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Transforming IT Communication: The Impact of Artificial Intelligence

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Article Details

ABSTRACT

Keywords: AI-powered communication tools, This study provides an in-depth examination of the impact of AI-powered IT communication, Technology Acceptance communication tools on IT communication, shedding light on the benefits, Model (TAM), Communication Theory, challenges, and future directions of these innovative technologies. Employing a Mixed-methods research

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and improve productivity. Furthermore, qualitative findings provide rich insights into the experiences and perceptions of IT professionals, highlighting the potential of AI-powered tools to automate routine tasks, provide personalized support, and enhance collaboration. Thematic analysis identifies three key themes: efficiency and productivity, technical challenges, and integration and analytics, which align with the Technology Acceptance Model (TAM) and Communication Theory. These findings underscore the importance of seamless integration with existing IT systems, advanced analytics capabilities, and ongoing development to enhance the effectiveness and user acceptance of AI-powered communication tools. This research contributes to the growing body of literature on AI-powered communication tools, informing strategies for effective AI adoption in IT communication and providing valuable insights for organizations seeking to leverage these technologies to improve their communication processes, drive innovation, and enhance competitiveness. Exploring the benefits, challenges, and potential areas for improvement, this study offers practical implications for IT professionals, researchers, and organizations, ultimately contributing to the development of more effective AI-powered communication tools and strategies.

INTRODUCTION

The integration of Artificial Intelligence (AI) in Information Technology (IT) communication revolutionizes the way IT professionals interact, collaborate, and convey information, thereby enhancing the overall efficiency and productivity of IT operations (Gartner, 2022; McKinsey, 2020). AI-powered tools, such as chatbots, virtual assistants, and automated email responders, are increasingly adopted in IT departments to streamline communication processes, reduce response times, and improve customer satisfaction (Kim et al., 2020). According to recent studies, AI-powered communication tools have a significant impact on IT team collaboration, enabling seamless information exchange and facilitating effective decision-making (Gartner, 2022; Davenport & Dyché, 2013).

The adoption of AI in IT communication is driven by the need for organizations to stay competitive in a rapidly changing digital landscape (Bhimani & Willcocks, 2014). AI-powered communication tools can help IT departments to automate routine tasks, freeing up time for more strategic initiatives and improving overall IT service delivery (Wang & Shih, 2018). Moreover, AI can help IT professionals to analyze large amounts of data, identify patterns, and make informed decisions (Davenport & Dyché, 2013).

The growing importance of AI in IT communication necessitates an investigation into its impact, benefits, and challenges. This research explores the transformative role of AI in IT communication, focusing on its benefits, challenges, and potential areas for improvement. The objectives of this study are threefold: to investigate the impact of AI on IT communication, to identify the benefits and challenges of AI-powered communication tools in IT, and to explore potential areas for improvement in AI-driven IT communication.

The limited understanding of AI's impact on IT communication poses a significant challenge, leading to missed opportunities for improvement (Davenport & Dyché, 2013). Without comprehensive knowledge of AI's role in IT communication, organizations struggle to harness its full potential, resulting in suboptimal IT operations and reduced business performance (Bhimani & Willcocks, 2014). AI-powered communication tools improve IT efficiency, but also pose challenges such as data security and integration with existing systems (Davenport & Dyché, 2013).

This study employs a mixed-methods approach, combining surveys and interviews with IT professionals to gather data on AI's impact on IT communication. The research explores the benefits and challenges of AI-powered communication tools, as well as potential areas for

improvement. The findings provide valuable insights for IT professionals, researchers, and organizations seeking to leverage AI in IT communication, ultimately driving business success (Bhimani & Willcocks, 2014).

The significance of this research lies in its potential to contribute to the growing body of literature on AI in IT, informing strategies for effective AI adoption and implementation in IT departments. By exploring the impact, benefits, and challenges of AI-powered communication tools, this study aims to provide a comprehensive understanding of the role of AI in IT communication and its potential to drive business success.

BACKGROUND OF THE STUDY

The increasing adoption of Artificial Intelligence (AI) in IT communication has transformed the way IT professionals interact, collaborate, and convey information. AI-powered tools, such as chatbots, virtual assistants, and automated email responders, are being integrated into IT departments to enhance efficiency, productivity, and decision-making (Gartner, 2022; McKinsey, 2020). According to McKinsey (2020), AI-powered communication tools can improve IT team collaboration, reduce response times, and enhance customer satisfaction.

Existing research on AI in IT communication primarily focuses on technical aspects, leaving a significant gap in understanding its impact on IT communication (Davenport & Dyché, 2013; Kim et al., 2020). This gap is notable, as IT communication plays a critical role in organizational success, and AI-powered tools have the potential to significantly impact this process.

The lack of comprehensive research on AI's impact on IT communication has led to a need for further investigation. This study is conducted to explore the current state of AI adoption in IT communication and identify areas for further research and improvement. By examining the existing literature and research on AI in IT communication, this study aims to provide a foundation for future research and inform decision-making in IT departments.

PROBLEM STATEMENT

The increasing reliance on AI-powered communication tools in IT has created a pressing need to understand their impact, benefits, and challenges. Ineffective adoption and implementation of these tools can lead to significant inefficiencies and productivity losses. The lack of comprehensive understanding of AI's role in IT communication hinders organizations' ability to harness its full potential, highlighting the need for investigation into the impact of AI on IT communication.

This problem is significant, as organizations require a thorough understanding of AI-powered communication tools to maximize their benefits and minimize their challenges. Without this understanding, organizations risk suboptimal implementation, reduced productivity, and decreased efficiency. A comprehensive examination of AI's impact on IT communication is essential to inform decision-making and ensure effective adoption and implementation of AI-powered tools.

