A Systematic Literature Review of Integrated AI-Assisted Communication in Inter-personal Communication

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ABSTRAK

Advances in AI have greatly enhanced communication and the flow of information. This review summarizes a systematic literature review on AI and human communication, focusing on four databases (Elsevier, Google Scholar, Oxford, and Sage). Inclusion and exclusion criteria were established to eliminate irrelevant publications. After applying the protocol and analysis model, 21 papers were reviewed between May and June 2023. The results indicate that AI, particularly machine learning and computer-mediated communication, has become essential for network operators to automate communication and address real-world challenges.

Kemajuan AI telah sangat meningkatkan komunikasi dan aliran informasi. Tinjauan ini merangkum literatur sistematis tentang AI dan komunikasi manusia, dengan fokus pada empat basis data utama: Elsevier, Google Scholar, Oxford, dan Sage. Kriteria inklusi dan eksklusi digunakan untuk menyaring publikasi yang tidak relevan. Setelah menerapkan protokol dan model analisis, 21 makalah ditinjau antara Mei dan Juni 2023. Hasilnya menunjukkan bahwa AI, khususnya pembelajaran mesin dan komunikasi terkomputerisasi, telah menjadi sangat penting bagi operator jaringan untuk mengotomatisasi komunikasi dan mengatasi tantangan dunia nyata.

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INTRODUCTION

Throughout history, technology has played a central role in enhancing the standard of living. In recent years, emerging technologies like cloud computing, the Internet of Things (IoT), big data, data science, artificial intelligence (AI), and blockchain have taken centre stage Aromataris E, Pearson A. (2014). However, AI stands out as the linchpin of these advancements, driving the evolution of Industry 4.0.

AI's advancement has fundamentally influenced the development and integration of other technologies. The literature provides substantial evidence supporting AI's capacity to revolutionize the communication industry. By enabling new opportunities, AI fosters significant transformations that enhance efficiency and effectiveness within the industry (Bullock G., 2017; Broussard M., 2018; Butow P, Hoque E., 2020; Chowdhury MZ, Shahjalal M, Ahmed S, Jang YM., 2020; Brewer PR, Bingaman J, Paintsil A, Wilson DC, Dawson W., 2022).

AI's impact is particularly evident in its ability to automate and optimize processes, improving communication systems and networks. Machine learning algorithms, for example, can analyze vast amounts of data to identify patterns and make predictions, leading to more efficient decision-making processes. Furthermore, AI-powered communication tools facilitate seamless interactions between humans and machines, creating more intuitive and responsive communication experiences.

The history of artificial intelligence (AI) dates back to the mid-1950s when John McCarthy, a US-American computer scientist and pioneer in the field, coined the term "artificial intelligence" while submitting a grant application for a conference. AI research has grown significantly since then, with key figures like Nils John Nilsson from Stanford University defining AI as the study of intelligent behaviour in artifacts, encompassing perception, reasoning, learning, communication, and action within complex environments Creswell JW. (2013).

AI is fundamentally a computational agent designed to exhibit intelligent behaviour Dörr KN. (2016). It involves the creation of intelligent machines and software capable of reasoning, learning, acquiring knowledge, communicating, manipulating objects, and perceiving the world around them Endacott CG, Leonardi PM. (2022). In essence, AI aims to replicate human-like intelligence, allowing machines to understand, reason, and act effectively.

The study of AI encompasses a broad range of technologies and methodologies, including machine learning, natural language processing, robotics, and

computer vision. These technologies enable AI systems to perform tasks that typically require human intelligence, such as recognizing speech, understanding natural language, making decisions based on data, and interacting with the physical world.

As AI continues to evolve, its applications have expanded across various industries, from healthcare and finance to transportation and entertainment. AI-driven innovations have the potential to transform how we live and work, providing new opportunities and solving complex challenges. The ongoing advancements in AI research and development promise to push the boundaries of what is possible, further integrating intelligent systems into our daily lives and shaping the future of technology.

AI is increasingly recognized for its role in advancing human communication research Finfgeld-Connett D, Johnson ED. (2013). Communication industry consultants have identified a wide range of potential AI applications, including analytics, targeted communication, content creation, chatbots, evaluation routines, strategy development, and crisis management Finfgeld-Connett D, Johnson ED. (2013). The professional discourse around AI technologies emphasizes their potential to augment professional activities, presenting numerous opportunities. However, it also acknowledges that AI cannot fully replace or replicate the unique capabilities of humans.

