

GENERATIVE AI (GENAI) AND ITS ROLE IN PEACEBUILDING: A WAY FORWARD FOR PAKISTAN

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ABSTRACT

This research paper raises the question of the possible contribution of GenAI to peacebuilding activities in Pakistan, considering its increasing importance in global peacebuilding efforts and considering Pakistan's conventional ways of conducting diplomacy. It also aims to highlight the potential of GenAI in diplomacy around the world and devise an AI-based model for the diplomatic functioning of Pakistan internationally. This helps to provide and recommend ways for ease and smartness in the diplomatic activities of Pakistan with the help of theoretic means. These theoretical means include the theory of Peacebuilding (1996) given by John Paul Lederach which was taken into consideration during the compilation of this research paper. Besides that, some 30 sources including research papers, articles, web editorials, and news articles were examined which identify the evolving role of diplomacy, thanks to GenAI, its opportunities, and potential, it might as well devise a change in the potential of Pakistan's foreign policy toward nations and in its relations. That said, this research paper devises a model for Pakistan to follow and implement to inculcate GenAI in its diplomatic functioning and a practical framework is designed for this.

Keywords: Generative AI, AI Diplomacy, Peacebuilding, Conflict Resolution, Communication.

INTRODUCTION

GenAI is a dynamic and fast-growing field in the realm of Artificial Intelligence (AI) that has garnered significant interest from researchers in several fields. GenAI's capacity to produce a wide range of content, such as text, photos, audio, and synthetic data, through its learning from the existing datasets has established it as a revolutionary tool in various fields (B.J. Copeland, 2024). It has shown considerable promise in the field of international peacebuilding and diplomacy. This can also be referred to as AI Diplomacy (Biswal, 2024). Peacebuilding is an extensive process of holding talks, negotiating, and arranging such mechanisms to promote peace between the two contending parties requiring agreement to avoid

unlikely situations (What Is Peacebuilding? | Conciliation Resources, n.d.). For this extensive process to be less time-consuming and easier, GenAI has been infused into it for all benefits. Organizations like the United Nations (UN) are increasingly using GenAI's distinct abilities, namely in Natural Language Processing (NLP) and machine learning (ML), to promote communication in conflict-ridden places such as Libya and Yemen.

AI Diplomacy has demonstrated its value in the UN Department of Political and Peacebuilding Affairs (DPPA) by facilitating communication in local dialects and finding areas of agreement among competing parties (Alavi & Wahlisch, 2022). Countries like Pakistan have however

still not inculcated such smarter ways to conduct relations and thus hold diplomatic functioning in its conventional form. Pakistan has the potential to greatly improve its traditional peacebuilding techniques which have rather been time-consuming and slower in progress and add a new aspect to its foreign policy by incorporating GenAI into its diplomatic procedures. There has been an extensive amount of work held out regarding the incorporation of GenAI into peacebuilding to make it easier, however, there has been no substantial work carried out which discusses the incorporation of GenAI into the diplomatic functioning of Pakistan.

This research paper aims to investigate the possible contribution of GenAI to peacebuilding activities in Pakistan, considering its increasing importance in global peacebuilding efforts. Implementing GenAI in diplomacy would facilitate the resolution of language barriers, a longstanding obstacle that has hindered efficient communication in the realm of international relations. Thus, if GenAI is implemented in the functioning of diplomacy in Pakistan, then the potential to optimize its diplomatic procedures, enhancing their effectiveness and cultural appropriateness will increase. Based on peacebuilding theory, this study will highlight the significance of third-party contacts in promoting peace among contending entities. It will analyze the convergence of GenAI and peacebuilding to offer insights into how Pakistan might utilize this technology to bolster its involvement in international peace efforts and improve the efficacy of its foreign policy endeavors.

Also, with the help of this information, the contribution this research paper is to make is to devise an AI-based model for Pakistan's diplomatic functioning internationally including a specified framework and its implementation strategies. This will provide and recommend ways for ease and smartness in the diplomatic activities of Pakistan with the help of theoretic means. By examining over 50 research papers, articles, websites, and books on the topic, this study identifies the evolving role of diplomacy, thanks to GenAI, its opportunities, and potential, it might as well devise a change in the potential of Pakistan's foreign policy towards nations and in its relations.

Theoretical Framework

GenAI being the transformational player in peacebuilding and diplomacy can play the same role if incorporated into John Paul Lederach's Peacebuilding Theory (1997). Peacebuilding theory, a multifaceted approach to achieving peace is a foundational framework in the domain of Peace and Conflict Studies. Lederach's Pyramid of Peacebuilding discusses peacebuilding across the levels of society, and community, all the way to policy makers in the hierarchical chain of a nation. This theory accentuates the significance of relational, social, and structural dynamics that are involved in the dynamics of a conflict and promotes resolution and reparatory justice with the help of a third-party mediator. This paper emphasizes upon some key elements and GenAI's potential contributions to it.