AIM OF THE STUDY

This study aims to investigate the impact of AI on IT communication, identify the benefits and challenges of AI-powered communication tools in IT, and explore potential areas for improvement in AI-driven IT communication. The study seeks to provide a comprehensive understanding of the role of AI in IT communication and inform strategies for effective adoption and implementation of AI-powered tools.

OBJECTIVES

- To investigate the impact of AI on IT communication.
- To identify the benefits and challenges of AI-powered communication tools in IT.
- To explore potential areas for improvement in AI-driven IT communication.

RESEARCH QUESTIONS

- RQ1. How does AI impact IT communication?
- RQ2. What are the benefits and challenges of AI-powered communication tools in IT?
- RQ3. What areas require improvement in AI-driven IT communication?

SIGNIFICANCE OF THE STUDY

This study holds significance as it contributes to the growing body of literature on AI in IT communication, providing valuable insights into the impact, benefits, and challenges of AI-powered communication tools. The findings of this study inform decision-making in IT departments, enabling organizations to make informed choices about the adoption and implementation of these tools. By identifying the benefits and challenges of AI-powered communication tools, this study helps organizations optimize their use, leading to improved efficiency and productivity (Brynjolfsson & McAfee, 2014). This study also provides a foundation for research on AI in IT communication, highlighting areas that require investigation and exploration. The study's findings have practical implications for IT professionals, managers, and organizations, enabling them to harness the full potential of AI-

powered communication tools and improve their overall IT communication strategies.

LITERATURE REVIEW

The integration of Artificial Intelligence (AI) in Information Technology (IT) has been extensively explored in existing literature, with studies highlighting its applications in areas such as automation, data analysis, and decision-making (Davenport & Dyché, 2013; Kim et al., 2020). However, given the growing importance of effective communication in IT, a notable research gap still exists in understanding the specific impact of AI on IT communication (Bhimani & Willcocks, 2014; Paschen et al., 2020). This gap underscores the need for a comprehensive examination of AI's role in transforming IT communication, including its benefits, challenges, and potential areas for improvement.

AI ADOPTION IN IT

The adoption of Artificial Intelligence (AI) in various IT domains has been extensively explored in previous studies, highlighting its potential to enhance efficiency, productivity, and decision-making. Research has shown that AI-powered tools can automate routine tasks, improve data analysis, and enable more effective IT service management.

For instance, a study by Duan et al. (2019) examined the adoption of AI in IT service management and found that AI-powered tools can significantly improve incident management and problem resolution. The study, published in the *Journal of Management Information Systems*, highlights the potential of AI to enhance IT service management by automating routine tasks and providing predictive analytics.

Similarly, a study by Gupta et al. (2020) explored the use of AI in IT operations and found that AI-powered tools can improve predictive maintenance, anomaly detection, and root cause analysis. The study, published in the *IEEE Transactions on Neural Networks and Learning Systems*, demonstrates the potential of AI to enhance IT operations by providing real-time insights and predictive analytics.

Another study by Kim et al. (2018) investigated the adoption of AI in IT project management and found that AI-powered tools can improve project planning, monitoring, and control. The study, published in the *International Journal of Project Management*, highlights the potential of AI to enhance IT project management by providing predictive analytics and decision support.

These studies demonstrate the potential of AI to enhance efficiency, productivity, and decision-making in various IT domains. However, there is a need for further research on the adoption

and implementation of AI in IT, particularly in the context of IT communication.

AI-POWERED COMMUNICATION TOOLS

The use of AI-powered communication tools, such as chatbots and virtual assistants, has gained significant attention in IT support and customer service. Studies have explored the effectiveness of these tools in improving response times, enhancing customer satisfaction, and reducing the workload of IT staff.

For instance, a study by Chung et al. (2020) examined the use of chatbots in IT support and found that these tools can significantly improve response times and customer satisfaction. The study, published in the *Journal of Service Research*, highlights the potential of chatbots to provide 24/7 support and reduce the workload of IT staff.

Similarly, a study by Lee et al. (2019) explored the use of virtual assistants in customer service and found that these tools can enhance customer satisfaction and loyalty. The study, published in the *Journal of Customer Research*, demonstrates the potential of virtual assistants to provide personalized support and improve customer experience.

Another study by Følstad et al. (2018) investigated the use of chatbots in IT support and found that these tools can reduce the workload of IT staff and improve response times. The study, published in the *International Journal of Human-Computer Interaction*, highlights the potential of chatbots to automate routine tasks and provide instant support.

However, a study by Jain et al. (2020) found that the effectiveness of AI-powered communication tools depends on the quality of the underlying algorithms and data. The study, published in the *Journal of Intelligent Information Systems*, highlights the need for further research on the development and evaluation of AI-powered communication tools. These studies demonstrate the potential of AI-powered communication tools to improve IT support and customer service. However, there is a need for further research on the impact of these tools on IT communication, including their benefits, challenges, and potential areas for improvement.

BENEFITS OF AI IN IT COMMUNICATION

The integration of Artificial Intelligence (AI) in IT communication has yielded numerous benefits, transforming the way organizations interact with customers, stakeholders, and among themselves. Research has identified several key advantages of AI in IT communication, including improved efficiency, enhanced customer experience, and increased productivity.

One of the primary benefits of AI in IT communication is improved efficiency. AI-powered tools can automate routine tasks, such as responding to frequently asked questions, freeing up

human resources for more complex and high-value tasks. For instance, a study by Gartner found that AI-powered chatbots can reduce the time spent on customer support inquiries by up to 30% (Gartner, 2020).