This perspective highlights AI's utility as a tool to enhance and support human endeavours rather than supplant them. For instance, AI-driven analytics can process large datasets to uncover insights that inform communication strategies, while AI-powered chatbots can handle routine customer interactions, freeing up human professionals to focus on more complex tasks. Similarly, AI can assist in content creation by generating preliminary drafts or providing creative suggestions, yet the final touch and nuanced understanding of context remain firmly within the human domain.

Moreover, AI's role in evaluation routines allows for the systematic assessment of communication efforts, offering data-driven feedback to refine strategies and improve outcomes. In crisis management, AI can swiftly analyse information to provide timely and accurate recommendations, aiding human decision-makers in navigating challenging situations.

Artificial Intelligence (AI) is a term that encompasses a broad range of efforts, from understanding human intelligence by creating a mind within a machine, to developing technologies capable of performing tasks typically associated with some level of human intelligence (Gunkel

DJ., 2012; Frankish K, Ramsey WM., 2014). This polysemous nature of AI means it can be both a theoretical study and a practical tool.

In the realm of communication, AI technologies such as conversational agents, social robots, and automated-writing software are prime examples of AI's practical applications. These technologies have predominantly emerged from advancements in two key AI subfields: Natural Language Processing (NLP) and Natural Language Generation (NLG). At their core, NLP and NLG aim to process human communication to a degree that allows machines to understand and generate human language, rather than being confined to machine language Brewer PR, Bingaman J, Paintsil A, Wilson DC, Dawson W. (2022).

For instance, voice-based assistants like Siri and Alexa have evolved from extensive research and development in NLP, which enables them to understand and respond to spoken language. Similarly, automated-writing programs, which can generate coherent and contextually relevant text, are underpinned by NLG Grudin J. (2012). These advancements have revolutionized how humans interact with machines, making interactions more intuitive and seamless.

AI's role in communication extends beyond these examples. It includes the ability to analyse vast amounts of data to extract meaningful insights, tailor messages to specific audiences, and even predict communication outcomes based on historical data. These capabilities are invaluable in fields such as marketing, customer service, and media.

Moreover, AI's continuous evolution promises further enhancements in communication technologies. As algorithms become more sophisticated and data processing capabilities expand, AI's potential to transform communication will likely grow, leading to more efficient, effective, and human-like interactions between machines and people. The journey of AI in communication is just beginning, and its future holds endless possibilities for innovation and improvement

One of the most ubiquitous applications of AI today is the personalized reply suggestions in text-based communication, commonly known as "smart replies" Guzman AL. (2018). Since 2017, algorithmic responses have made up 12% of all messages sent via Gmail Guzman AL, Lewis SC. (2020), equating to approximately 6.7 billion emails written by AI each day on our behalf Hancock JT, Naaman M, Levy K. (2020).

The primary goal of smart reply systems is to enhance text production efficiency. They achieve this by utilizing extensive text corpora to anticipate what a

user might type next. The system then generates one or more suggested responses that the user can select when replying to a message. This not only saves time but also streamlines the communication process.

The widespread adoption of AI in interpersonal communication has been driven by substantial technical research on various methods for generating algorithmic responses Hermann E. (2022). This research has led to significant advancements in the field, enabling AI to better understand context and provide more accurate and relevant suggestions.

Moreover, the integration of AI in communication platforms has improved user experience by reducing the cognitive load involved in composing messages. Users can quickly respond to emails with minimal effort, relying on the AI-generated suggestions that are often contextually appropriate and effective.

As AI continues to evolve, the capabilities of smart reply systems are expected to become even more sophisticated. Future developments may include more personalized and context-aware responses, further enhancing the efficiency and effectiveness of AI-assisted communication. The ongoing research and innovation in this area promise to push the boundaries of what AI can achieve, making it an indispensable tool in our daily communication endeavours.