Key Elements of Peacebuilding Theory and GenAI's Contributions to it

Lederach's Peacebuilding Theory lines up with GenAI's capability to function in this domain in three evaluative areas:

Multilateral Engagement

Multilateral engagement is known for promoting mutual dialogue and cooperation among different stakeholders involved. Lederach's theory of Peacebuilding promotes such engagements at multiple levels of societies and quarters to create an environment of peace and dispute settlement. In this area, GenAI plays a crucial role by providing a comprehensive platform for promoting mutual dialogue and collaboration across all levels of society. For instance, GenAI can provide virtual platforms for community heads, government officials, and non-governmental organizations (NGOs) to discuss and participate in productive conversations and break the traditional barriers of lesser communication. Optimistically, this could result in very positive and comprehensive peacebuilding efforts alongside accepting diverse opinions. However, pessimistically, a digital divide could be a potential source of indifference between the involved parties. Also, sectors of society with limited access to technology may not be as included as they need be.

Proactive Conflict Transformation

Proactive conflict transformation in this theory presupposes addressing the causes of a potential conflict and transforms engagements between two or more conflicting stakeholders. GenAI's potential contribution to this is to recognize early warning of signs of a potential conflict. For example, evaluating social media trends, economic statistics, and political progress within a sector can predict a potential upcoming conflict or the escalation of an already-existent conflict. This gives time for preparation and intervention within a conflict such as policy amendments or targeted peacebuilding programs. The positive impact of this is its potential to overrule and chances of the occurrence of a conflict or its transformation into violence. However, the risk of over-dependence on analytical data might rule out human nature's complexities and essential elements that a machine cannot quantify.

Tailored Solutions and Innovation

Then comes tailored solutions and innovation given by Lederach's theory in the specific context of any conflict. For this, GenAI champions at generating data-driven insights and context-specific insights through the analysis of the vast amount of data GenAI provides very well-tailored solutions in terms of innovation and adaption for each conflict situation. One specific example of this is, in a setting where ethnic conflicts are on the rise, GenAI recommends initiatives that cover sensitive areas and encourage mutual agreements and collaboration. Its positive impact here is to provide effective strategies that are relevant in contexts of both space and time. However, a potential negative impact is the fact that the solutions generated through AI might overrule local community knowledge and natural human instinct which are essential components for peacebuilding.

Thus, GenAI can serve as a potential third-party mediator and prove a more technologically advanced party than any other mediator. It is capable of building strategies based on evidence and analyzing outcomes of any conflict and its nature. With the guidance of Lederach's theory, the incorporation of GenAI into peacebuilding measures holds an essential space for enhancing the success and effectiveness of peacebuilding efforts. However, addressing potential challenges, ensuring modest access to technology, and having

a knowledge of data-driven insights and their balancing through a human's prism are a few areas that play a very crucial role in this whole process.

Pakistan's Diplomatic Practices and GenAI-under Peacebuilding Theory

In Pakistan's context, diplomatic practices can be greatly improved with the application of Peacebuilding theory through GenAI. In order to guarantee that peace initiatives take into account the opinions of both national policy makers and grassroots activists, the theory emphasizes the necessity of inclusive dialogue and sustained participation across all societal levels.

This conflict transformation model is enhanced by GenAI by equipping diplomats with actionable intelligence through advanced analytical capabilities. GenAI identifies emerging issues and underlying grievances that are often overlooked in traditional diplomatic channels by monitoring social media trends and public discourse enabling tailored, effective strategies for addressing structural and relational challenges.

Moreover, GenAI's capacity to simulate conflict scenarios offers diplomats innovative approaches to conflict resolution. This reinforces Lederach's innovation concept by highlighting the need for specially designed solutions for every conflict. GenAI assists Pakistan in creating successful interventions that tackle pressing issues while promoting long-term stability by investigating various diplomatic strategies.

Promoting Inclusion and Diversity

A fundamental component of Lederach's theory is inclusion, which guarantees that under-represented groups are represented in peacebuilding initiatives. GenAI enhances this as it can analyze data from a variety of demographics and amplifies voices who are frequently left out of traditional diplomacy. This capacity guarantees that peace efforts are fair and representative of all facets of society, especially those who are vulnerable to marginalization.

By blending theoretical depth with real-world applications, the integration of Pakistan's diplomatic strategies into GenAI provide a route to lasting peace. While tackling Pakistan's intricate regional issues, GenAI's capacity to advance inclusivity, boost creativity, and

encourage understanding is consistent with Lederach's principles. By guaranteeing that all parties involved are represented in discussions, Pakistan may foster social unity and establish political frameworks that support lasting peace.

Understanding the Concept of GenAI and its Applications in Peacebuilding

GenAI

GenAI is an artificial intelligence system that uses generative models to create text, images, and other kinds of media. After learning to recognize patterns and structures in their training data, these models produce new data with similar characteristics (Sengar, 2024). The primary objective of generative AI is to produce original content by finding underlying distributions and patterns in previously gathered data. This ability distinguishes it from conventional AI systems, which are usually task-specific and reliant on preset patterns and rules. Nevertheless, generative AI makes it possible for robots to mimic human creativity in a range of creative outputs, including as music, graphics, and literature (Sushma, 2023). GenAI comes in a variety of forms, each intended for certain uses or media production. Popular varieties are Generative Adversarial Networks (GANs), Transformer-based Models (TRMs), Variational Autoencoders (VAEs), and Diffusion models (DMs), to mention a couple.

