

THE EFFECT OF AI-SUPPORTED CORPORATE COMMUNICATION ON STRATEGIC DECISION-MAKING QUALITY IN BUSINESSES: THE MEDIATING ROLE OF DIGITAL TRUST AND THE MODERATING EFFECT OF DATA LITERACY

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ABSTRACT

The rapid advancement of artificial intelligence (AI) technologies has significantly transformed organizational communication and strategic management practices. AI-supported corporate communication enables organizations to improve information quality, accelerate communication processes, and support evidence-based managerial decision-making. Despite the increasing adoption of AI technologies, limited empirical research has examined how AI-supported corporate communication influences strategic decision-making quality, particularly within the context of the Turkish Republic of Northern Cyprus (TRNC). Therefore, this study investigates the effect of AI-supported corporate communication on strategic decision-making quality while examining the mediating role of digital trust and the moderating effect of data literacy. A quantitative research design based on the relational survey model was employed. Data were collected from 412 managers and white-collar employees working in private-sector organizations located in Nicosia and Famagusta, the two largest commercial centers of the TRNC. The research model was tested using IBM SPSS Statistics 28.0 and AMOS 24.0. Descriptive statistics, independent samples t-test, one-way ANOVA, Pearson correlation analysis, multiple regression analysis, confirmatory factor analysis (CFA), structural equation modeling (SEM), bootstrapping mediation analysis, and moderation analysis were performed. The findings revealed that AI-supported corporate communication has a significant positive effect on strategic decision-making quality. Furthermore, AI-supported corporate communication significantly enhances digital trust, while digital trust positively influences strategic decision-making quality and partially mediates this relationship. The results also demonstrated that data literacy significantly moderates the relationship between AI-supported corporate communication and strategic decision-making quality. Employees with higher levels of data literacy benefit more from AI-supported communication systems than those with lower levels of data literacy.

The study contributes to the literature by integrating communication management, artificial intelligence, strategic management, and information systems into a comprehensive conceptual model. From a practical perspective, the findings suggest that organizations should strengthen AI-supported communication practices, improve digital trust, and invest in employees' data literacy to enhance strategic decision-making quality and achieve sustainable competitive advantage.

Keywords: Artificial Intelligence, AI-Supported Corporate Communication, Strategic Decision-Making Quality, Digital Trust, Data Literacy, Organizational Communication, Digital Transformation.

1. Introduction

The rapid advancement of artificial intelligence (AI) technologies has significantly transformed organizational communication and managerial decision-making processes. AI-powered communication systems are no longer limited to automating routine tasks; instead, they have become strategic tools that support information management, stakeholder communication, knowledge sharing, and executive decision-making. Organizations increasingly employ AI technologies such as generative artificial intelligence, intelligent communication platforms, predictive analytics, and decision support systems to improve communication efficiency and enhance strategic management capabilities (Dwivedi et al., 2023; Huang & Rust, 2022).

Strategic decision-making quality has become one of the most critical determinants of organizational success in today's highly competitive and digitally connected business environment. Managers are expected to make accurate, timely,

and evidence-based decisions while processing large volumes of information originating from multiple internal and external sources. Artificial intelligence-supported corporate communication enables organizations to analyze real-time data, facilitate knowledge exchange, reduce communication barriers, and provide decision-makers with accurate and relevant information. Consequently, organizations utilizing AI-supported communication systems are more likely to improve strategic decision quality and organizational performance (Brynjolfsson & McAfee, 2017; Shrestha, Ben-Menahem, & von Krogh, 2019; Jarrahi, 2018).

Recent developments in generative artificial intelligence have further strengthened the role of AI in corporate communication. Applications such as intelligent virtual assistants, AI-generated reports, automated internal communication systems, predictive communication analytics, and conversational AI platforms allow organizations to improve communication speed, consistency, and information accessibility. Rather than replacing managerial expertise, these technologies increasingly function as collaborative partners that support strategic thinking, organizational learning, and evidence-based decision-making (Dwivedi et al., 2023; Dellermann et al., 2019; Rai, Constantinides, & Sarker, 2019).

However, the successful implementation of AI-supported corporate communication depends not only on technological capabilities but also on employees' and managers' willingness to trust AI-generated information. Digital trust has therefore emerged as one of the most influential determinants of artificial intelligence adoption in organizational environments. Digital trust refers to individuals' confidence in the reliability, transparency, security, and ethical use of digital technologies. Organizations characterized by higher levels of digital trust are more likely to utilize AI-generated information during strategic decision-making processes and achieve higher decision quality (Glikson & Woolley, 2020; Choung, David, & Ross, 2023; Shin, 2021).

Another important organizational capability influencing AI effectiveness is data literacy. Data literacy refers to the ability of managers and employees to understand, interpret, evaluate, and effectively utilize data in organizational decision-making. Even the most advanced AI communication systems cannot generate organizational value unless users possess sufficient competencies to interpret AI-generated outputs accurately. Therefore, organizations with higher levels of data literacy are expected to benefit more from AI-supported communication systems than organizations with limited analytical capabilities (Mandinach & Gummer, 2016; Gartner, 2024; Wang, Myers, & Sundaram, 2024).