The study of artificial intelligence (AI) and communication has followed distinct paths in recent years Brewer PR, Bingaman J, Paintsil A, Wilson DC, Dawson W. (2022). Research on AI has primarily concentrated on replicating aspects of human intelligence, such as communication abilities, within machines Gunkel DJ. (2012). While numerous studies have explored AI and its applications in communication (Finfgeld-Connett D, Johnson ED., 2013; Brewer PR, Bingaman J, Paintsil A, Wilson DC, Dawson W., 2022; Butow P, Hoque E., 2020), there has been a lack of systematic literature reviews examining these developments comprehensively.

Recognizing this gap, we embarked on an updated, comprehensive, and systematic literature review to report recent research findings on the use of AI in communication. This review aims to consolidate the diverse studies conducted so far, providing a thorough understanding of how AI technologies are being integrated into communication processes and their impact on the field.

Our review encompasses various AI applications in communication, from conversational agents and chatbots to automated-writing software and social robots. These technologies have been developed through advancements in AI subfields such as Natural Language

Processing (NLP) and Natural Language Generation (NLG). NLP and NLG enable machines to process and generate human language, facilitating more intuitive interactions between humans and AI systems.

The review also highlights the potential of AI to enhance communication efficiency and effectiveness. For example, AI-driven analytics can offer insights into communication patterns and preferences, enabling more targeted and personalized messaging. Additionally, AI-powered tools can automate routine tasks, freeing up human professionals to focus on more strategic and creative aspects of communication.

Furthermore, our literature review identifies challenges and opportunities associated with the integration of AI in communication. While AI technologies offer significant benefits, they also raise important ethical and practical considerations. Ensuring the responsible and transparent use of AI is crucial to maximizing its positive impact while mitigating potential risks.

A comprehensive literature review was conducted using Google Scholar, Scopus (Elsevier), Oxford, and Sage Journals to gather empirical data on the intersection of AI and communication. This systematic literature review (SLR) aims to address several key research questions: (1) What AI technologies are employed to enhance human communication? (2) What methodologies are prevalent in studies related to AI and communication? (3) How are AI and communication-related papers distributed annually? (4) What is the geographical distribution of these studies?

The review meticulously selected papers that provided empirical data, ensuring a robust foundation for analysis. By examining various AI technologies, the study seeks to identify the tools and techniques that have proven effective in enhancing communication. The methodologies employed in these studies are also scrutinized to understand the research approaches and frameworks that have been most effective.

Furthermore, the SLR investigates the annual distribution of AI and communication-related papers to uncover trends and patterns in research over time. Additionally, it explores the geographical distribution of these studies to identify which countries are leading in this research area and how regional differences might influence the findings. This comprehensive review aims to provide a thorough understanding of the current state of AI in communication, highlighting both opportunities and challenges.

METHODOLOGY

To answer the four research questions, a systematic literature review (SLR) was conducted. An SLR is a type of research synthesis performed by review groups with specialized skills. These groups aim to identify and retrieve international evidence relevant to specific questions, appraise, and synthesize the results to inform practice, policy, and, in some cases, further research Aromataris E, Pearson A. (2014). The literature search took place between May and June 2023.

According to the Cochrane handbook, a systematic review employs explicit, systematic methods chosen to minimize bias. This approach provides more reliable findings from which conclusions can be drawn and decisions made Higgins JPT, Altman DG, Sterne JAC. (2011). The structured methodology and rigorous analysis are designed to ensure the highest level of accuracy and relevance in the review's results. This methodical process underscores the significance of comprehensive and unbiased evidence collection in the field of AI and communication.

To ensure the transparency of the literature search, the review process followed PRISMA guidelines Higgins JPT, Altman DG, Sterne JAC. (2019). Specific inclusion and exclusion criteria were established, requiring studies to be original research contributions and peer-reviewed. Excluded materials included book chapters, reviews, magazines, and editorials. Only English-language studies published between 2019 and 2023 were considered. The literature search spanned four comprehensive databases: Google Scholar, Elsevier, Sage, and Oxford. A single descriptor, "AI and Communication," was used to find relevant research, without incorporating Boolean operators, ensuring that the search results matched the exact phrase.

Literature searches are iterative, evolving processes, and this systematic review aimed to refine the research question as evidence emerged Finfgeld-Connett D, Johnson ED. (2013). At this stage, there were no restrictions on language, publication type, or document type. The goal was to cast a wide net to capture all pertinent studies on AI and communication, thereby providing a robust foundation for analysis and synthesis in the review.