Generative Adversarial Networks (GAN) unlike other machine learning frameworks for generative AI, do not require fully annotated training data. There are two main parts of the GAN framework: the Generator and the Discriminator. The Generator uses noise to create bogus data, while the Discriminator determines which images are real and which are not. Among the loser and the winner, the loser model changes parameters until the discriminator is unable to recognize the generator output, and the system functions as a zero-sum game. The winner stays the same. Training divergence and model collapse were among the difficulties that GAN-based models first encountered. The GAN's capacity to generate high-quality samples was hampered by these problems, which led to irregular and subpar generation performance. Many studies aiming at enhancing stability, convergence, and variety during training have been conducted in an attempt to address these issues. Machine translation and

language synthesis are just two of the tasks that Transformers, another generative AI technology, set the groundwork for. They learn various relationships and patterns between inputs as well as dependencies between objects by using self-attention and multi-head attention techniques. Bidirectional Encoder Representations from Transformers (BERT), OpenAI GPT, and Generative Pre-trained Transformers (GPT) are examples of generative AI models that are frequently constructed using transformers. Another generative AI model that consists of an encoder and a decoder is called a variational autoencoder (VAE). By using invertible transformations to change a basic base distribution into the target distribution. Diffusion Models, on the other hand, enhance the performance of Simple GANs and Inverse Autoregressive Flow (IAF).

Applications of GenAI in peacebuilding

In exploring the establishment of GenAI in peacebuilding practices, a reputable scholar for this domain is currently Muneera Bano who addresses the emerging role of Gen AI in diplomacy and how its use has changed with times. Diplomacy is defined in this context as the practice of managing International Relations and is described as one of the ways a country controls its influence with other countries. Within the last couple of decades, the diplomatic landscape has gone under significant changes due to the extensive advancement and widespread of internet and social media. Information and communication technologies have dramatically transformed how diplomacy is done today by allowing communication across borders to occur instantly, involving the public, and making information easily spread and dispersed. As a result, the scope of diplomacy has increased from personal communications and discussions between governments to virtual interactions that operate with greater transparency and engages a broader audience. Some of the major applications of GenAI in peacebuilding are elaborated by Bano explained as follows:

Digital diplomacy, driven by technological advancements have made it easier to reach wider audiences and provide several benefits including increased efficiency, democratization of information, public influence, sentiment and

global dialogue. But it also poses challenges, such as the risk of debasing statecraft, degrading diplomatic processes, the dissemination of disinformation, and cybersecurity threats. There are significant challenges to safeguarding cybersecurity, accuracy of information and regulating the acceleration of digital conversations in this day and age. With its powerful data processing and content creation capabilities, GenAI is ushering in a new era, having the potential to transform diplomacy even more. GenAI will not merely complement but rather augment the various aspects of global diplomacy (i.e., operational, communication, analytical, simulation, and translation) by providing new communication channels, streamlining operations, conducting analytical tasks, simulating conflict resolution scenarios, and forming multilingual translations.

This transformation affects a number of diplomatic domains. Digital diplomacy is an example of how digital tools and platforms have changed international relations and statecraft. A key component of this subject is the use of digital technology and social media to directly interact with public and international audiences and accomplish foreign policy objectives. Traditional methods of international relations and negotiation could be completely transformed by GenAI's capacity to analyse vast information, forecast trends, and produce content that is human-like. It provides diplomats with cutting-edge resources for scenario planning, excellent communication materials, and sophisticated insights of public opinion. GenAI can greatly enhance public diplomacy, which focuses on how governments interact with communities abroad, by making it possible to create messages that are more impactful and focused, to quickly gauge public opinion, and to adapt engagement tactics to different cultural situations.

Additionally, GenAI through its data-driven policy decisions, predictive analytics, and facilitation of cross-border collaboration on health technologies can enable Health Diplomacy, which is aptly valuable in times of global health crisis like the COVID-19 outbreak. To make sure that health programs and information are culturally appropriate and efficiently distributed, GenAI can customize health communication for diverse global audiences. GenAI can also improve

decision-making in the realm of foreign policy through tailored communication strategies and predictive analysis for different global audiences. GenAI can facilitate informed rapid responses to global events and enhance decision making processes by producing personalized diplomatic communication strategies, predictive insights into international trends and comprehensive data analysis. Simulations and AI models can guide strategies to support diplomatic engagements, including negotiations. GenAI, as illustrated by ChatGPT's Negotiator, can aid in fostering a negotiation strategy through realistic scenarios, including role playing, in which a position must be taken and supporting arguments developed. However, AI assistance must be blended with skilled human diplomacy to maintain a necessary balanced approach to avoid potential misalignment with nuanced human judgment and overreliance on technology.

On the other hand, Cultural diplomacy which involves fostering cross-culture interactions can be transformed by GenAI. This is done through its ability to assist with language translation, produce culturally relevant content, and personalize engagement to align with different cultural values. To preserve the authenticity of cross-cultural interactions and prevent misrepresentations, it's crucial for AI applications to be mindful of cultural nuances. Social media platforms, such as Facebook and X (formerly Twitter), are significantly impacting diplomacy by providing a platform for sharing narratives, engaging the public and facilitating the use of soft power. Nation leaders and diplomats can connect with people worldwide on the platforms, allowing them to shape narratives and quickly react to global events. Bots that can handle routine communications and broaden outreach play a role in enhancing diplomatic relations. AI can enhance the diplomatic use of social media by analyzing public opinion and creating sophisticated content. However, there are risks, including the potential spread of misinformation and the oversimplification of intricate diplomatic positions.