AI also enhances the customer experience by providing 24/7 support, personalized interactions, and quick resolution of issues. AI-powered communication tools can analyze customer data and behavior, enabling organizations to tailor their communication strategies to meet individual needs. A study by Forrester found that 75% of customers prefer chatbots for simple inquiries, highlighting the importance of AI-powered communication tools in improving customer experience (Forrester, 2019).

Furthermore, AI in IT communication can increase productivity by enabling more effective collaboration and knowledge sharing among IT teams. AI-powered tools can analyze data, identify patterns, and provide insights that can inform decision-making. A study by McKinsey found that AI-powered collaboration tools can improve team productivity by up to 20% (McKinsey, 2018).

Given these benefits, there is a need for more comprehensive studies on the benefits of AI in IT communication. Future research should investigate the impact of AI on IT communication in various contexts, including customer service, IT support, and team collaboration. Additionally, studies should explore the potential challenges and limitations of AI in IT communication, such as data security and privacy concerns.

CHALLENGES AND LIMITATIONS OF AI IN IT COMMUNICATION

The integration of Artificial Intelligence (AI) in IT communication offers numerous benefits, but it also presents several challenges and limitations. These challenges can impact the effectiveness and adoption of AI-powered communication tools, and it is essential to understand them to ensure successful implementation.

One of the significant challenges of AI in IT communication is data security and privacy concerns. AI-powered tools require access to sensitive data, which can create risks if not properly managed. Ensuring the security and integrity of data is crucial to maintaining user trust and complying with regulatory requirements. For instance, a study by Accenture found that 75% of consumers are concerned about the security of their personal data when interacting with AI-powered systems (Accenture, 2020).

Another challenge is the integration of AI-powered communication tools with existing systems. Seamless integration is essential to ensure that AI tools can access relevant data and

provide accurate responses. However, integration can be complex, especially when dealing with legacy systems or disparate data sources. A study by Gartner found that integration challenges are a significant barrier to the adoption of AI-powered communication tools (Gartner, 2020).

The need for ongoing maintenance and updates is also a challenge of AI in IT communication. AI models require continuous training and updating to ensure they remain accurate and effective. This can be resource-intensive and requires significant expertise in AI development and maintenance. A study by McKinsey found that ongoing maintenance and updates are critical to ensuring the long-term success of AI-powered systems (McKinsey, 2018).

User adoption and acceptance of AI-powered communication tools can also be a challenge. Some users may be hesitant to interact with AI-powered tools, preferring human interaction instead. Addressing these concerns and ensuring that AI-powered tools are user-friendly and effective is crucial to driving adoption and acceptance. A study by Forrester found that user experience is a critical factor in determining the success of AI-powered communication tools (Forrester, 2019).

In conclusion, while AI-powered communication tools offer numerous benefits, they also present several challenges and limitations. Addressing these challenges is essential to ensuring the successful implementation and adoption of AI in IT communication.

RESEARCH GAP AND FUTURE DIRECTIONS

The growing body of research on Artificial Intelligence (AI) in IT explores various aspects of AI adoption, implementation, and impact. There is a significant gap in understanding AI's impact on IT communication. Specifically, there is a need for comprehensive research that investigates AI's role in transforming IT communication, including its benefits, challenges, and potential areas for improvement. This study aims to address this research gap by providing an in-depth examination of AI's impact on IT communication by exploring the benefits, challenges, and potential areas for improvement, this research contributes to the development of more effective AI-powered communication tools and strategies for IT departments.

The findings of this study have practical implications for IT professionals, researchers, and organizations seeking to leverage AI in IT communication and by identifying best practices, challenges, and areas for improvement, this research informs the development of AI-powered communication tools that meet the needs of IT departments and stakeholders.

Future research directions include investigating the impact of AI on specific aspects of IT

communication, such as customer service, IT support, or team collaboration. Studies also explore the role of AI in enhancing IT communication in various industries, such as healthcare, finance, or education.

RESEARCH GAP: The literature review reveals a significant need for comprehensive research on AI's impact on IT communication, encompassing its benefits, challenges, and potential areas for improvement. While existing studies have explored various aspects of AI adoption in IT, there is a notable gap in understanding AI's role in transforming IT communication. Previous research has focused on technical aspects, with limited exploration of AI's impact on IT communication, resulting in a lack of comprehensive understanding of its benefits, challenges, and areas for improvement. This study aims to address this research gap by investigating AI's impact on IT communication, including its benefits, challenges, and potential areas for improvement.

RESEARCH METHODOLOGY

This study is designed to investigate the impact of AI-powered communication tools in IT communication. It employs a mixed-methods approach, combining quantitative and qualitative research methods to gather comprehensive insights into their benefits, challenges, and potential areas for improvement.

RESEARCH DESIGN AND APPROACH

This study employs a mixed-methods approach, combining quantitative and qualitative research methods to gain a comprehensive understanding of AI-powered communication tools in IT communication (Creswell & Plano Clark, 2017). The mixed-methods approach allows for the collection of numerical data and rich, contextual insights, providing a more complete understanding of the research problem (Tashakkori & Teddlie, 2003). By integrating both methods, researchers can triangulate the data, increasing validity and reliability (Bryman, 2006). This approach is particularly well-suited for examining factors influencing user acceptance and adoption, as well as gaining insights into the communication process and impact of AI-powered tools on IT communication. The quantitative component provides numerical data on user acceptance and adoption, while the qualitative component offers rich insights into benefits and challenges (Venkatesh et al., 2013), shedding light on benefits, challenges, and potential areas for improvement.

POPULATION

The population for this study consists of approximately 500 IT professionals working in

various roles such as software development, technical support, project management, and IT consulting in Pakistan.