To refine the results, specific inclusion and exclusion criteria were established to eliminate publications that were clearly irrelevant to the research questions Staples M, Niazi M. (2007). The process of selection and data extraction involved researchers screening and evaluating all titles and abstracts to make informed decisions. Any disagreements regarding

final inclusion were resolved through discussion and consensus among all the authors of this study.

Based on the specified criteria, researchers identified a total of 11,690 articles published between 2019 and 2023 from the Google Scholar, Elsevier, Sage, and Oxford databases. The distribution of articles was as follows: Google Scholar contributed 18.39% (n = 2,150), Elsevier 21.39% (n = 2,500), Sage 29.93% (n = 3,500), and Oxford 30.29% (n = 3,540). Figure 2 provides a detailed breakdown of the distribution of articles from these databases.

During the data cleaning process, 0.77% (n = 90) duplicates were removed, resulting in 99.23% (n = 11,600) unique articles. These duplicates were different versions of the same document. The remaining 11,600 articles were then screened based on the predefined inclusion and exclusion criteria, leading to the elimination of 90.94% (n = 10,550) of the articles. This initial screening left 1,050 articles for further assessment of eligibility and inclusion.

Upon further review, 80.95% (n = 850) of these articles were excluded as they were identified as review articles, which did not meet the inclusion criteria. This left 19.05% (n = 200) articles for another round of screening. In this final screening phase, 89.5% (n = 179) of the articles were excluded, resulting in 10.5% (n = 21) articles that met the inclusion criteria. These 21 articles, published between 2019 and 2023, employed empirical methodologies, were written in English, and appeared in scholarly peer-reviewed journals. They specifically focused on the intersection of AI and communication, providing a robust dataset for further analysis. Figure 3 provides a detailed overview of the inclusion analysis.

RESULTS AND DISCUSSION

This systematic literature review (SLR) aims to provide an overview of research on AI and human communication. Before diving into the four research questions, this SLR has offered a brief general overview of the included studies. The review has encompassed various AI technologies, methodologies, annual distributions, and geographical distributions, shedding light on the current state and impact of AI in communication. This groundwork sets the stage for a deeper exploration of the research questions and their implications for future advancements in the field.
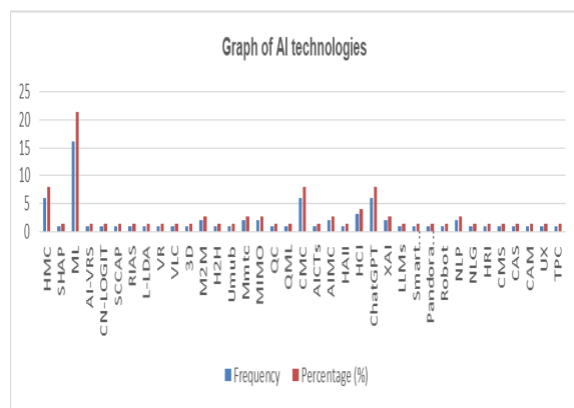
Figure 1 AI technologies used in human communication

The increasing availability of monitoring data and recent advances in computing platforms, AI has become an invaluable tool for network operators to automate communication processes. AI-based technologies have demonstrated exceptional capabilities in addressing a wide range of real-world problems, leading to their widespread adoption in the field of communication. The advent of these technologies has revolutionized interpersonal communication by providing a variety of formats and channels for individuals to send messages and interact with others across different times and locations Hancock JT, Naaman M, Levy K. (2020).

The introduction of AI technologies has significantly transformed how people communicate, challenging traditional assumptions around agency and mediation while raising new ethical questions. Since its emergence in the mid-20th century, the field of AI research and application has maintained a close relationship with communication, impacting nearly every aspect of our lives over the past decade. The continuous evolution of AI promises further advancements and innovations, continuing to shape and redefine the ways we interact and communicate in the future.

The findings of the systematic literature review (SLR) highlight that machine learning (ML) is deeply integrated into everyday communication services. ML, a branch of computational science, focuses on analysing and interpreting patterns and structures in data to facilitate communication, learning, reasoning, and decision-making. The review indicates that with the increasing availability of monitoring data and recent advances in computing platforms, AI and ML have become indispensable tools in communication, particularly for network operators who use these technologies to automate network management.