The capabilities of GenAI in areas like simulating war scenarios, improving cybersecurity, threat assessment are advantageous for security diplomacy, which uses AI in diplomatic tasks related to security. However, over-reliance on

GenAI for security decisions without appropriate human oversight could lead to increased tensions. The main emphasis of economic diplomacy, mainly in international economic policy and commerce are the economic effects of AI in diplomacy. By automating the evaluation of alternate agreements, simulating trade scenarios, and supplying predictive analytics for market trends, GenAI has the capability to absolutely transform economic diplomacy. It is therefore imperative; to assure that AI's predictive models are devoid of biases to preserve the integrity of economic diplomacy. To maintain the integrity of financial international relations, it's miles vital to assure that AI's predictive models are without biases.

GenAI's advanced models for predicting climate change, evaluating environmental data, and modeling the outcomes of environmental accords may be helpful in environmental diplomacy, although being less frequently studied. Accurate AI-generated environmental data is crucial for preventing harmful or ineffective policies, and it needs to be thoroughly verified against empirical data. Risk assessment in AI-driven diplomatic operations must account for the potential impact of algorithmic bias, which could distort diplomatic communications and interactions. A potential for misinterpretation of generated data and risk of misinformation campaigns are also challenges, particularly in sensitive geopolitical contexts. Ongoing monitoring, human oversight and transparent review procedures are crucial to reduce these risks and guarantee AI's beneficial role in diplomacy. In conflict resolution, GenAI can be beneficial due to its capacity to simulate complex negotiating scenarios and produce innovative solutions. Hence, GenAI being capable of processing large volumes of historical and contemporary data can help resolve conflicts in a more efficient and strategic manner. But to simplistic and biased results, AI-generated solutions must first be carefully assessed by qualified diplomats.

GenAI ensures a multitude of opportunities for modernization of diplomatic functions, processing complex international relations data, and formulation of enhanced communication channels. The disparity of power between nations might be augmented as nations dominating AI research such as China and the US are likely to make use

of such advances for their diplomatic advantages. It is imperative to foster inclusive strategies and international collaborations so as to prevent monopolization of its benefits and ensure equitable access to AI's diplomatic potential. AI is viewed as a helpful tool by the United Nations in carrying out Sustainable Development Goals (SDGs) through generating new ideas and information to respond to global issues. The UN's guidelines for GenAI emphasizes human-centered values, including inclusiveness, equity, human agency, gender equality, and cultural diversity. They also advocate for legislative measures to protect data privacy and ethical application, highlighting the need for educational institutions to validate GenAI for ethical and pedagogical suitability (Bano & Chaudhari, 2023). In summation, incorporating GenAI into the practice of diplomacy carries significant benefits related to enhancing decision-making, public engagement, health, security, and economic facets of diplomacy. These will consequently need management, moderation by humans, and international cooperation. This way, the potential and promise of GenAI will be responsibly tapped in an ethical and equitable manner globally, in the diplomatic domain.

GenAI for Global Peacebuilding

Using examples from the Covid era, Alavi focuses on the applications of GenAI in peacebuilding across the board. The COVID-19 epidemic has presented new opportunities for technology to support peace activities due to the resulting need for virtual solutions (The Economist, 2021). In crises like Libya and Yemen, the UN and its allies have begun to use machine learning and natural language processing to converse with thousands of people in their native languages to find common ground (The Washington Post, 2021). Conflict mediators and peacebuilders can now converse with and survey the public at a large scale in real-time thanks to artificial intelligence (AI)-powered technologies (Financial Times, 2021). This practitioner briefing, which is part of an ongoing series of reflections on big data, new technologies, and sustainable peace (Grunewald & Hedges, 2020; Wählisch, 2020), focuses on large-scale digital dialogues that the UN Department of Political and Peacebuilding Affairs (UNDPPA) has been conducting in support of peace efforts.

Based on the UN experience conducting digital conversations in Libya since 2020, the note examines the history of peace polls in the context of Northern Ireland and identifies operational concerns.

The use of AI in Large Scale Digital Dialogues

Up to 1000 people can participate anonymously in what we internally refer to in the UN as "large-scale digital dialogues" or "digital focus groups" using a straightforward mobile-accessible web interface provided by the AI platform. Selecting answers to multiple-choice survey questions is open to participants. Additionally, the system enables open-ended questions that let users freely share their thoughts on any given topic being studied. The main reason behind coordinating the answers between participants is to check if they agree with them or not. Similarly, AI algorithms bring into process hundreds of data points to put into order the suggested proposals. (Bilich et al., 2019). The AI application works in a manner that it identifies and merges the identities of performers with their respective voices, then provides an extensive overview of the subjects, stories, and themes that are of significance for various identity groups. Put differently, by employing distinct filters on each response, the moderator of the debate can instantly determine, for example, the proportion of women or members of ethnic minorities who share a particular viewpoint. The most representative verbatims may be found and their representativeness can be measured as the conversation progresses thanks to machine learning and statistical learning techniques. Computational linguistics has accomplished a milestone by allowing greater inclusion, as the entire discussion is conducted in locally spoken languages (e.g., Yemeni Arabic or Libyan Arabic).

UN's Usage of AI for Proposing Innovative Methods

Using new technologies, the UNDPA has been investigating the application of cutting-edge methods for public surveys in the context of conflict resolution and peacebuilding since 2019 in collaboration with the AI startup Remesh (Financial Times, 2020). To gain a better understanding of public perceptions regarding the conflict in Syria and Yemen, the Middle East

peace process (Israel/Palestine), tensions between Iran and Saudi Arabia, and the UN's peace mediation efforts in this context, the first experiment, a virtual focus group on peacemaking in the Middle East, was conducted in May 2019. To implement the Remesh AI platform as a discussion tool for the current peace processes in Yemen and Libya, the UN envoys and missions asked the UN Innovation Cell in DPPA for assistance in 2020 and 2021.