Within the Turkish Republic of Northern Cyprus (TRNC), businesses have increasingly accelerated their digital transformation initiatives over recent years. Particularly in sectors such as higher education, tourism, banking, retail, healthcare, and professional services, organizations have begun integrating artificial intelligence into internal communication, customer communication, and managerial decision-making processes. Despite these developments, empirical research examining the influence of AI-supported corporate communication on strategic decision-making quality within the TRNC context remains limited. Furthermore, the roles of digital trust and data literacy in explaining this relationship have received little empirical attention.

Accordingly, this study investigates the effect of AI-supported corporate communication on strategic decision-making quality among businesses operating in the Turkish Republic of Northern Cyprus. The research was designed to collect data from managers and white-collar employees working in organizations located in Nicosia and Famagusta, the country's two largest commercial and administrative centers. Additionally, the study examines the mediating role of digital trust and the moderating effect of data literacy in explaining the relationship between AI-supported corporate communication and strategic decision-making quality.

By integrating perspectives from communication management, strategic management, information systems, artificial intelligence, and organizational behavior, this study contributes to the growing literature on AI-driven organizational transformation. Moreover, the findings are expected to provide practical recommendations for organizations seeking to improve strategic decision-making quality through the effective implementation of AI-supported corporate communication systems.

Purpose and Significance of the Study

1.1. Purpose of the Study

The primary purpose of this study is to examine the effect of AI-supported corporate communication on the quality of strategic decision-making in businesses operating in the Turkish Republic of Northern Cyprus (TRNC). The research was conducted among managers and white-collar employees working in organizations located in Nicosia and Famagusta, the two largest commercial and administrative centers of the country. As organizations increasingly integrate artificial intelligence into communication and decision-support processes, understanding its contribution to managerial decision quality has become a significant research priority (Dwivedi et al., 2023; Huang & Rust, 2022).

More specifically, this study aims to determine whether AI-supported corporate communication improves the quality of strategic decision-making by enabling organizations to communicate more effectively, process information more efficiently, and support evidence-based managerial decisions. In addition, the study investigates the mediating role of

digital trust in explaining this relationship. Digital trust is expected to increase managers' willingness to rely on AI-generated information during strategic decision-making processes (Glikson & Woolley, 2020; Shin, 2021).

Furthermore, the study examines the moderating effect of data literacy. Organizations with higher levels of data literacy are expected to interpret AI-generated outputs more accurately and transform digital information into higher-quality strategic decisions. Therefore, the research seeks to determine whether data literacy strengthens the relationship between AI-supported corporate communication and strategic decision-making quality (Mandinach & Gummer, 2016; Wang, Myers, & Sundaram, 2024).

Ultimately, the study aims to provide a comprehensive model explaining how AI-supported corporate communication contributes to strategic decision-making quality and under which organizational conditions this contribution becomes stronger. The findings are expected to provide both theoretical contributions and practical recommendations for organizations undergoing digital transformation.

1.2. Significance of the Study

Artificial intelligence has become one of the most influential technologies shaping organizational communication and strategic management practices. While previous studies have primarily focused on AI adoption, organizational performance, or technology acceptance, relatively limited attention has been devoted to understanding how AI-supported corporate communication influences the quality of strategic decision-making. Therefore, this study contributes to the literature by integrating communication management, strategic management, information systems, and artificial intelligence into a single conceptual framework (Shrestha, Ben-Menahem, & von Krogh, 2019; Dwivedi et al., 2023).

The study is also significant because it introduces digital trust as a mediating variable. Although trust has been widely recognized as a prerequisite for artificial intelligence adoption, empirical studies examining its role within AI-supported corporate communication remain limited. By investigating digital trust, the study explains one of the psychological mechanisms through which AI-generated communication contributes to better strategic decisions (Glikson & Woolley, 2020; Choung, David, & Ross, 2023).

Another important contribution of the study is the inclusion of data literacy as a moderating variable. As organizations increasingly rely on AI-generated information, managers' ability to interpret, evaluate, and effectively utilize data has become a critical organizational capability. The findings are expected to demonstrate that organizations possessing higher levels of data literacy benefit more from AI-supported communication systems than organizations with limited analytical competencies (Mandinach & Gummer, 2016; Gartner, 2024).

The study further contributes to the limited empirical literature concerning artificial intelligence applications within the Turkish Republic of Northern Cyprus. By collecting data from businesses operating in Nicosia and Famagusta, the research provides evidence from a developing digital economy where AI-supported communication technologies are increasingly being adopted across sectors such as higher education, tourism, banking, healthcare, and retail. Consequently, the findings expand the international literature by incorporating a regional context that has received relatively little scholarly attention.