Supporting this, Kerr et al. Kerr A, Barry M, Kelleher JD. (2020) affirm that ML is central to a highly positive and future-oriented discourse, widely disseminated through national research programs, consultancy reports, and corporate statements. The pervasive integration of ML in communication underscores its vital role in shaping efficient and effective communication

systems. By leveraging AI and ML, network operators can enhance their capabilities, streamline processes, and address real-world challenges more effectively, ultimately leading to improved communication services.

Computer-Mediated Communication (CMC) is classified as an AI technology that facilitates interactions between individuals through network-connected digital devices, allowing the exchange of messages via email, text messaging, social network site interactions, and videoconferencing Hancock JT, Naaman M, Levy K. (2020). Essentially, CMC involves a computational agent that acts on behalf of a communicator by modifying, augmenting, or generating messages to achieve communication or interpersonal goals. The systematic literature review (SLR) revealed that CMC is extensively used in interpersonal communication. This aligns with Hancock et al.'s Hancock JT, Naaman M, Levy K. (2020) study, which confirms that CMC has advanced text-based communication through features such as auto-correct, predictive text, and grammar correction, progressing to smart replies, auto-completion, and auto-responses in platforms like Gmail and mobile phones. For instance, Gmail's smart replies allow an email recipient to select from several responses generated by CMC. This trend has also significantly advanced

nonverbal CMC, such as the automatic insertion of emojis.

Additionally, Statt Statt N. (2018) supports these findings by indicating that CMC technologies have the potential to entirely generate messages on behalf of a sender. This includes creating online profiles and even generating messages in real-time communications. The rapid evolution of CMC technologies highlights their growing role in facilitating seamless and efficient communication, ensuring that AI plays a pivotal part in both verbal and nonverbal interactions. As CMC continues to evolve, its capabilities are expected to expand further, offering more sophisticated and intuitive solutions for digital communication.

ChatGPT, initially pre-trained on an extensive corpus of human-generated text, has been fine-tuned for specific tasks. It excels in natural language usage, predicting the next word, generating highly human-like text, and performing tasks like engaging in dialogue Thorp HH. (2023). According to the SLR, ChatGPT serves as a communication tool by stringing words together based on their co-occurrence in vast corpora of human-produced text. This method results in text that is almost, but not entirely, meaningful.

However, Sundar and Liao Thorp HH. (2023) challenge this perspective, arguing that while ChatGPT is adept at mimicking

human writing styles, it lacks true understanding of the objects or phenomena it describes. They further caution that relying solely on AI-generated content can be dangerous, as it can spread false information in a seemingly trustworthy manner. To mitigate this risk, they recommend that AI-generated content should be clearly disclosed as such, allowing users to critically assess its credibility and verify its accuracy using search engines and other trusted sources. This approach encourages caution and promotes more informed evaluations of AI-generated information.

Methodologies in AI and human communication related papers

The SLR for research question two revealed that scholars employ qualitative, quantitative and mixed methods in their studies on AI and communication. See **Figure 2** below for the graphical representations of the methodologies in AI related papers.
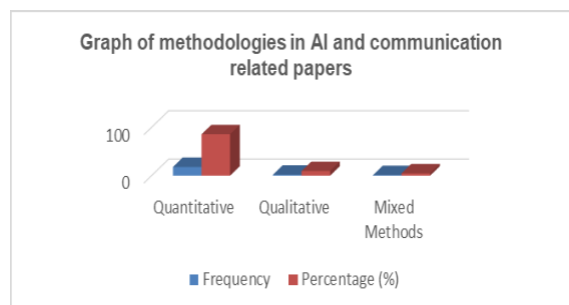

Figure 2 Methodologies in AI and human communication related papers

The SLR reveals that the majority (86%, n=18) of the studies utilized a quantitative research approach, employing surveys and questionnaires to test objective theories by examining relationships among variables. This finding aligns with Creswell's [32] perspective that quantitative research is particularly suited for exploring variable relationships, as it allows for the analysis of numerical data using statistical procedures. This approach supports building an inquiry based on assumptions about deductively testing theories, implementing protections against bias, controlling for alternative explanations, and enabling the generalization and replication of findings.