UN's Usage of AI for Digital Conversations in Libya

The first five digital dialogues linked to the Libyan Political Dialogue Forum (LPDF) were held by the United Nations Support Mission in Libya (UNSMIL) between October 2020 and January 2021. The entire Libyan society was intended to be represented in the 75-member LPDF, which was tasked with advancing the peace process in Libya. In contrast to its equivalent in Northern Ireland, it did not possess the legitimacy of elected members, although comprising members of the Libyan House of Representatives and the High State Council, which was instituted by the 2015 Libyan Political Agreement. The UN needed to assume responsibility for the Forum's composition because free and fair elections would not have been possible given the continued activities of Libyan militias, which drew condemnation from outside sources. In light of this, UNSMIL carried out five rolled-out digital conversations as part of its public engagement initiatives, with assistance from Remesh AI and the UNDPA Innovation Cell. The topics covered in the Libyan digital dialogues included the effects of the truce and civil war, local militias and foreign combatants, economic issues (such as equitable sharing of oil income), human rights issues, and upcoming elections. The team received advice on sample segmentation from Diwan, a nearby polling organization. Even though Libya was once divided into three primary historical regions: the East (Cyrenaica), the West (Tripolitania), and the South (Fezzan), the ongoing tensions mostly center on this division. Through participant geography inquiries, the quality of the Dialogue sample may be verified against the established demographics from Diwan's previous studies.

The digital dialogues made it possible for UNSMIL to verify and evaluate several assumptions, such as the broad public support for a single currency that would eliminate the differences in exchange rates between the East and West, which the development elites objected to as being against their interests. The involvement of a thousand Libyans in each debate was made more widely known by being aired on live TV and social media. Everyone in Libya had access to the suggestions submitted and the ideas that were found to have common ground. The digital discussions were facilitated by Stephanie Williams, the senior United Nations official in Libya serving as the Acting Special Representative of the Secretary-General (ASRSG). As a result of the public realizing they could communicate with a significant figure in politics directly, their legitimacy was further enhanced. Questions for Libyan candidates running for the Government of National Unity (GNU) in the next LPDF elections were solicited by the ASRSG during the January 2020 digital dialogue. The GNU candidates then responded to the questions gathered from the dialogue on live television. 1.7 million people, or one-third of Libya's population, saw these events on social media. On February 5, 2021, the LPDF selected an interim administration for Libya, much to the skeptics' dismay. In contrast to just a few months before, the election of the GNU by the LPDF seemed to offer some legitimacy through digital conversations and media outreach, including the live broadcast of the LPDF sessions (Williams & Feltman, 2021). A vote in the Libyan House of Representatives (HoR) on March 15, 2021, subsequently granted the new administration the constitutional authority required to advance the peace process in Libya.

AI for peace

The ability to use new technologies for peace efforts is becoming more and more technical. According to our observations, the Remesh AI system, located in New York, may facilitate virtual conversations in Libya with as many as 1000 people at a time. This proved that this method worked technically. Artificial Intelligence proved to be a useful outreach technique in boosting Libyan population participation in the peace process. Therefore, wherever peacemakers and peacebuilders are prepared to pursue many

paths to inclusivity to establish and preserve peace, they aspire to use AI-powered talks with new refinements. It is believed that the world has only just begun to fully realize the potential of new technology for promoting peace (Masood & Wählich, 2019).

Pakistan's Approaches towards Peacebuilding – A way forward

Diplomatic functioning in Pakistan has always been undertaken by conventional and non-technical methods that reflect international standards from the 20th century. After its independence in 1947, Pakistan's diplomatic functioning was based on interpersonal interactions, bilateral engagements, and multilateral dialogue forums like the Organization of Islamic Cooperation (OIC) and the United Nations. These methods were distinct because of the interpersonal discussions consisting of all kinds of formalities and correspondence with a great deal of traveling of the diplomats and the political leaders involved. A prime example of Pakistan's approach to conventional diplomacy in its functioning is evident in its relations with India. Since the very start, Pakistan has dealt Kashmir dispute with India through face-to-face meetings and shuttle diplomacy, always with the help of third-party intermediaries.

For example, the Shimla Agreement of 1972 was a fruitful outcome of lengthy, time-consuming, and expensive in-person talks between leaders of both countries (Khan, 1991). Similar to this, Pakistan made great diplomatic missions, high-level state visits, and the development of strategic ties through personal diplomacy to forge alliances during the Cold War era, especially its alignment with the United States and later China. These endeavors were expensive, both in terms of the cash outlay and the human capital needed to maintain protracted diplomatic relations. The links between Islamabad and Washington as well as Islamabad and Beijing were established and sustained through several face-to-face meetings, formal communication, and established diplomatic routes (Sattar, 2010).

