledge sharing, analytical culture, and leadership support collectively determine the effectiveness of decision intelligence systems. Organizations capable of aligning these organizational capabilities with artificial intelligence technologies are more likely to improve decision quality and organizational performance (Davenport & Harris, 2017; Ghasemaghaei, 2019).

Recent empirical research suggests that organizations with higher levels of decision intelligence demonstrate superior innovation capability, organizational adaptability, customer responsiveness, and strategic effectiveness. Rather than replacing managerial expertise, decision intelligence supports collaborative decision-making by combining human experience with AI-generated recommendations. Accordingly, organizational decision intelligence is increasingly recognized as one of the most important managerial capabilities supporting sustainable competitive advantage in digitally transformed organizations (Raisch & Krakowski, 2021; Feuerriegel et al., 2024).

Based on these theoretical perspectives, organizational decision intelligence is conceptualized in this study as the ability of managers to make timely, accurate, evidence-based, and strategically effective decisions by utilizing AI-supported communication systems. Within the banking sector, decision intelligence is expected to improve organizational responsiveness, enhance managerial performance, and strengthen strategic competitiveness. Therefore, organizational decision intelligence represents the dependent variable of the present study.

3. Method

3.1. Research Model

This study employed a quantitative research design using a relational survey model to examine the effect of AI-Augmented Corporate Communication on Organizational Decision Intelligence. The study also investigated the mediating role of Digital Trust and the moderating effect of Analytical Culture. The proposed conceptual model consists of one independent variable (AI-Augmented Corporate Communication), one dependent variable (Organizational Decision Intelligence), one mediating variable (Digital Trust), and one moderating variable (Analytical Culture). Structural Equation Modeling (SEM) was employed to test the proposed hypotheses.

3.2. Population and Sample

The population of the study consisted of employees working in commercial banks operating in Nicosia and Kyrenia in the Turkish Republic of Northern Cyprus. A simple random sampling technique was employed. Data were collected from managers and white-collar employees working in public and private banks. A total of 371 valid questionnaires were included in the statistical analyses after excluding incomplete responses.

3.3. Data Collection Instruments

Data were collected using a structured questionnaire consisting of five sections. The first section included demographic questions concerning gender, age, education level, organizational tenure, managerial position, and AI usage experience. The second section measured AI-Augmented Corporate Communication. Since no universally accepted scale exists for this construct, the measurement items were adapted from the Strategic Internal Communication Scale developed by Men (2014) together with AI-supported organizational communication studies conducted by Korzynski et al. (2023) and Dwivedi et al. (2023). The adapted scale consisted of 10 items.

The third section measured Digital Trust using the Human Trust in Artificial Intelligence Scale developed by Glikson and Woolley (2020) and further supported by Choung et al. (2023). The scale consisted of 7 items.

The fourth section measured Analytical Culture using items adapted from the Data-Driven Organizational Culture Scale developed by Ghasemaghaei (2019) and the analytical culture framework proposed by Kiron, Prentice, and Ferguson (2014). The scale consisted of 8 items. The final section measured Organizational Decision Intelligence. Because no standardized measurement scale currently exists for this construct, the instrument was developed by adapting the Decision Effectiveness Scale proposed by Dean and Sharfman (1996), the Strategic Decision Effectiveness Scale developed by Elbanna (2006), and the AI-based decision-making framework introduced by Shrestha, Ben-Menahem, and von Krogh (2019). The adapted scale consisted of 10 items. All questionnaire items were measured using a five-point Likert scale ranging from 1 = Strongly Disagree to 5 = Strongly Agree.

3.4. Data Collection Procedure

The data were collected between January and March 2026 using an online questionnaire distributed to employees working in banks located in Nicosia and Kyrenia. Participation was voluntary, anonymous, and based on informed consent. Incomplete questionnaires were excluded from the analyses.

3.5. Data Analysis

The collected data were analyzed using IBM SPSS Statistics 28.0 and AMOS 24.0.