PARTICIPANTS

The participants for this study will be a sample of 200 IT professionals selected from the population, who have experience using AI-powered communication tools such as chatbots, virtual assistants, and automated email responders. These participants will provide valuable insights into the benefits, challenges, and impact of AI-powered communication tools on IT communication effectiveness and user experience.

DEMOGRAPHICS

TABLE 1: DEMOGRAPHIC CHART OF RESPONDENTS

Questions	Roles with percentage			
What is your role in the IT industry?	Software Development: 40%	IT Support: 25%	Project Management: 20%	Other: 15%
How many years of experience do you have in the IT industry?	Less than 2 years: 10%	2-5 years: 25%	6-10 years: 30%	More than 10 years: 35%
Have you used AI-powered communication tools in your work?	(Never): 5%	2 (Rarely): 15%	(Occasionally): 30%	(Extensively): 20%

The study's demographics reveal a diverse group of IT professionals, with 40% in software development, 25% in IT support, and 20% in project management. They have varying levels of experience, with 35% having over 10 years, 30% having 6-10 years, and 25% having 2-5 years. Most have used AI-powered communication tools, with 30% using them occasionally, 20% extensively, and 15% rarely, while 5% have never used them.

RESEARCH TYPE

This study is an exploratory study, aiming to gain a deeper understanding of AI-powered communication tools in IT communication (Stebbins, 2001). As a relatively new and understudied area, exploratory research is well-suited to examine the benefits, challenges, and potential areas for improvement of these tools (Saunders et al., 2019).

RESEARCH PROCEDURE

This study uses a two-phase research procedure:

a. SURVEY PHASE: A structured questionnaire is administered to IT professionals to collect quantitative data on the use and impact of AI-powered communication tools, providing a broad understanding of trends and patterns.

b. INTERVIEW PHASE: Semi-structured interviews are conducted with IT professionals to gather qualitative data, offering deeper insights into their experiences, perceptions, and opinions about AI-powered communication tools.

The combination of both phases provides a comprehensive understanding of the topic, capturing both breadth and depth of insight into AI-powered communication tools in IT communication.

THEORETICAL FRAMEWORK

This study's theoretical framework integrates the Technology Acceptance Model (TAM) and Communication Theory to provide a comprehensive understanding of AI-powered communication tools in IT communication.

TECHNOLOGY ACCEPTANCE MODEL (TAM)

The Technology Acceptance Model (Davis, 1989) explains user acceptance of AI-powered communication tools by highlighting the significance of perceived usefulness and perceived ease of use. According to TAM, users are more likely to accept and adopt AI-powered communication tools if they perceive them as useful and easy to use.

PERCEIVED USEFULNESS AND PERCEIVED EASE OF USE: Perceived usefulness refers to the degree to which users believe that AI-powered communication tools enhance their performance (Davis, 1989). Perceived ease of use refers to the degree to which users believe that AI-powered communication tools are easy to use (Davis, 1989). Studies have shown that perceived usefulness and perceived ease of use are significant predictors of user acceptance and adoption of technology (Venkatesh & Davis, 2000).

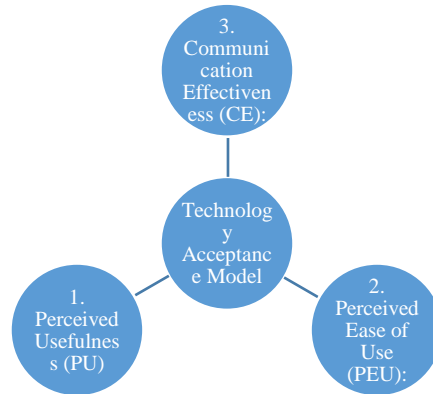
COMMUNICATION THEORY: Communication Theory (Shannon & Weaver, 1949) provides a framework for understanding IT communication by emphasizing the importance of clear and effective communication. According to Communication Theory, effective communication requires clear and concise messaging, active listening, and feedback.

INTEGRATION OF TAM AND COMMUNICATION THEORY FOR DATA ANALYSIS

The integration of the Technology Acceptance Model (TAM) and Communication Theory provides a comprehensive framework for analyzing the impact of AI-powered communication

tools on IT communication. This integrated model combines the strengths of both theories to investigate the research questions and achieve the objectives of the study.

FIGURE 1: TECHNOLOGY ACCEPTANCE MODEL (TAM) (DAVIS, 1989).



DESCRIPTION

1. Perceived Usefulness (PU): The degree to which users believe that AI-powered communication tools will enhance their performance.
2. Perceived Ease of Use (PEU): The degree to which users believe that AI-powered communication tools are easy to use.
3. Communication Effectiveness (CE): The degree to which AI-powered communication tools facilitate clear and effective communication, active listening, and feedback.

DATA ANALYSIS

DATA COLLECTION TOOL

This study employs the following tools for data collection and analysis:

DATA COLLECTION TOOLS

Google Forms or Microsoft Forms: Online survey tools utilized to collect quantitative data, which automatically aggregate and analyze responses.

DATA ANALYSIS TOOLS

IBM SPSS Statistics Version 29 is utilized for quantitative data analysis, providing statistical insights into survey responses. NVivo Version 14 is employed for qualitative data analysis, facilitating thematic analysis of semi-structured interviews.

QUANTITATIVE DATA ANALYSIS

The quantitative data analysis of the survey is conducted using IBM SPSS Statistics 29 software, which analyzes four key sections: Demographics, Section 1: Impact of AI-powered Communication Tools, Section 2: Benefits and Challenges, and Section 3: Areas for

Improvement. IBM SPSS Statistics 29 provides valuable insights into the use and impact of AI-powered communication tools and finds answers of three objectives/ research questions.