By adopting a quantitative approach, researchers can systematically collect and analyse data to identify patterns and relationships, thereby providing robust evidence to support or refute theoretical constructs. This methodological choice not only enhances the reliability and validity of the research findings but also ensures that the results can be generalized to broader populations and replicated in future studies. The rigorous nature of quantitative research thus contributes to the advancement of knowledge in the field of AI and communication, offering valuable insights into the dynamics of these interactions and their implications for practice and policy.

The SLR further revealed that scholars also employed qualitative research approaches in studying AI and communication. This method accounted for 10% (n=2) of the 21 papers reviewed. These qualitative studies often involve in-depth interviews, focus groups, and content analysis to gain a deeper understanding of the contextual and experiential aspects of AI in communication. By exploring the nuances and complexities of how AI technologies are perceived and utilized, qualitative research complements the quantitative findings, providing a more holistic view of the impact and implications of AI in the communication field. This dual approach enriches the overall insights and contributes to a more comprehensive understanding of the subject.

The findings from the systematic literature review (SLR) indicated that out of the 21 research papers reviewed, 10% (n=2) utilized qualitative research methodologies to gather data. These studies employed methods such as interviews, online surveys, and content analysis, focusing on participants' settings and experiences to inductively derive general themes. This approach aligns with Creswell's Creswell JW. (2013) perspective that qualitative research involves collecting data from participants' natural settings, analysing it inductively to build from specific details to

broader themes, and interpreting the data's meaning.

The SLR's findings support Creswell's view, emphasizing that qualitative research is invaluable for understanding the contextual and experiential aspects of AI and communication. By capturing participants' perspectives and experiences, qualitative studies provide deeper insights into how AI technologies are perceived and utilized in real-world settings. This complementary approach to quantitative research enriches the overall understanding of AI's impact on communication, highlighting the nuances and complexities that quantitative data alone may not fully capture. As a result, qualitative research plays a crucial role in providing a comprehensive and holistic view of AI's role in enhancing human communication.

The findings from the SLR reveal that 5% (n=1) out of the 21 research papers utilized mixed methods to gain a more comprehensive understanding of the research problem. Creswell JW. (2013) supports this approach, stating that mixed methods involve collecting and analyzing both quantitative and qualitative data in two sequential phases within a single study. The primary rationale behind this approach is that quantitative data and their subsequent analysis offer a broad understanding of the research problem. In contrast, qualitative data and their analysis provide a deeper

explanation of the statistical results by exploring participants' perspectives in more detail Creswell JW. (2013).

In these studies, focus group discussions (FGD) and interviews were employed as data collection methods for the qualitative component, while surveys and questionnaires were used for the quantitative component. This mixed methods approach allows researchers to triangulate data, enhancing the validity and robustness of their findings by integrating both numerical and contextual insights. Consequently, it leads to a more nuanced and holistic comprehension of the AI and communication research landscape.

Yearly distribution of AI and human communication related papers

Results from the SLR (research question three) indicate that there were more research publications in the year 2020 and 2022. See Figure 3 below for the graphical representations of the yearly distribution of AI related papers.
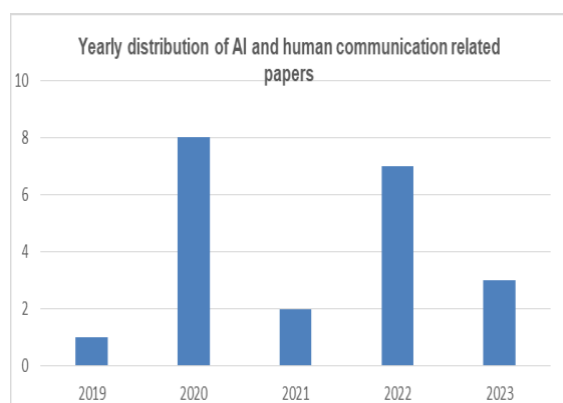

Figure 3 Yearly distribution of AI and human communication related papers

The systematic literature review (SLR) clearly shows that AI has experienced substantial growth and utilization in communication, particularly in 2020 and 2022. Despite its long-standing presence, AI began trending significantly during these years due to technological advancements, such as faster processors and more powerful algorithms. These improvements have made AI more efficient and accurate, enabling it to tackle more complex tasks. This aligns with Hohenstein et al. Hohenstein J, Kizilcec RF, DiFranzo D, Aghajari Z, Mieczkowski H, Levy K, Jung MF. (2023), who identified personalized reply suggestions in text-based communication as one of the most pervasive AI applications, accounting for 12% of all messages sent.