Frequency analysis, descriptive statistics, Independent Samples t-test, One-Way ANOVA, reliability analysis (Cronbach's Alpha), Confirmatory Factor Analysis (CFA), Pearson correlation analysis, multiple regression analysis, Structural Equation Modeling (SEM), Bootstrapping mediation analysis, and moderation analysis were performed. Statistical significance was accepted at $p < .05$.

3.6. Researcher's Role

The researcher was responsible for designing the research, adapting the measurement instruments, collecting the data, performing the statistical analyses, interpreting the findings, and preparing the manuscript. Ethical principles were followed throughout the study, and all participant responses were kept confidential.

3.7. Validity and Reliability

The reliability of the measurement scales was assessed using Cronbach's Alpha, while construct validity was evaluated through Confirmatory Factor Analysis (CFA). Convergent validity was examined using Composite Reliability (CR) and Average Variance Extracted (AVE) values. Discriminant validity was assessed using the Fornell–Larcker criterion. The goodness-of-fit of the measurement model was evaluated using χ^2/df , CFI, TLI, GFI, AGFI, RMSEA, and SRMR indices. The findings demonstrated that all measurement scales possessed satisfactory reliability and validity, supporting the proposed structural model.

Table 1. Demographic Characteristics of the Participants (n = 371)

Variable	Category	n	%
Gender	Female	176	47.4
	Male	195	52.6
Age	20–29 years	72	19.4
	30–39 years	138	37.2
	40–49 years	104	28.0
	50 years and above	57	15.4
Educational Level	Associate Degree	48	12.9
	Bachelor's Degree	191	51.5
	Master's Degree	109	29.4
	Doctoral Degree	23	6.2
Work Experience	1–5 years	83	22.4
	6–10 years	128	34.5
	11–15 years	96	25.9
	16 years and above	64	17.2
Position	Operations Officer	116	31.3
	Customer Representative	84	22.6
	Specialist	72	19.4
	Middle Manager	59	15.9
	Senior Manager	40	10.8
Location	Nicosia	224	60.4
	Kyrenia	147	39.6
Bank Type	Public Bank	152	41.0
	Private Bank	219	59.0
Frequency of AI Use	Never	18	4.9
	Rarely	57	15.4
	Occasionally	109	29.4
	Frequently	121	32.6
	Very Frequently	66	17.8
Total		371	100.0

Table 1 presents the demographic characteristics of the 371 bank employees who participated in the study. Of the participants, 52.6% were male and 47.4% were female. The largest proportion of respondents (37.2%) were between 30 and 39 years of age, followed by those aged 40–49 years (28.0%). Regarding educational attainment, more than half of the participants (51.5%) held a Bachelor's degree, while 29.4% had a Master's degree. In terms of work

experience, the majority of respondents (34.5%) had 6–10 years of professional experience. Concerning organizational position, 31.3% worked as Operations Officers, whereas 22.6% were Customer Representatives. Middle and senior managers accounted for 26.7% of the sample. With respect to geographical distribution, 60.4% of the participants were employed in banks located in Nicosia, while 39.6% worked in Kyrenia. Additionally, 59.0% of the respondents were employed in private banks, whereas 41.0% worked in public banks. Finally, the results indicate that the majority of participants reported using artificial intelligence frequently (32.6%) or very frequently (17.8%) in their daily work. This finding suggests that the respondents possess sufficient experience with AI-supported communication technologies, making the sample appropriate for examining the proposed research model.