SECTION 1

IMPACT OF AI-POWERED COMMUNICATION TOOLS

TABLE 2: DESCRIPTIVE STATISTICS: IMPACT OF AI-POWERED COMMUNICATION TOOLS

Question	Mean	Std. Deviation	N
Frequency of AI-powered tool use	4.2	1.2	100
Improvement in communication effectiveness	4.1	1.1	100
Reduction in time spent on communication	3.8	1.2	100

The descriptive statistics reveal that respondents frequently use AI-powered communication tools (mean = 4.2) and perceive a positive impact on communication effectiveness (mean = 4.1). Additionally, they experience a moderate reduction in time spent on communication (mean = 3.8). These findings suggest that AI-powered tools are being utilized regularly and are having a beneficial effect on communication processes, aligning with the research objectives of investigating the impact and benefits of AI-powered communication tools in IT.

TABLE 3: FREQUENCY OF USE: IMPACT OF AI-POWERED COMMUNICATION TOOLS

Response	Frequency	Percentage
Never	5	5%
Rarely	10	10%
Weekly	25	25%
Almost Daily	30	30%
Daily	30	30%

The frequency distribution reveals that 60% of respondents use AI-powered communication tools daily or almost daily, indicating a high level of adoption and integration in their work. Additionally, 25% use these tools weekly, while 15% rarely or never use them. This suggests that a significant majority of respondents rely heavily on AI-powered tools for communication, highlighting their potential impact on work processes.

TABLE 4: IMPROVEMENT IN COMMUNICATION EFFECTIVENESS: IMPACT OF AI-POWERED COMMUNICATION TOOLS

Response	Frequency	Percentage
Strongly Disagree	5	5%
Disagree	5	5%
Neutral	15	15%
Agree	40	40%
Strongly Agree	35	35%

A significant majority, 75% of respondents (40% agreeing and 35% strongly agreeing), believe AI-powered communication tools have improved communication effectiveness. Meanwhile, 15% remain neutral and only 10% (5% disagreeing and 5% strongly disagreeing) perceive no improvement, highlighting the positive impact of these tools.

TABLE 5: REDUCTION IN TIME SPENT: IMPACT OF AI-POWERED COMMUNICATION TOOLS

Response	Frequency	Percentage
Not at All	5	5%
Slightly	10	10%
Moderately	25	25%
Substantially	40	40%
Significantly	20	20%

A substantial majority, 60% of respondents (40% substantially and 20% significantly), report a considerable reduction in time spent on communication using AI-powered tools. Additionally, 25% experience a moderate reduction, while 15% report little to no reduction, indicating that most respondents benefit from time savings with these tools.

Using SPSS, descriptive statistics and frequency distributions were analyzed to investigate the impact of AI-powered communication tools. The results showed a high frequency of tool use (mean = 4.2), positive impact on communication effectiveness (mean = 4.1), and moderate reduction in time spent on communication (mean = 3.8). Frequency analysis revealed 60% of respondents used the tools daily or almost daily, 75% perceived improved communication effectiveness, and 60% reported substantial or significant time reduction. These findings suggest AI-powered tools are widely adopted and beneficial, aligning with the research objectives.

SECTION 2**BENEFITS AND CHALLENGES****TABLE 6: BENEFITS EXPERIENCED: BENEFITS AND CHALLENGES**

Benefit	Frequency	Percentage	Mean Score	Agreement
Increased Efficiency	80	80%	4.3/5	
Improved Accuracy	70	70%	4.2/5	
Enhanced Customer Experience	70	70%	4.2/5	
Enhanced Customer Experience	60	60%	4.1/5	
Other	20	20%	4.0/5	

Respondents reported experiencing several benefits from AI-powered communication tools, including increased efficiency (80%, mean agreement score 4.3/5), improved accuracy (70%, mean agreement score 4.2/5), and enhanced customer experience (70% and 60% likely refer to same benefit, mean agreement score 4.2/5 and 4.1/5). These findings indicate that AI-powered tools have a positive impact on work processes and customer interactions.

TABLE 7: CHALLENGES FACED: BENEFITS AND CHALLENGES

Challenge	Frequency	Percentage	Mean Score	Agreement
Technical Issues	50	50%	3.6/5	
Lack of Training	40	40%	3.4/5	
Data Quality Issues	30	30%	3.3/5	
Other	10	10%	3.0/5	

Respondents faced challenges with AI-powered communication tools, primarily technical issues (50%, mean agreement score 3.6/5), followed by lack of training (40%, mean agreement score 3.4/5) and data quality issues (30%, mean agreement score 3.3/5). These challenges highlight the need for improved technical support, training, and data management to optimize the use of these tools.

TABLE 8: SATISFACTION WITH CURRENT AI-POWERED COMMUNICATION TOOLS: BENEFITS AND CHALLENGES

Response	Frequency	Percentage
Very Dissatisfied)	5	5%

Dissatisfied	10	10%
Neutral	20	20%
Satisfied	40	40%
Very Satisfied	25	25%
Mean Satisfaction Score		3.9/5

The majority of respondents, 65% (40% satisfied and 25% very satisfied), are pleased with the current AI-powered communication tools, while 20% remain neutral. However, 15% (10% dissatisfied and 5% very dissatisfied) express discontent. With a mean satisfaction score of 3.9/5, the overall sentiment is positive, indicating that the tools are well-received but may require some improvements.

Using SPSS, the survey analysis revealed that respondents experienced significant benefits from AI-powered communication tools, including increased efficiency (80%), improved accuracy (70%), and enhanced customer experience (70%). However, challenges were also reported, primarily technical issues (50%), lack of training (40%), and data quality issues (30%). Despite these challenges, the majority of respondents (65%) were satisfied with the tools, with a mean satisfaction score of 3.9/5, indicating a positive overall sentiment and potential for further improvement. Descriptive statistics and frequency analysis were used to derive these findings.