Furthermore, Pakistan has to commit a substantial amount of financial and human resources to its participation in multilateral diplomacy, particularly inside the UN. Diplomats from Pakistan were required to possess extensive

knowledge of international law, negotiating strategies, and the complexities of multilateral diplomacy. These were time-consuming and costly undertakings that required a great deal of planning, traveling, and attendance at international conferences and summits (Rizvi, 2009). This indicates that, Pakistan's past diplomatic strategies relied heavily on labor-intensive, non-technical means. These attempts were expensive and frequently sluggish to adapt to the quickly shifting international dynamics since they relied heavily on in-person diplomacy, lengthy travel, and conventional communication techniques. Nonetheless, these methods were required because of the time's technological constraints as well as the requirement to establish and preserve relationships by direct, physical interaction.

However, today, the dynamics of diplomacy and foreign policy concerning Pakistan are ever-changing. The incorporation of AI with diplomacy has been in function these days all across the world. In this regard, The UN, in March 2024 adopted a landmark resolution on the promotion of "safe, secure and trustworthy" AI systems that will also benefit sustainable development for all. The resolution was backed by more than 120 countries right there and then (General Assembly Adopts Landmark Resolution on Artificial Intelligence, 2024). Since this resolution was backed by Pakistan too, it became even more significant for Pakistan to introduce a national policy for the usage of AI and the utilization of its benefits. This led Pakistan to set out for the introduction of its first national AI policy which is to be due by early 2025 (Siddiqui, 2024). However, it is still unknown whether this policy will include the incorporation of AI into the country's peacebuilding and diplomatic functioning, and if yes, to what extent. The following model devised by this paper for the same could be a good source of inspiration for the same.

Conceptualizing AI Model for Pakistan's Peacebuilding Activities

To advance Pakistan's peacebuilding efforts and diplomatic initiatives, a comprehensive framework leveraging Generative AI is vital. This framework emphasizes integration, skill development, ethical oversight, and continuous

evaluation to align AI-driven solutions with Pakistan's foreign policy goals. Investments in modern infrastructure, targeted training programs for diplomats, and strategic collaborations with global and domestic stakeholders will enhance the nation's capacity to address complex peacebuilding challenges. Ethical guidelines and regular assessments will ensure responsible AI deployment while fostering adaptability. By streamlining processes, driving innovation, and improving global engagement, GenAI can play a transformative role in Pakistan's pursuit of sustainable peace and diplomacy. The proposed framework is outlined below.

Diplomatic Communications Using Artificial Intelligence

Automated Language Translation: AI-driven automated language translation tools, such as Google Translate, Microsoft Translator, and DeepL, play an essential role in facilitating peaceful communication by enabling real-time multilingual interactions. These tools are very helpful in promoting inclusivity in peacebuilding discussions and breaking communication barriers among Pakistan's diverse linguistic communities. They facilitate smooth discussions and international cooperation by encouraging effective and transparent communication. The promise of these tools in international diplomacy is demonstrated by the United Nations, which uses AI translation services to expedite multilingual exchanges in peacekeeping missions. However, challenges still exist, such as the incapacity to consistently capture cultural or contextual nuances in complex discussions, which can lead to misunderstandings. Context-sensitive translations are frequently difficult for machine translation algorithms to handle, highlighting the necessity of cautious supervision in delicate diplomatic situations. Despite these difficulties, incorporating automated language translation significantly reduces language barriers, encouraging cross-regional cooperation and understanding (Moorkens & Arenas, 2024).

Speech and Text Generation: AI tools like OpenAI's GPT-4, Jasper AI, and Copy.ai are transforming diplomatic communications through the use of generated speeches, press releases and policy drafts that ensure that each message is consistent, clear and neutral. Using these tools, helps streamline communication process, save

time and resources while maintain professionalism. For example, in the context of peace negotiations, GPT-4 can aid Pakistani diplomats in creating consistent and impartial diplomatic statements that are in line with the peacebuilding objectives. In this regard, the use of AI promotes unity and conflict resolution by tailoring content to specific contexts and fostering a politically balanced tone. But there are drawbacks, such as the possible over-reliance on AI, which might reduce human oversight and result in communications that lack the emotional intelligence, cultural sensitivity, or personal touch that are essential in sensitive peace talks. These issues can be resolved by a combination of continuous human-AI cooperation, frequent diplomatic supervision, and the development of ethical guidelines that prioritize cultural and emotional considerations, ensuring that AI complements, rather than replaces human judgment in peacebuilding processes (Luntian Mou, 2024).

Data Analysis and Intelligence Gathering

Attitude Analysis: AI-driven sentiment analysis tools like IBM Watson, Hootsuite Insights, Brandwatch, and Lexalytics can be extremely helpful in gauging public opinion about Pakistan's foreign policy by examining data from news sources and social media platforms. In order to develop data-driven diplomatic strategies, these tools enable policymakers to assess popular opinion and international perceptions. For example, they can continuously monitor platforms like X (previously Twitter) to provide real-time insights into how Pakistan's peacebuilding efforts are perceived globally. This skill enables diplomatic strategies to be strategically modified in response to the public's prevailing sentiment. However, challenges exist, including the possibility for skewed outcomes due to misinformation and the digital divide, particularly in places with poor digital literacy. Despite these obstacles, attitude analysis can significantly improve Pakistan's capacity to comprehend and address public reactions, resulting in more successful international diplomacy. Pakistan can create a more stable geopolitical climate by utilizing these tools to proactively address concerns about its peace initiatives and foreign policy (Sun et al., 2021).