Table 2. Reliability and Validity Analysis of the Measurement Scales

Construct	Number of Items	Cronbach's Alpha	Composite Reliability (CR)	Average Variance Extracted (AVE)	Factor Loading Range
AI-Augmented Corporate Communication	10	0.928	0.940	0.612	0.716–0.881
Digital Trust	7	0.912	0.924	0.631	0.724–0.872
Analytical Culture	8	0.904	0.918	0.607	0.703–0.864
Organizational Decision Intelligence	10	0.936	0.945	0.626	0.711–0.889

- Cronbach's Alpha ≥ 0.70
- Composite Reliability (CR) ≥ 0.70
- Average Variance Extracted (AVE) ≥ 0.50
- Standardized Factor Loading ≥ 0.60

Table 2 shows the reliability and validity results of the measurement scales. The Cronbach's Alpha coefficients ranged from 0.904 to 0.936, indicating excellent internal consistency for all constructs. Composite Reliability (CR) values varied between 0.918 and 0.945, exceeding the recommended threshold of 0.70. Similarly, the Average Variance Extracted (AVE) values ranged from 0.607 to 0.631, confirming satisfactory convergent validity. In addition, all standardized factor loadings were above 0.70, demonstrating that the observed variables adequately represented their respective latent constructs. Overall, the findings indicate that the measurement model possesses satisfactory reliability and validity for subsequent statistical analyses.

Table 3. Descriptive Statistics of the Study Variables (n = 371)

Variables	Number of Items	Mean	Standard Deviation	Interpretation
AI-Augmented Corporate Communication	10	4.08	0.56	High
Digital Trust	7	3.97	0.59	High
Analytical Culture	8	3.91	0.61	High
Organizational Decision Intelligence	10	4.12	0.54	High

Table 3 presents the descriptive statistics of the study variables. The results indicate that the participants reported high levels of AI-Augmented Corporate Communication (M = 4.08, SD = 0.56), Digital Trust (M = 3.97, SD = 0.59), Analytical Culture (M = 3.91, SD = 0.61), and Organizational Decision Intelligence (M = 4.12, SD = 0.54).

Among the variables, Organizational Decision Intelligence recorded the highest mean score, suggesting that employees perceived decision-making processes within their banks to be effective and supported by intelligent systems. AI-Augmented Corporate Communication also received a high evaluation, indicating that respondents considered AI technologies to play a significant role in facilitating organizational communication. Likewise, the findings demonstrate relatively high levels of Digital Trust and Analytical Culture, suggesting that employees generally trust AI-supported communication systems and perceive their organizations as promoting data-driven and analytical decision-making practices.

Table 4. Comparison of Study Variables According to Demographic Characteristics (Independent Samples t-test and One-Way ANOVA)

Demographic Variable	Test	AI-Augmented Corporate Communication	Digital Trust	Analytical Culture	Organizational Decision Intelligence
Gender	t	t=2.284, p=.023*	t=1.845, p=.066	t=1.912, p=.057	t=2.617, p=.009*
Age	ANOVA	F=4.186, p=.006*	F=3.574, p=.015*	F=2.741, p=.043*	F=5.203, p=.002*
Educational Level	ANOVA	F=5.428, p=.001*	F=4.137, p=.007*	F=3.996, p=.008*	F=6.215, p<.001*
Work Experience	ANOVA	F=3.472, p=.017*	F=2.894, p=.035*	F=3.268, p=.022*	F=4.581, p=.004*
Position	ANOVA	F=6.214, p<.001*	F=5.482, p=.001*	F=4.319, p=.005*	F=7.146, p<.001*
Bank Type (Public/Private)	t	t=1.992, p=.047*	t=1.504, p=.133	t=1.786, p=.075	t=2.134, p=.034*
Location (Nicosia/Kyrenia)	t	t=0.846, p=.398	t=0.914, p=.361	t=0.735, p=.463	t=1.068, p=.286

- p < .05

Table 4 presents the Independent Samples t-test and One-Way ANOVA results examining whether participants' perceptions differed according to demographic characteristics.

The findings indicate that AI-Augmented Corporate Communication differed significantly according to gender, age, educational level, work experience, position, and bank type ($p < .05$), whereas no significant difference was observed according to location ($p > .05$).

Similarly, Digital Trust showed significant differences based on age, educational level, work experience, and position, while no statistically significant differences were found for gender, bank type, and location.

For Analytical Culture, significant differences were identified across age, educational level, work experience, and position, whereas gender, bank type, and location did not produce statistically significant differences.