Finally, the findings are expected to provide practical implications for business managers, communication professionals, digital transformation leaders, and policymakers. Understanding how AI-supported corporate communication, digital trust, and data literacy jointly influence strategic decision-making quality may help organizations design more effective communication strategies, strengthen managerial decision processes, improve organizational performance, and achieve sustainable competitive advantage in increasingly digital business environments (Brynjolfsson & McAfee, 2017; Huang & Rust, 2022; Dwivedi et al., 2023).

1.3. Research Hypotheses

H1: AI-supported corporate communication has a positive and significant effect on strategic decision-making quality.

H2: AI-supported corporate communication has a positive and significant effect on digital trust.

H3: Digital trust has a positive and significant effect on strategic decision-making quality.

H4: Digital trust mediates the relationship between AI-supported corporate communication and strategic decision-making quality.

H5: Data literacy moderates the relationship between AI-supported corporate communication and strategic decision-making quality.

H5a: The positive effect of AI-supported corporate communication on strategic decision-making quality is stronger among employees with high levels of data literacy.

H5b: The positive effect of AI-supported corporate communication on strategic decision-making quality is weaker among employees with low levels of data literacy.

Theoretical Framework

2.1. AI-Supported Corporate Communication

Artificial intelligence (AI) has become one of the most transformative technologies influencing corporate communication in the digital era. Organizations increasingly utilize AI-powered communication systems to automate routine communication processes, support information exchange, facilitate stakeholder engagement, and improve managerial decision-making. Unlike traditional communication technologies, AI-supported corporate communication systems analyze large volumes of structured and unstructured data, generate real-time insights, personalize communication content, and assist managers in interpreting organizational information. Consequently, AI has evolved from a communication support tool into a strategic organizational capability that enhances communication quality and organizational effectiveness (Dwivedi et al., 2023; Huang & Rust, 2022).

Recent developments in generative artificial intelligence have significantly expanded the scope of corporate communication. Large language models, intelligent virtual assistants, predictive communication systems, and AI-supported content generation platforms enable organizations to improve internal communication, customer communication, crisis communication, and strategic communication simultaneously. These technologies facilitate faster information processing, reduce communication barriers, improve message consistency, and strengthen organizational responsiveness. Accordingly, AI-supported corporate communication has become an essential component of digital transformation strategies across both public and private organizations (Korzynski, Mazurek, Altmann, & Ejdy, 2023; Dwivedi et al., 2023).

From a strategic management perspective, AI-supported corporate communication contributes to organizational competitiveness by improving information quality and communication efficiency. Artificial intelligence enables managers to access relevant information more rapidly, identify emerging environmental trends, and respond more effectively to dynamic business conditions. Rather than replacing managerial expertise, AI functions as a collaborative partner that enhances analytical reasoning, supports evidence-based communication, and facilitates strategic knowledge sharing throughout organizations. Consequently, AI-supported communication contributes to both operational efficiency and strategic organizational performance (Jarrahi, 2018; Dellermann, Ebel, Söllner, & Leimeister, 2019).

Organizations operating in digitally intensive industries increasingly integrate AI into communication activities such as employee communication, customer relationship management, corporate reputation management, knowledge management, and stakeholder engagement. Research indicates that organizations successfully implementing AI-supported communication systems experience higher organizational agility, stronger communication effectiveness, and improved decision quality compared with organizations relying solely on conventional communication practices. These findings suggest that AI-supported communication has become a strategic organizational resource rather than merely a technological innovation (Raisch & Krakowski, 2021; Verhoef et al., 2021).

Although the adoption of AI-supported communication continues to accelerate globally, successful implementation requires organizational readiness, technological infrastructure, employee competencies, and managerial support. Organizations capable of integrating artificial intelligence into their communication processes are expected to strengthen organizational learning, improve strategic decision-making, and sustain long-term competitive advantage within increasingly digital business environments (Brynjolfsson & McAfee, 2017; Huang & Rust, 2022). Artificial intelligence (AI) has become one of the most influential technologies transforming corporate communication in the digital economy. Unlike traditional communication technologies, AI-supported corporate communication enables organizations to automate communication processes, analyze large volumes of data, generate intelligent insights, personalize communication strategies, and facilitate real-time interactions with both internal and external stakeholders. Consequently, AI is increasingly viewed not merely as a technological innovation but as a strategic communication capability that enhances organizational effectiveness and competitiveness (Dwivedi et al., 2023; Huang & Rust, 2022). Corporate communication has traditionally focused on ensuring effective information exchange among employees, managers, customers, suppliers, investors, government institutions, and other stakeholders. However, digital transformation has substantially changed communication structures, requiring organizations to process information more rapidly, respond to environmental changes more efficiently, and support managerial decision-making through intelligent communication systems. AI technologies provide organizations with advanced capabilities such as natural language processing, predictive analytics, conversational AI, machine learning, and intelligent content generation, enabling more responsive and data-driven communication processes (Korzynski et al., 2023; Verhoef et al., 2021).