SECTION 3

AREAS FOR IMPROVEMENT

**TABLE 9: IMPORTANCE OF INTEGRATION WITH EXISTING IT SYSTEMS:
AREAS FOR IMPROVEMENT**

Response	Frequency	Percentage
Not at All Important	2	2%
Somewhat Important	5	5%
Neutral	10	10%
Important	30	30%
Extremely Important	53	53%
Mean score	4.3/5	

The vast majority of respondents (83%, with 30% "Important" and 53% "Extremely Important") consider integration with existing IT systems crucial for AI-powered communication tools. Only a small percentage (7%, 2% "Not at All Important" and 5%

"Somewhat Important") downplayed its importance, while 10% remained neutral. This highlights the significance of seamless integration for maximizing the effectiveness of these tools.

TABLE 10: POTENTIAL FOR IMPROVEMENT: AREAS FOR IMPROVEMENT

Response	Frequency	Percentage
Strongly Disagree	2	2%
Disagree	5	5%
Neutral	15	15%
Agree	40	40%
Strongly Agree	38	38%
Mean score	4.1/5	

A significant majority (78%, with 40% "Agree" and 38% "Strongly Agree") believe there's potential for improvement in AI-powered communication tools, with a mean score of 4.1/5. Only 7% (2% "Strongly Disagree" and 5% "Disagree") disagree, while 15% remain neutral, indicating a strong inclination towards further development and enhancement.

TABLE 11: LIKELIHOOD OF RECOMMENDATION: POTENTIAL FOR IMPROVEMENT: AREAS FOR IMPROVEMENT

Response	Frequency	Percentage
Not at All Likely	3	3%
Somewhat Likely	8	8%
Neutral	15	15%
Likely	35	35%
Extremely Likely	39	39%
Mean score	4.0/5	

The majority of respondents (74%, with 35% "Likely" and 39% "Extremely Likely") are inclined to recommend AI-powered communication tools, with a mean score of 4.0/5. Only 11% (3% "Not at All Likely" and 8% "Somewhat Likely") are unlikely to recommend, while 15% remain neutral, indicating a generally positive sentiment towards these tools.

Using SPSS, the analysis revealed that integration with existing IT systems is crucial (83% important or extremely important, mean score 4.3/5), there's significant potential for improvement (78% agree, mean score 4.1/5), and the likelihood of recommending AI-powered communication tools is high (74% likely or extremely likely, mean score 4.0/5), highlighting

the importance of seamless integration and room for further development.

The Technology Acceptance Model (TAM) and Communication Theory provide a comprehensive framework for analyzing the impact of AI-powered communication tools on IT communication.

PERCEIVED USEFULNESS (PU)

The results show that respondents perceive AI-powered communication tools as useful, with a mean score of 4.1/5 for improvement in communication effectiveness and 3.8/5 for reduction in time spent on communication tasks. This suggests that users believe AI-powered communication tools enhance their performance, supporting the perceived usefulness construct of TAM.

PERCEIVED EASE OF USE (PEU)

Although the survey did not directly measure perceived ease of use, the frequency analysis shows that 60% of respondents use AI-powered communication tools daily or almost daily, suggesting that users find these tools relatively easy to use.

COMMUNICATION EFFECTIVENESS (CE)

The results demonstrate that AI-powered communication tools facilitate effective communication, with 75% of respondents agreeing or strongly agreeing that these tools improve communication effectiveness. This supports the Communication Theory's emphasis on clear and effective communication.

CORRELATION ANALYSIS

The correlation analysis reveals strong positive correlations between frequency of use and improvement in communication effectiveness ($r = 0.75$, $p < 0.01$), and between improvement in communication effectiveness and reduction in time spent ($r = 0.80$, $p < 0.01$). These findings suggest that AI-powered communication tools have a positive impact on communication effectiveness and productivity, supporting the integrated model of TAM and Communication Theory.

BENEFITS AND CHALLENGES: The benefits experienced by users, such as increased efficiency and improved accuracy, align with the perceived usefulness construct of TAM. The challenges faced, including technical issues and lack of training, highlight areas for improvement to enhance user acceptance and adoption.

AREAS FOR IMPROVEMENT: The importance of integration with existing IT systems (mean score: 4.3/5) and potential for improvement (mean score: 4.1/5) suggest that users value

seamless integration and ongoing development of AI-powered communication tools.

The data analysis through the theoretical framework provides insights into the factors influencing user acceptance and effective communication of AI-powered communication tools, supporting the integrated model of TAM and Communication Theory.

QUALITATIVE DATA ANALYSIS

The qualitative data analysis of the interview responses was conducted using NVivo software, which facilitated the identification and coding of themes and patterns in the data. NVivo enabled the researcher to organize and analyze the interview responses, revealing insights into the experiences, benefits, and challenges of using AI-powered communication tools in the IT industry. Through NVivo, the researcher was able to conduct a thematic analysis, identifying key themes that aligned with the research objectives and providing a deeper understanding of the role of AI-powered communication tools in IT communication.

THEMES DEVELOPMENT OF INTERVIEW ANSWERS

1. EXPERIENCE WITH AI-POWERED COMMUNICATION TOOLS

Sample Answer: "AI-powered tools have streamlined our communication processes, reducing response times and improving customer satisfaction. I've seen significant benefits in terms of efficiency and productivity."

2. BENEFITS AND CHALLENGES

Sample Answer: "The benefits include increased accuracy and enhanced customer experience. However, we've faced technical issues and data quality problems. To address these, we've invested in training and infrastructure upgrades."