Finally, Organizational Decision Intelligence differed significantly according to gender, age, educational level, work experience, position, and bank type ($p < .05$). However, no significant difference was found between employees working in Nicosia and Kyrenia ($p > .05$).

Overall, the results suggest that managerial position, educational attainment, and professional experience are associated with higher perceptions of AI-supported corporate communication, digital trust, analytical culture, and organizational decision intelligence, while the geographical location of the bank does not appear to influence these perceptions.

Table 5. Correlation and Multiple Regression Analysis Results

Pearson Correlation Analysis

Variables	Mean	SD	1	2	3	4
1. AI-Augmented Corporate Communication	4.08	0.56	1			
2. Digital Trust	3.97	0.59	.684**	1		
3. Analytical Culture	3.91	0.61	.592**	.617**	1	
4. Organizational Decision Intelligence	4.12	0.54	.741**	.702**	.658**	1

Note: p < .01

Multiple Regression Analysis

Independent Variables	β	Std. Error	t	p
AI-Augmented Corporate Communication	.468	.048	9.62	<.001
Digital Trust	.291	.046	6.34	<.001
Analytical Culture	.214	.044	4.87	<.001

The Pearson correlation analysis revealed significant positive relationships among all study variables ($p < .01$). The strongest correlation was found between AI-Augmented Corporate Communication and Organizational Decision Intelligence ($r = .741$), followed by the relationship between Digital Trust and Organizational Decision Intelligence ($r = .702$). Analytical Culture was also positively associated with Organizational Decision Intelligence ($r = .658$). The multiple regression analysis indicated that the overall regression model was statistically significant ($F = 262.813$, $p < .01$).

.001) and explained 68.2% of the variance in Organizational Decision Intelligence ($R^2 = .682$). AI-Augmented Corporate Communication exerted the strongest positive effect on Organizational Decision Intelligence ($\beta = .468$, $p < .001$), followed by Digital Trust ($\beta = .291$, $p < .001$) and Analytical Culture ($\beta = .214$, $p < .001$). These findings provide empirical support for H1, H2, and H3, indicating that AI-Augmented Corporate Communication positively influences Organizational Decision Intelligence both directly and through its relationship with Digital Trust and Analytical Culture.

Table 6. Structural Equation Model, Mediation, Moderation, and Hypothesis Testing Results

Hypothesis	Structural Relationship	β	t	p	Result
H1	AI-Augmented Corporate Communication → Organizational Decision Intelligence	.468	9.62	<.001	Supported
H2	AI-Augmented Corporate Communication → Digital Trust	.684	14.71	<.001	Supported
H3	Digital Trust → Organizational Decision Intelligence	.291	6.34	<.001	Supported
H4	AI-Augmented Corporate Communication → Digital Trust → Organizational Decision Intelligence	.199	—	<.001	Supported
H5	AI-Augmented Corporate Communication × Analytical Culture → Organizational Decision Intelligence	.176	4.18	<.001	Supported
H5a	The effect is stronger when Analytical Culture is high	—	—	<.001	Supported
H5b	The effect is weaker when Analytical Culture is low	—	—	<.001	Supported

Model Fit Indices			
Fit Index	Value	Acceptable Threshold	Evaluation
χ^2/df	2.24	< 3.00	Acceptable
CFI	.956	> .90	Acceptable
TLI	.948	> .90	Acceptable
GFI	.931	> .90	Acceptable
AGFI	.904	> .85	Acceptable
RMSEA	.058	< .08	Acceptable
SRMR	.043	< .08	Acceptable

Mediation and Moderation Effects						
Effect Type	Path	β	Boot LLCI	Boot ULCI	p	Result
Mediation	AI-Augmented Corporate Communication → Digital Trust → Organizational Decision Intelligence	.199	.132	.276	<.001	Partial Mediation
Moderation	AI-Augmented Corporate Communication × Analytical Culture → Organizational Decision Intelligence	.176	.094	.251	<.001	Significant Moderation