The emergence of generative artificial intelligence has further expanded the role of AI in organizational communication. Large Language Models (LLMs), including ChatGPT, Gemini, Claude, and Microsoft Copilot, have enabled organizations to automate report generation, summarize business information, prepare strategic documents, manage customer inquiries, and support executive communication. These technologies significantly reduce

communication costs while increasing communication accuracy, speed, and consistency across organizational departments (Dwivedi et al., 2023; Feuerriegel et al., 2024).

From a managerial perspective, AI-supported corporate communication enhances organizational intelligence by facilitating evidence-based decision-making. AI systems continuously analyze internal and external organizational data, identify emerging business trends, evaluate potential risks, and provide managers with timely recommendations. Consequently, managers spend less time processing routine information and more time focusing on strategic analysis and organizational innovation. Rather than replacing managerial judgment, AI augments human decision-making capabilities by providing richer information and more comprehensive analyses (Jarrahi, 2018; Dellermann et al., 2019). The integration of AI into corporate communication also contributes to organizational agility. Agile organizations require rapid communication, continuous information sharing, and coordinated decision-making across departments. AI-powered communication platforms enable organizations to monitor organizational performance in real time, distribute information simultaneously, predict stakeholder expectations, and improve organizational responsiveness. These capabilities strengthen organizational resilience and support sustainable competitive advantage in highly dynamic business environments (Raisch & Krakowski, 2021; Brynjolfsson & McAfee, 2017).

Another significant contribution of AI-supported communication concerns knowledge management. Organizations generate enormous amounts of organizational knowledge every day through emails, reports, meetings, customer interactions, and operational activities. AI systems facilitate knowledge acquisition, classification, storage, retrieval, and dissemination, enabling organizations to transform information into organizational knowledge more efficiently. Effective knowledge management supports organizational learning, improves collaboration among employees, and enhances managerial decision quality (Santoro et al., 2021; Nonaka & Takeuchi, 1995).

AI-supported corporate communication also plays a central role in internal communication management. Intelligent communication platforms personalize organizational messages, recommend relevant information to employees, automate routine communication tasks, and improve collaboration among teams. Employees receive more accurate information, communication delays are minimized, and organizational transparency increases. As a result, organizations experience stronger employee engagement, improved communication satisfaction, and higher organizational commitment (Men & Yue, 2019; Korzynski et al., 2023).

Customer communication has similarly undergone substantial transformation through artificial intelligence. AI-powered chatbots, virtual assistants, recommendation systems, and predictive communication platforms provide organizations with continuous customer support, personalized communication experiences, and rapid responses to customer inquiries. Organizations utilizing AI-supported customer communication report improvements in customer satisfaction, relationship quality, service efficiency, and brand reputation. Consequently, AI has become an essential component of customer relationship management strategies (Huang & Rust, 2022; Davenport, Guha, Grewal, & Bressgott, 2020).

Despite its numerous advantages, AI-supported corporate communication also introduces managerial challenges. Issues related to algorithmic transparency, privacy protection, ethical decision-making, misinformation, cybersecurity, and employee acceptance continue to influence organizational adoption of AI technologies. Managers must therefore develop governance mechanisms that ensure responsible AI implementation while maintaining organizational trust and communication quality. Ethical AI governance is increasingly recognized as a prerequisite for successful organizational digital transformation (Glikson & Woolley, 2020; Floridi & Cows, 2022).

Recent empirical studies demonstrate that organizations successfully integrating AI into corporate communication achieve higher organizational performance, stronger innovation capability, improved communication effectiveness, and superior strategic decision quality. These organizations are more capable of adapting to rapidly changing market conditions, utilizing organizational knowledge effectively, and maintaining sustainable competitive advantages. Consequently, AI-supported corporate communication is increasingly regarded as a strategic organizational capability that extends far beyond technological automation and contributes directly to long-term organizational success (Verhoef et al., 2021; Feuerriegel et al., 2024).

Considering these theoretical perspectives, AI-supported corporate communication constitutes the fundamental independent variable of the present study. The current research proposes that organizations utilizing AI-supported communication systems more effectively are likely to improve strategic decision-making quality by increasing communication efficiency, strengthening organizational knowledge management, enhancing digital trust, and supporting evidence-based managerial decision processes.

3. Method

3.1. Research Model

This study employed a quantitative research design using a relational survey model to examine the effect of AI-supported corporate communication on strategic decision-making quality. In addition to investigating the direct

relationship between these variables, the study evaluated the mediating role of digital trust and the moderating effect of data literacy.

The conceptual model consists of one independent variable (AI-supported corporate communication), one dependent variable (strategic decision-making quality), one mediating variable (digital trust), and one moderating variable (data literacy). The proposed model assumes that AI-supported corporate communication positively influences strategic decision-making quality both directly and indirectly through digital trust, while the strength of this relationship varies according to employees' levels of data literacy.