Predictive Analytics: AI-powered predictive analytics and real-time decision support powered by platforms, such as Palantir, Riskified, IBM Watson, and Microsoft Azure AI are transforming diplomacy by facilitating proactive conflict prevention and improving decision-making during negotiations. Predictive models can assist in identifying emerging threats and conflict zones by examining demographic patterns, historical data, and sociopolitical indicators, enabling early interventions in Pakistan. Moreover, real-time decision support AI tools provide Pakistani diplomats with predictive analysis, data-driven insights, and guiding decisions during high-stakes peace negotiations. They can recommend de-escalation strategies, analyze ongoing discussions, and suggest potential compromises based on past negotiations. However, challenges persist, such as reliance on historical data that may struggle to account for sudden political changes or social unrest, and the potential over-reliance on AI recommendations, which could diminish human judgment, especially in sensitive situations. Despite these challenges, both predictive analysis and real-time decision support remain invaluable for conflict prevention, enhancing diplomacy, and peace negotiations (Erendor, 2024).

Big Data Integration: AI-driven big data integration platforms like Hadoop, Palantir Foundry, and Apache Spark handle vast datasets from global peace organizations, government reports, civil society feedback, and economic indicators to deliver actionable insights that improve diplomatic decision-making and peacebuilding efforts. By analyzing these extensive datasets, AI can identify patterns and root causes of conflict, aiding policymakers in Pakistan in crafting targeted interventions and strategies to avert conflict escalation. For instance, AI can detect emerging tensions by analyzing data from international reports and media, providing insights into regions where peace initiatives need to be bolstered. Nonetheless, challenges such as the complexity of managing large datasets, ensuring data privacy and security, and gathering information from remote areas with limited infrastructure remain significant. Despite these challenges, big data integration is a vital tool for evidence-based diplomacy and informed policy-making in conflict prevention and peacebuilding (Tyagi et al., 2024, page:173).

Virtual Diplomatic Engagements

AI-Powered Virtual Platforms: AI-powered virtual platforms are revolutionizing international diplomacy and peacebuilding initiatives by facilitating real-time, distant communication for negotiations and conflict resolution. Tools like Cisco Webex AI, Zoom AI Companion, and Microsoft Teams, with AI integrations like speech-to-text, language translation, and sentiment analysis can facilitate virtual peace talks in Pakistan while drastically reducing costs and logistical difficulties. As an illustration of the viability and efficacy of remote diplomatic engagement, the UN conducted virtual General Assembly sessions during the COVID-19 pandemic (United Nations, n.d.). Ensuring that geographical barriers are minimized, these AI-powered platforms can support inclusive participation from diverse regions of Pakistan. However, challenges include, cybersecurity risks, limited access to technology in rural or conflict-affected areas, and technical barriers in underdeveloped regions can hinder full participation, especially from marginalized communities. These challenges can be mitigated through the development of user-friendly tools, localized capacity-building programs, targeted investments in digital infrastructure, and partnerships with international organizations to ensure robust security measures and equitable access.

Virtual Reality (VR) Diplomacy: Virtual Reality is transforming diplomacy and peacebuilding by providing immersive, scenario-based training and virtual engagement platforms. Tools like Reality Labs and Meta Quest allow diplomats and policymakers to engage in realistic simulations of complex diplomatic negotiations and crisis management scenarios. AI-enhanced VR platforms, such as Oculus Rift paired with Unity 3D, can create simulated situations, enabling Pakistan to explore various peace strategies. Although these immersive training experience enhance preparedness, the high costs of VR equipment and the technical expertise needed for development present significant challenges to widespread adoption, especially in resource-limited areas. To overcome these obstacles, it's essential to invest in affordable VR solutions, form partnerships with technology providers to

lower costs, and implement capacity-building initiatives to train local developers, ensuring that the advantages of VR reach even in resource-constrained environments (Gupta, 2023).

Artificial Intelligence for Crisis Management

Simulations: AI-powered crisis simulation programs, such as AnyLogic and Simul8 provide insightful information for equipping diplomats and policymakers to handle complex crises, such as cyberattacks, border disputes, and ethnic conflicts. These AI models can help Pakistani policymakers evaluate and improve response plans before putting them into practice in the real world by simulating different diplomatic situations. By evaluating various techniques, these simulations assist peacebuilders in identifying any potential flaws in their plans. But there are challenges, as AI driven simulations may not fully capture unexpected events or cultural nuances that influence real-world outcomes. In order to overcome these obstacles, simulation accuracy can be improved by combining localized data, engaging regional experts, and utilizing real-time feedback. Combining AI-driven insights with human expertise fosters a balanced approach that addresses real-world complexities and enhances crisis response strategies (Futurium | European AI Alliance, n.d.)

Strategies for Reducing Costs

Automation of Administrative Tasks: AI-powered automation of administrative duties, like document verification, visa processing, and consular services, can boost productivity, drastically reduce operational costs and improve efficiency. Tools like UiPath and Blue Prism optimize routine tasks, allowing human resources in Pakistan to concentrate on strategic initiatives. For instance, Estonia's AI-powered e-residency initiative has revolutionized digital identity management and verification, eliminating the need for manual interventions (Sapiton, 2022). Although automation provides significant cost-saving opportunities, it also brings challenges like employee resistance due to job displacement. Overall, implementing Robotic Process Automation (RPA) tools in Pakistan can enhance operational efficiency and enable organizations to redirect human resources toward more strategic and high-value activities.