Table 6 presents the structural equation model, mediation, moderation, and hypothesis testing results. The model fit indices indicate that the proposed model demonstrated acceptable goodness-of-fit values. Specifically, χ^2/df was below 3.00, CFI, TLI, and GFI values were above .90, and RMSEA and SRMR values were below .08. These results show that the structural model was statistically acceptable. The findings revealed that AI-Augmented Corporate Communication had a significant positive effect on Organizational Decision Intelligence ($\beta = .468$, $p < .001$), supporting H1. AI-Augmented Corporate Communication also had a significant positive effect on Digital Trust ($\beta = .684$, $p < .001$), supporting H2. In addition, Digital Trust positively affected Organizational Decision Intelligence ($\beta = .291$, $p < .001$), supporting H3.

The bootstrapping results demonstrated that Digital Trust partially mediated the relationship between AI-Augmented Corporate Communication and Organizational Decision Intelligence ($\beta = .199$, 95% CI [.132, .276], $p < .001$). Therefore, H4 was supported. Furthermore, the interaction effect between AI-Augmented Corporate Communication and Analytical Culture was statistically significant ($\beta = .176$, $p < .001$). This result indicates that Analytical Culture strengthens the positive relationship between AI-Augmented Corporate Communication and Organizational Decision Intelligence. Accordingly, H5, H5a, and H5b were supported. Overall, the findings confirm that AI-augmented corporate communication improves organizational decision intelligence both directly and indirectly through digital trust. Moreover, this effect becomes stronger in banks where analytical culture is more developed.

5. Conclusion And Recommendations

5.1. Conclusion

The primary objective of this study was to examine the effect of AI-Augmented Corporate Communication on Organizational Decision Intelligence among bank employees working in Nicosia and Kyrenia in the Turkish Republic of Northern Cyprus (TRNC). In addition, the study investigated the mediating role of Digital Trust and the moderating effect of Analytical Culture within the proposed research model.

The findings demonstrated that AI-Augmented Corporate Communication has a significant positive effect on Organizational Decision Intelligence. Banks that effectively integrate artificial intelligence into their corporate communication processes are more likely to improve communication quality, facilitate information sharing, and support evidence-based strategic decision-making. These findings indicate that artificial intelligence has evolved beyond being merely a technological tool and has become an important organizational capability contributing to managerial effectiveness.

The results also revealed that Digital Trust partially mediates the relationship between AI-Augmented Corporate Communication and Organizational Decision Intelligence. This finding suggests that employees' confidence in AI-supported communication systems enhances the positive impact of AI on organizational decision-making. Therefore, increasing digital trust appears to be essential for maximizing the benefits of artificial intelligence within banking organizations.

Furthermore, the study found that Analytical Culture significantly moderates the relationship between AI-Augmented Corporate Communication and Organizational Decision Intelligence. Banks that promote data-driven thinking, evidence-based management, and analytical decision-making practices benefit more from AI-supported communication technologies. These findings highlight that technological investments alone are insufficient unless they are supported by an organizational culture that values analytical reasoning and effective use of organizational data.

Overall, the study contributes to the literature by integrating artificial intelligence, corporate communication, organizational decision intelligence, digital trust, and analytical culture into a comprehensive research model. The findings provide both theoretical and practical implications for organizations seeking to improve strategic decision-making through AI-supported communication systems.

5.2. Recommendations

Based on the findings of this study, the following recommendations are proposed:

1. Banks should integrate AI-supported corporate communication systems into strategic decision-making processes to improve communication efficiency and decision quality.
2. Bank managers should strengthen employees' digital trust by ensuring transparent, secure, and ethical use of artificial intelligence technologies.
3. Organizations should promote an analytical culture by encouraging data-driven decision-making and providing continuous training in data analysis and artificial intelligence applications.
4. Future studies should examine this research model in different sectors such as healthcare, tourism, education, and public institutions to compare the findings across industries.
5. Future research may extend the proposed model by including additional variables such as digital leadership, organizational innovation, technology readiness, employee resilience, or AI literacy to further explain organizational decision intelligence.

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