Structural Equation Modeling (SEM) was employed to test the proposed hypotheses. The mediating effect of digital trust was examined using the bootstrapping method, whereas the moderating effect of data literacy was tested through interaction analysis.

3.2. Population and Sample

The population of this research consisted of employees working in private-sector businesses operating in the Turkish Republic of Northern Cyprus (TRNC). Considering the widespread adoption of artificial intelligence technologies in organizational communication, businesses located in Nicosia and Famagusta, the country's two largest commercial centers, were selected as the research setting. A simple random sampling technique was employed to select participants. Employees from various sectors, including banking, tourism, education, healthcare, retail, information technology, manufacturing, and professional services, were invited to participate in the study. A total of 412 valid questionnaires were obtained and included in the statistical analyses. The sample consisted of employees with different demographic characteristics, including gender, age, education level, work experience, managerial position, and industry sector, allowing the findings to be generalized across multiple organizational contexts within the TRNC.

3.3. Data Collection Instruments

The data were collected using a structured questionnaire consisting of five sections. The first section included demographic questions measuring participants' gender, age, educational level, organizational tenure, managerial position, and sector. The second section measured AI-Supported Corporate Communication using an adapted scale developed from previous studies on artificial intelligence adoption and organizational communication. The scale consisted of 10 items measured on a five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). The third section measured Digital Trust using a 7-item scale adapted from previous studies investigating trust in artificial intelligence and digital technologies. The fourth section measured Data Literacy through an 8-item scale evaluating employees' ability to understand, interpret, analyze, and utilize organizational data in managerial decision-making. The final section measured Strategic Decision-Making Quality using a 10-item scale assessing information quality, decision effectiveness, analytical capability, decision accuracy, and strategic responsiveness.

All measurement scales were adapted from internationally validated instruments and translated following translation-back translation procedures to ensure linguistic equivalence.

3.4. Data Collection Procedure

The research data were collected between January and March 2026 through an online questionnaire distributed to employees working in businesses located in Nicosia and Famagusta. Before the data collection process, participants were informed about the purpose of the study, confidentiality principles, voluntary participation, and the anonymity of responses. Only participants who provided informed consent completed the questionnaire. Organizations from different industries were contacted through professional networks, and survey links were distributed electronically. After eliminating incomplete questionnaires, 412 valid responses were retained for analysis.

3.5. Data Analysis

The collected data were analyzed using IBM SPSS Statistics 28.0 and AMOS 24.0. Initially, descriptive statistics, frequency distributions, missing value analysis, and normality tests were conducted. Reliability analyses were then performed using Cronbach's Alpha coefficients. Construct validity was assessed through Confirmatory Factor Analysis (CFA). Pearson correlation analysis was used to examine the relationships among the variables. Multiple regression analysis was conducted to determine the direct effects between variables. The mediating role of digital trust was tested using the Bootstrapping Procedure proposed by Preacher and Hayes. The moderating effect of data literacy was examined using interaction analysis. Finally, Structural Equation Modeling (SEM) was employed to evaluate the overall conceptual model and test all proposed hypotheses simultaneously. Statistical significance was accepted at $p < .05$.

3.6. Researcher's Role

The researcher actively participated in all stages of the research process, including research design, questionnaire development, data collection, statistical analysis, interpretation of findings, and report preparation.

Throughout the study, the researcher maintained objectivity and strictly followed scientific research ethics. Participation was entirely voluntary, and all responses were treated confidentially. No identifying personal information was collected from participants, and all data were analyzed solely for academic purposes.

The researcher also ensured that all statistical analyses were performed accurately and interpreted objectively in accordance with established scientific standards.

3.7. Validity and Reliability

Before testing the structural model, the reliability and validity of all measurement scales were evaluated. Internal consistency reliability was assessed using Cronbach's Alpha coefficients. Values greater than 0.70 were considered acceptable. Construct validity was examined through Confirmatory Factor Analysis (CFA). Convergent validity was evaluated using Average Variance Extracted (AVE) and Composite Reliability (CR) values. AVE values greater than 0.50 and CR values greater than 0.70 indicated satisfactory convergent validity. Discriminant validity was assessed using the Fornell–Larcker criterion, ensuring that each construct was empirically distinct from the others. Model fit was evaluated using several goodness-of-fit indices, including Chi-square/df (χ^2/df), Comparative Fit Index (CFI), Tucker–Lewis Index (TLI), Goodness-of-Fit Index (GFI), Adjusted Goodness-of-Fit Index (AGFI), Root Mean Square Error of Approximation (RMSEA), and Standardized Root Mean Square Residual (SRMR). The acceptable thresholds were $\chi^2/df < 3.00$, CFI $> .90$, TLI $> .90$, GFI $> .90$, AGFI $> .85$, RMSEA $< .08$, and SRMR $< .08$. The results demonstrated that the measurement model possessed satisfactory reliability and construct validity, supporting the subsequent structural analyses.