Moreover, the findings indicate that 2020 and 2022 saw enhanced customer experiences driven by AI-powered technologies like recommendation systems and personalized marketing. Businesses used AI algorithms to understand customer preferences and behavior, allowing them to deliver personalized experiences, targeted advertisements, and tailored recommendations. This trend supports Hohenstein et al.'s study, highlighting AI's growing role in improving customer

interactions. The yearly distribution of AI and communication-related papers was one in 2019, two in 2021, and three in 2023, reflecting the increasing research interest in this field.

AI and human communication related papers per country

The SLR for research question four revealed that UK, Korea, USA, Germany, Ireland and India published papers related to AI and communication. See Figure 4 below for the graphical representations of the AI and communication related papers per country.
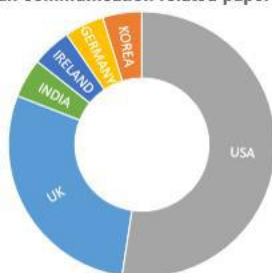

Figure 4 AI and human communication related papers per country

The result revealed that the USA (52%, n=11) and the UK (29%, n=6) are prominent contributors to the field of AI, consistently publishing a significant number of research papers on the subject. This observation aligns with the study by Maslej et al. [43] on the AI Index 2023 Annual Report, published by Stanford University. According to Maslej et al. [43],

the number of AI research collaborations between the United States and the UK has increased significantly. The report further indicates that both countries boast strong research institutions with a history of excellence in scientific research. Institutions such as MIT, Stanford University, Oxford University, Cambridge University, and Imperial College London have made substantial contributions to AI research.

The USA and the UK also benefit from robust academic environments that foster innovation and encourage research in emerging technologies like AI. These countries have well-established programs and departments dedicated to computer science, machine learning, and AI, attracting top talent from around the world. Researchers and students from these institutions contribute significantly to the publication output, driving forward the field of AI and reinforcing the prominence of the USA and the UK as leaders in AI research and development.

The SLR reveals that both the USA and the UK offer substantial funding opportunities for AI research. Government agencies such as the National Science Foundation (NSF) in the USA and the Engineering and Physical Sciences Research Council (EPSRC) in the UK provide grants and funding to support various research projects. Additionally,

private companies, venture capital firms, and philanthropic organizations in these countries make significant investments in AI research.

This finding is corroborated by IPO, U. (2019), which notes that the UK government is committed to advancing the country's AI sector, projected to contribute £630 billion to the UK economy by 2035. Furthermore, the IPO, U. (2019) indicates that AI is one of the four grand challenges in the UK government's industrial strategy. This strategy aims to enhance productivity and earning power, and to increase investment in Research and Development (R&D) from 1.7% to 2.4% of GDP by 2027. The combined efforts of government, private, and philanthropic entities in the USA and the UK underscore their dedication to fostering innovation and development in the field of AI.

CONCLUSION

This SLR provides a comprehensive overview of research on AI and human communication, offering significant insights for empirical research. According to the SLR, the increasing availability of monitoring data and advances in computing platforms have enabled network operators to use AI for automating communication. AI-based technologies have demonstrated superhuman capabilities in solving diverse real-world challenges, leading to their widespread adoption in communication. The SLR identified 37 AI technologies used in communication, with four being widely used to enhance human communication: Human-Machine Communication (HMC), Machine Learning (ML), Computer-Mediated Communication (CMC), and ChatGPT. Despite AI's long-standing presence, its popularity has surged recently due to advancements in technology, such as faster processors and more powerful algorithms.

The findings indicate that AI has the potential to transform human communication by developing intelligent systems capable of understanding, generating, and responding to natural language. In practical applications, AI technologies can improve human communication in various ways. For instance, chatbots can enhance customer support and assist individuals in navigating complex systems. Additionally, AI can analyze human communication patterns and provide feedback to help people improve their communication skills. It is crucial for researchers, practitioners, and policymakers to collaborate to ensure that AI is developed and used responsibly and ethically, maximizing its benefits while mitigating potential risks.

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