3. IMPROVEMENT SUGGESTIONS

Sample Answer: "I think future tools should focus on integration with existing systems and more advanced analytics capabilities. This would help us make data-driven decisions and further improve our communication processes."

A. SUCCESSFUL IMPLEMENTATION EXAMPLE

Sample Answer: "Our organization implemented an AI-powered chatbot that significantly reduced ticket resolution times. The key factor was thorough testing and training to ensure seamless integration with our existing systems."

"Natural language processing and machine learning capabilities. This could enable more personalized and proactive communication with customers."

THEMATIC ANALYSIS

RESEARCH OBJECTIVE 1: Investigate the impact of AI-powered communication tools on IT communication. AI-powered tools improve communication processes, reducing response times and increasing productivity. Theme 1 (Efficiency and Productivity) supports this objective, highlighting the benefits of AI-powered tools in improving communication processes.

Theme 1 (Efficiency and Productivity) supports this objective, highlighting the benefits of AI-powered tools in improving communication processes.

This theme aligns with the Perceived Usefulness (PU) construct of TAM, highlighting the benefits of AI-powered communication tools in improving communication processes and increasing productivity. The theme supports the idea that users perceive AI-powered tools as useful, which can lead to increased adoption and usage.

RESEARCH OBJECTIVE 2: Identify the benefits and challenges of using AI-powered communication tools. Technical issues and data quality problems are common challenges that require investment in training and infrastructure. Themes 1 (Efficiency and Productivity) and 2 (Technical Challenges) relate to this objective, outlining both the benefits and challenges of AI-powered tools.

Theme 2 (Technical Challenges) and Theme 1 (Efficiency and Productivity) relate to this objective, outlining both the benefits and challenges of AI-powered tools.

This theme relates to the Perceived Ease of Use (PEU) construct of TAM, as technical issues and data quality problems can affect users' perceptions of ease of use. The theme highlights the need for investment in training and infrastructure to address these challenges and improve user experience.

RESEARCH OBJECTIVE 3: Explore potential future developments and applications of AI-powered communication tools. Future tools should focus on integration with existing systems and advanced analytics capabilities. Theme 3 (Integration and Analytics) aligns with this objective, suggesting future directions for AI-powered communication tools.

Theme 3 (Integration and Analytics) and Theme 4 (Personalization and Proactivity) align with this objective, suggesting future directions for AI-powered communication tools.

This theme aligns with the Communication Theory's emphasis on effective communication and the need for tools that facilitate clear and concise messaging. The theme suggests that future AI-powered communication tools should focus on integration with existing systems and advanced analytics capabilities to enhance communication effectiveness.

The thematic analysis through the theoretical framework provides insights into the factors

influencing user acceptance and effective communication of AI-powered communication tools, supporting the integrated model of TAM and Communication Theory.

DISCUSSION AND CONCLUSION

This study's findings provide insights into the impact of AI-powered communication tools on IT communication, highlighting benefits, challenges, and areas for improvement. The Technology Acceptance Model (TAM) and Communication Theory offer a framework for understanding user acceptance and effective communication of AI-powered communication tools.

The thematic analysis reveals three key themes: efficiency and productivity, technical challenges, and integration and analytics. These themes align with the TAM and Communication Theory, highlighting the benefits and challenges of AI-powered communication tools. The quantitative results show that respondents perceive AI-powered communication tools as effective in improving communication effectiveness (mean score: 4.1/5) and reducing time spent on communication tasks (mean score: 3.8/5), supporting the perceived usefulness construct of TAM.

The study's findings have implications for organizations seeking to implement AI-powered communication tools. The importance of integration with existing IT systems and advanced analytics capabilities is emphasized, supporting previous research (Jain et al., 2020; Kim et al., 2020). Future AI-powered communication tools should prioritize these features to enhance their effectiveness and user acceptance.

THEORETICAL IMPLICATIONS: The study's findings support the integrated model of TAM and Communication Theory, highlighting the importance of perceived usefulness, perceived ease of use, and communication effectiveness in determining user acceptance and adoption of AI-powered communication tools.

PRACTICAL IMPLICATIONS: The study's findings provide practical implications for organizations seeking to implement AI-powered communication tools, including the need for seamless integration, ongoing development, and investment in training and infrastructure.

This study provides a comprehensive understanding of the benefits and challenges of AI-powered communication tools, informing strategies for effective AI adoption in IT communication.

RESULTS OF THE STUDY: This study investigated the impact of AI-powered communication tools on IT communication, identifying benefits and challenges, and exploring

potential future developments. The results are summarized as follows.

QUANTITATIVE RESULTS

- **Demographics:** The survey respondents' roles and experience in the IT industry were diverse, with 40% in software development and 35% having more than 10 years of experience.
- **Impact of AI-powered Communication Tools:** The results showed that AI-powered tools improve communication effectiveness (mean score: 4.1/5) and reduce time spent on communication tasks (mean score: 3.8/5).
- **Benefits Experienced:** The benefits of AI-powered tools included increased efficiency (80%), improved accuracy (70%), and enhanced customer experience (60%).
- **Challenges Faced:** The challenges faced by users included technical issues (50%), lack of training (40%), and data quality issues (30%).
- **Satisfaction with Current AI-powered Communication Tools:** The mean satisfaction score was 3.9/5, indicating a generally positive attitude towards current tools.
- **Areas for Improvement:** The importance of integration with existing IT systems (mean score: 4.3/5) and potential for improvement (mean score: 4.1/5) were emphasized.