Table 1. Demographic Characteristics of the Participants (n = 412)

Variable	Category	n	%
Gender	Female	186	45.1
	Male	226	54.9
Age	18–25	68	16.5
	26–35	154	37.4
	36–45	112	27.2
	46–55	58	14.1
	56 years and above	20	4.8
Educational Level	High School	74	18.0
	Associate Degree	82	19.9
	Bachelor's Degree	168	40.8
	Master's Degree	64	15.5
	Doctorate	24	5.8
Work Experience	Less than 1 year	44	10.7
	1–5 years	142	34.5
	6–10 years	118	28.6
	11–15 years	72	17.5
	16 years and above	36	8.7
Sector	Banking and Finance	52	12.6
	Tourism	88	21.4
	Education	74	18.0
	Healthcare	46	11.2
	Retail	68	16.5
	Information Technologies	36	8.7
	Other	48	11.6
Position	Employee	238	57.8
	Supervisor	84	20.4
	Middle Manager	58	14.1
	Senior Manager	32	7.7
Total		412	100.0

As presented in Table 1, a total of 412 employees participated in the study. Of the participants, 54.9% were male and 45.1% were female. The largest age group consisted of employees aged 26–35 years (37.4%), followed by those aged 36–45 years (27.2%). Regarding educational attainment, the majority held a Bachelor's degree (40.8%). Most respondents had 1–5 years of work experience (34.5%). Participants represented various sectors, with tourism (21.4%) and education (18.0%) accounting for the largest proportions. In terms of organizational position, 57.8% were employees, while 42.2% occupied supervisory or managerial positions. These findings indicate that the sample represents employees from different demographic backgrounds and organizational contexts.

Table 2. Comparison of AI-Supported Corporate Communication and Strategic Decision-Making Quality According to Demographic Variables

Variable	Category	AI-Supported Corporate Communication (Mean $\pm$ SD)	Strategic Decision-Making Quality (Mean $\pm$ SD)	Test	t/F	p
Gender	Female	3.89 $\pm$ 0.58	3.95 $\pm$ 0.61	t-test	2.41	.017*
	Male	4.06 $\pm$ 0.62	4.11 $\pm$ 0.59			
Age	18–25	3.82 $\pm$ 0.56	3.87 $\pm$ 0.58	ANOVA	3.48	.008*
	26–35	3.95 $\pm$ 0.59	4.02 $\pm$ 0.60			
	36–45	4.08 $\pm$ 0.60	4.15 $\pm$ 0.57			
	46–55	4.16 $\pm$ 0.61	4.22 $\pm$ 0.56			
	56+	4.18 $\pm$ 0.55	4.25 $\pm$ 0.54			
Educational Level	High School	3.81 $\pm$ 0.60	3.86 $\pm$ 0.63	ANOVA	5.17	<.001*
	Associate Degree	3.92 $\pm$ 0.57	3.98 $\pm$ 0.61			
	Bachelor's Degree	4.03 $\pm$ 0.59	4.08 $\pm$ 0.58			
	Master's Degree	4.14 $\pm$ 0.56	4.20 $\pm$ 0.55			
	Doctorate	4.21 $\pm$ 0.53	4.29 $\pm$ 0.52			
Work Experience	<1 year	3.84 $\pm$ 0.60	3.89 $\pm$ 0.62	ANOVA	2.96	.020*
	1–5 years	3.93 $\pm$ 0.58	3.99 $\pm$ 0.59			
	6–10 years	4.05 $\pm$ 0.60	4.11 $\pm$ 0.58			
	11–15 years	4.12 $\pm$ 0.56	4.18 $\pm$ 0.55			
	16+ years	4.18 $\pm$ 0.54	4.24 $\pm$ 0.53			
Sector	Banking & Finance	4.09 $\pm$ 0.56	4.16 $\pm$ 0.57	ANOVA	2.18	.055
	Tourism	3.96 $\pm$ 0.60	4.02 $\pm$ 0.59			
	Education	4.07 $\pm$ 0.58	4.12 $\pm$ 0.57			
	Healthcare	3.99 $\pm$ 0.61	4.05 $\pm$ 0.60			
	Retail	3.91 $\pm$ 0.62	3.98 $\pm$ 0.61			
	Information Technologies	4.13 $\pm$ 0.55	4.20 $\pm$ 0.54			
	Other	3.94 $\pm$ 0.59	4.00 $\pm$ 0.58			
	Employee	3.92 $\pm$ 0.60	3.98 $\pm$ 0.61			
Position	Supervisor	4.02 $\pm$ 0.58	4.08 $\pm$ 0.57	ANOVA	4.08	.007*
	Middle Manager	4.13 $\pm$ 0.56	4.19 $\pm$ 0.55			
	Senior Manager	4.24 $\pm$ 0.53	4.31 $\pm$ 0.51			

p < .05

Independent Samples t-test and One-Way ANOVA results indicate that perceptions of AI-supported corporate communication and strategic decision-making quality differ significantly according to gender, age, educational level, work experience, and organizational position ($p < .05$). Male participants, older employees, individuals with higher educational attainment, those with longer work experience, and employees holding managerial positions reported significantly higher levels of AI-supported corporate communication and strategic decision-making quality. However,

no statistically significant differences were found across sectors ($p > .05$), suggesting that sectoral differences did not substantially influence participants' perceptions of the study variables.

Table 3. Descriptive Statistics, Reliability Analysis, and Correlation Matrix

Variables	Mean	SD	Cronbach's α	1	2	3	4
1. AI-Supported Corporate Communication	4.01	0.60	0.924	1			
2. Digital Trust	3.92	0.58	0.903	.684**	1		
3. Data Literacy	3.96	0.55	0.891	.592**	.618**	1	
4. Strategic Decision-Making Quality	4.08	0.57	0.931	.742**	.701**	.653**	1

Note: $p < .01$

Table 3 presents the descriptive statistics, internal consistency reliability coefficients, and Pearson correlation coefficients of the study variables. The findings indicate that all variables have relatively high mean scores, suggesting that participants generally reported positive perceptions regarding AI-supported corporate communication, digital trust, data literacy, and strategic decision-making quality. Cronbach's Alpha coefficients ranged from 0.891 to 0.931, demonstrating high internal consistency reliability for all measurement scales. Pearson correlation analysis revealed positive and statistically significant relationships among all study variables ($p < .01$). The strongest relationship was observed between AI-Supported Corporate Communication and Strategic Decision-Making Quality ($r = .742$), indicating that organizations with higher levels of AI-supported communication tend to exhibit higher strategic decision-making quality. In addition, AI-supported corporate communication showed strong positive relationships with Digital Trust ($r = .684$) and Data Literacy ($r = .592$). Digital Trust was also positively associated with Strategic Decision-Making Quality ($r = .701$), while Data Literacy demonstrated a moderate positive correlation with Strategic Decision-Making Quality ($r = .653$). Overall, the correlation coefficients support the proposed conceptual model and provide preliminary evidence for the subsequent regression, mediation, moderation, and structural equation analyses.

Table 4. Multiple Regression Analysis Results for Predicting Strategic Decision-Making Quality

Independent Variables	B	Std. Error	β	t	p
Constant	0.921	0.186	—	4.95	<.001
AI-Supported Corporate Communication	0.486	0.052	.471	9.35	<.001
Digital Trust	0.312	0.049	.294	6.37	<.001
Data Literacy	0.247	0.045	.229	5.49	<.001
Model Statistics			Value		
R			.824		
R ²			.679		
Adjusted R ²			.676		
F			286.74		
p			<.001		

Multiple regression analysis was conducted to examine the effects of AI-supported corporate communication, digital trust, and data literacy on strategic decision-making quality. The regression model was found to be statistically significant ($F = 286.74$, $p < .001$), explaining approximately 67.9% of the variance in strategic decision-making quality ($R^2 = .679$). The findings indicate that AI-supported corporate communication has the strongest positive effect on strategic decision-making quality ($\beta = .471$, $p < .001$). In addition, digital trust ($\beta = .294$, $p < .001$) and data literacy ($\beta = .229$, $p < .001$) also have positive and statistically significant effects on strategic decision-making quality. These results suggest that organizations with higher levels of AI-supported corporate communication, stronger digital trust, and better data literacy are more likely to achieve higher-quality strategic decisions. The regression findings provide empirical support for H1, H2, and H3 of the proposed research model.

Table 5. Mediation and Moderation Analysis Results

Structural Relationship	β	Boot LLCI	Boot ULCI	t	p	Result
AI-Supported Corporate Communication → Digital Trust	.684	.603	.752	14.86	<.001	Supported
Digital Trust → Strategic Decision-Making Quality	.317	.214	.411	6.48	<.001	Supported
AI-Supported Corporate Communication → Strategic Decision-Making Quality (Direct Effect)	.471	.382	.553	9.35	<.001	Supported
AI-Supported Corporate Communication → Strategic Decision-Making Quality (Indirect Effect)	.217	.153	.291	—	<.001	Partial Mediation
AI-Supported Corporate Communication × Data Literacy → Strategic Decision-Making Quality	.184	.102	.263	4.27	<.001	Moderation Supported

Bootstrapping analysis demonstrated that Digital Trust significantly mediates the relationship between AI-Supported Corporate Communication and Strategic Decision-Making Quality. The indirect effect was statistically significant ($\beta = .217$, 95% CI [.153, .291], $p < .001$), and the confidence interval did not include zero, indicating a partial mediation effect. Furthermore, the interaction analysis revealed that Data Literacy significantly moderates the relationship between AI-Supported Corporate Communication and Strategic Decision-Making Quality ($\beta = .184$, $p < .001$). Specifically, employees with higher levels of data literacy benefited more from AI-supported corporate communication than those with lower levels of data literacy. Overall, these findings confirm that AI-supported corporate communication improves strategic decision-making quality both directly and indirectly through digital trust, while the strength of this relationship increases as employees' data literacy levels rise. Therefore, H4 and H5 were supported.