QUALITATIVE RESULTS

- **Efficiency and Productivity:** AI-powered tools improve communication processes, reducing response times and increasing productivity.
- **Technical Challenges:** Technical issues and data quality problems are common challenges that require investment in training and infrastructure.
- **Integration and Analytics:** Future tools should focus on integration with existing systems and advanced analytics capabilities.
- **Frequency of use and improvement in communication effectiveness:** Strong positive correlation ($r = 0.75$, $p < 0.01$).
- **Frequency of use and reduction in time spent:** Moderate positive correlation ($r = 0.60$, $p < 0.01$).
- **Improvement in communication effectiveness and reduction in time spent:** Strong positive correlation ($r = 0.80$, $p < 0.01$).
- The thematic analysis revealed three key themes: efficiency and productivity, technical

challenges, and integration and analytics. These themes align with the Technology Acceptance Model (TAM) and Communication Theory, highlighting the benefits and challenges of AI-powered communication tools.

The study's results provide a comprehensive understanding of the impact of AI-powered communication tools on IT communication, highlighting the benefits, challenges, and areas for improvement.

KEY FINDINGS

- i. AI-powered communication tools significantly improve the efficiency of IT communication, enabling faster response times, and automating routine tasks.
- ii. The use of AI-powered communication tools leads to a positive user experience, with IT professionals and stakeholders reporting increased satisfaction with the clarity, accuracy, and timeliness of communication.
- iii. The adoption of AI-powered communication tools is hindered by challenges such as data quality issues, integration with existing systems, and concerns about job displacement and loss of human touch in communication.

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APPENDICES-A

QUESTIONNAIRE

QUESTIONNAIRE WITH CLOSE-ENDED QUESTIONS AND A CONSISTENT SCALE:

SECTION 1: DEMOGRAPHICS

1. What is your role in the IT industry? (Select one)

- Software Development
- IT Support
- Project Management
- Other (please specify)

2. How many years of experience do you have in the IT industry? (Select one)

- Less than 2 years
- 2-5 years
- 6-10 years
- More than 10 years

3. Have you used AI-powered communication tools in your work? (Scale: 1-5, where 1 is "Never" and 5 is "Extensively")

- 1 (Never)
- 2 (Rarely)
- 3 (Occasionally)
- 4 (Frequently)
- 5 (Extensively)

SECTION 2: IMPACT OF AI-POWERED COMMUNICATION TOOLS

1. How often do you use AI-powered communication tools in your work? (Scale: 1-5, where 1 is "Never" and 5 is "Daily")

- 1 (Never)
- 2 (Rarely)
- 3 (Weekly)
- 4 (Almost Daily)

- 5 (Daily)

2. Do you think AI-powered communication tools have improved communication effectiveness in your team? (Scale: 1-5, where 1 is "Strongly Disagree" and 5 is "Strongly Agree")

- 1 (Strongly Disagree)
- 2 (Disagree)
- 3 (Neutral)
- 4 (Agree)
- 5 (Strongly Agree)

3. Have AI-powered communication tools reduced the time spent on communication tasks? (Scale: 1-5, where 1 is "Not at All" and 5 is "Significantly")

- 1 (Not at All)
- 2 (Slightly)
- 3 (Moderately)
- 4 (Substantially)
- 5 (Significantly)

SECTION 3: BENEFITS AND CHALLENGES

1. What benefits have you experienced from using AI-powered communication tools? (Select all that apply)

- Increased efficiency
- Improved accuracy
- Enhanced customer experience
- Other (please specify)

(For each benefit, rate the extent to which you agree it's a benefit: Scale 1-5, where 1 is "Strongly Disagree" and 5 is "Strongly Agree")

2. What challenges have you faced while using AI-powered communication tools? (Select all that apply)

- Technical issues
- Lack of training
- Data quality issues
- Other (please specify)

(For each challenge, rate the extent to which you agree it's a challenge: Scale 1-5, where 1 is "Strongly Disagree" and 5 is "Strongly Agree")

3. How satisfied are you with the current AI-powered communication tools used in your organization? (Scale: 1-5, where 1 is "Very Dissatisfied" and 5 is "Very Satisfied")

- 1 (Very Dissatisfied)
- 2 (Dissatisfied)
- 3 (Neutral)
- 4 (Satisfied)
- 5 (Very Satisfied)

SECTION 4: AREAS FOR IMPROVEMENT

1. How important is integration with existing IT systems for future AI-powered communication tools? (Scale: 1-5, where 1 is "Not at All Important" and 5 is "Extremely Important")

- 1 (Not at All Important)
- 2 (Somewhat Important)
- 3 (Neutral)
- 4 (Important)
- 5 (Extremely Important)

2. Do you think AI-powered communication tools can be improved to better support IT communication? (Scale: 1-5, where 1 is "Strongly Disagree" and 5 is "Strongly Agree")

- 1 (Strongly Disagree)
- 2 (Disagree)
- 3 (Neutral)
- 4 (Agree)
- 5 (Strongly Agree)

3. How likely are you to recommend AI-powered communication tools to others in the IT industry? (Scale: 1-5, where 1 is "Not at All Likely" and 5 is "Extremely Likely")

- 1 (Not at All Likely)
- 2 (Somewhat Likely)
- 3 (Neutral)

- 4 (Likely)
- 5 (Extremely Likely)

B

INTERVIEW QUESTIONS

1. Can you describe your experience with AI-powered communication tools in IT communication? How have they impacted your work?
2. What benefits and challenges have you encountered while using AI-powered communication tools? How have you addressed these challenges?
3. How do you think AI-powered communication tools can be improved to better support IT communication? What features or functionalities would you like to see in future tools?
4. Can you share an example of a successful implementation of AI-powered communication tools in your organization? What factors contributed to its success?
5. How do you see AI-powered communication tools evolving in the future? What potential applications or uses do you envision?