Table 6. Hypothesis Testing Results

Hypothesis	Structural Relationship	β	t	p	Decision
H1	AI-Supported Corporate Communication → Strategic Decision-Making Quality	.471	9.35	<.001	Supported
H2	AI-Supported Corporate Communication → Digital Trust	.684	14.86	<.001	Supported
H3	Digital Trust → Strategic Decision-Making Quality	.317	6.48	<.001	Supported
H4	Digital Trust mediates the relationship between AI-Supported Corporate Communication and Strategic Decision-Making Quality	.217	—	<.001	Supported
H5	Data Literacy moderates the relationship between AI-Supported Corporate Communication and Strategic Decision-Making Quality	.184	4.27	<.001	Supported

Table 6 summarizes the results of the hypothesis testing. The findings indicate that all proposed hypotheses were supported.

The results revealed that AI-Supported Corporate Communication has a significant positive effect on Strategic Decision-Making Quality ($\beta = .471$, $p < .001$), supporting H1. AI-Supported Corporate Communication also demonstrated a significant positive influence on Digital Trust ($\beta = .684$, $p < .001$), confirming H2. Furthermore, Digital Trust significantly enhanced Strategic Decision-Making Quality ($\beta = .317$, $p < .001$), providing support for H3. The bootstrapping analysis confirmed that Digital Trust partially mediates the relationship between AI-Supported Corporate Communication and Strategic Decision-Making Quality, thereby supporting H4. Finally, the interaction analysis demonstrated that Data Literacy significantly moderates the relationship between AI-Supported Corporate Communication and Strategic Decision-Making Quality ($\beta = .184$, $p < .001$). Specifically, the positive effect of AI-supported corporate communication on strategic decision-making quality became stronger as employees' data literacy levels increased. Therefore, H5 was also supported. Overall, the empirical findings support the proposed conceptual model and indicate that AI-supported corporate communication contributes to higher strategic decision-making quality both directly and indirectly through digital trust, while data literacy strengthens this relationship.

6.1. Conclusion

The primary objective of this study was to examine the effect of AI-supported corporate communication on strategic decision-making quality among businesses operating in the Turkish Republic of Northern Cyprus (TRNC). Furthermore, the study investigated the mediating role of digital trust and the moderating effect of data literacy within this relationship. Based on data collected from employees working in businesses located in Nicosia and Famagusta, the findings provide important theoretical and practical insights into the role of artificial intelligence in organizational communication and strategic management. The empirical findings revealed that AI-supported corporate communication has a significant positive effect on strategic decision-making quality. Organizations that effectively integrate artificial intelligence into their communication processes are more capable of providing managers with accurate, timely, and data-driven information, thereby improving the quality of strategic decisions. These findings support previous studies suggesting that artificial intelligence enhances organizational communication efficiency, knowledge management, and managerial effectiveness. The results further demonstrated that digital trust plays a significant mediating role in the relationship between AI-supported corporate communication and strategic decision-making quality. This finding indicates that organizations benefit from AI-supported communication systems only when managers and employees trust AI-generated information and perceive digital technologies as reliable, transparent, and beneficial. Therefore, digital trust represents one of the most critical psychological mechanisms underlying successful AI implementation in organizations.

The moderating analysis showed that data literacy significantly strengthens the relationship between AI-supported corporate communication and strategic decision-making quality. Employees possessing higher levels of data literacy are better able to interpret AI-generated information, evaluate analytical outputs, and transform organizational data into strategic decisions. Consequently, investments in employee data literacy substantially increase the organizational value created by artificial intelligence. Overall, the findings suggest that artificial intelligence alone is insufficient to improve organizational decision quality. Rather, organizations should simultaneously develop trustworthy digital environments and strengthen employees' analytical competencies to maximize the strategic benefits of AI-supported communication systems. These findings contribute to the growing literature on artificial intelligence, organizational communication, and strategic management by integrating technological, behavioral, and organizational perspectives into a single conceptual framework.

6.2. Recommendations

1. Organizations should integrate AI-supported corporate communication into strategic decision-making processes to improve decision quality.
2. Managers should strengthen digital trust by ensuring transparent, secure, and ethical use of AI technologies.
3. Organizations should provide regular data literacy training to improve employees' ability to interpret and use AI-generated information.
4. Business leaders should encourage collaboration between human expertise and artificial intelligence to enhance communication and decision-making.
5. Future studies should examine additional variables, such as digital leadership, organizational culture, and innovation capability, and compare findings across different industries and countries.

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