Optimized Resource Allocation: AI-driven resource management systems provide substantial advantages for diplomatic missions in terms of maximizing human and financial resources, guaranteeing economical operations, and cutting down on redundancy. Platforms such as SAP AI facilitate effective resource allocation, maximizing staff deployment and budgets in embassies. AI budgeting technologies, for instance, have been used by Sweden's diplomatic missions to expedite financial planning, enabling more effective resource allocation and reducing unnecessary spending (AI Strategies and Policies in Sweden - OECD.AI, n.d.). These advanced tools not only enhance operational efficiency but also allow Pakistani diplomats to focus on strategic priorities. However, challenges such as potential data modeling errors could lead to resource inefficiencies, emphasizing the need for continuous monitoring and careful implementation to ensure success. By leveraging these technologies, Pakistani diplomatic missions can achieve operational excellence and greater cost-effectiveness.

Engaging Stakeholders and Fostering Collaboration

Internal Stakeholders & External Partners: For the effective and successful integration of AI into Pakistan's diplomatic efforts, building solid external relationships and encouraging cooperation among internal stakeholders are essential. Internally, cooperation between IT experts, policymakers and diplomats within the Pakistan's Ministry of Foreign Affairs is vital for ensuring that AI technologies are effectively implemented and aligned with the country's diplomatic objectives. Frequent training sessions and seminars can foster an innovative culture within the ministry, assisting diplomats in comprehending and using AI solutions to improve resource management and decision-making. Externally Pakistan can gain significant advantages by forming partnerships with technology companies and global AI research institutions to stay updated on the latest

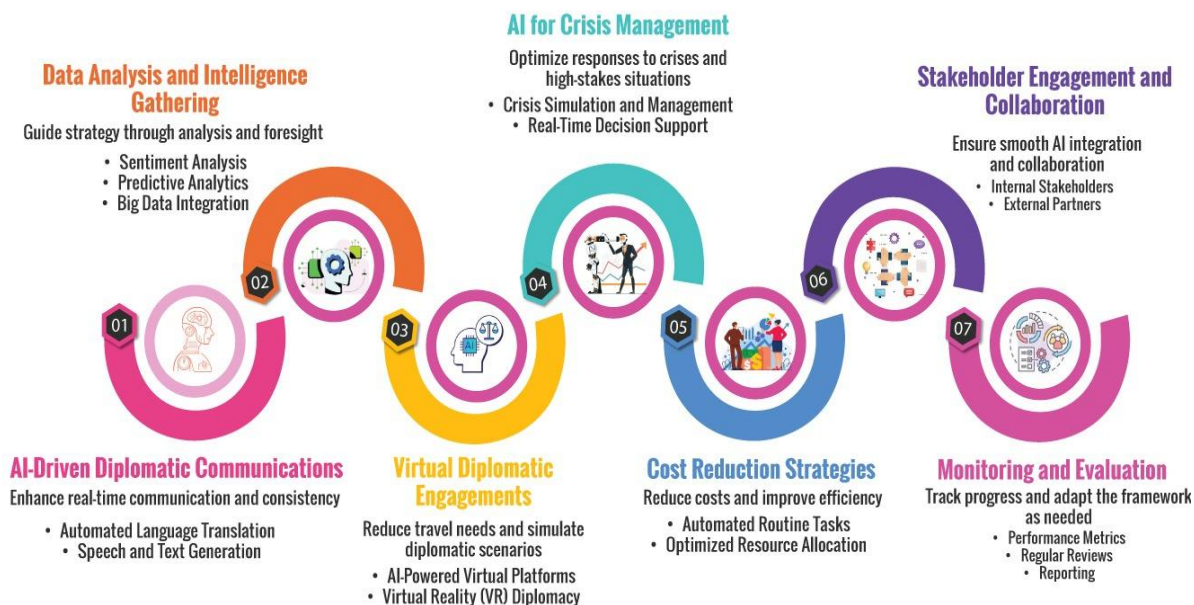
advancements in diplomacy. Collaborating with entities like the United Nations Development Programme (UNDP), as well as tech leaders such as Microsoft, Stanford's Human-Centered AI (HAI) and OpenAI, can foster knowledge sharing and support the creation of customized AI solutions to address Pakistan's unique diplomatic challenges. (Bloomberg, 2024)

Surveillance and Assessment

To successfully integrate AI into Pakistan's diplomatic processes, it's crucial to establish clear performance metrics and conduct regular evaluations. Key Performance Indicators (KPIs) will be created to measure the effectiveness of AI applications, focusing on factors like cost savings, improved diplomatic outcomes and efficiency enhancements. For instance, AI systems can evaluate the success of peacebuilding initiatives by tracking metrics such as decreases in violence, successful conflict resolutions, and community engagement levels. These KPIs will enable Pakistan's ministry of Foreign Affairs to assess the impact of AI-driven strategies on security and social cohesion.

Moreover, continuous feedback loops, facilitated by tools like SurveyMonkey, will be vital for collecting real-time input from stakeholders, allowing AI systems to adapt peacebuilding strategies dynamically in response to changing conditions. Regular assessments will help ensure that AI systems remain relevant, effective, and responsive to the evolving needs of Pakistan's diplomatic landscape. Transparent reporting will also be essential for maintaining accountability, with AI generating regular updates on the progress of diplomatic efforts. These reports will keep all stakeholders, including local communities, policy makers, and international partners informed of developments. However, challenges may arise during the implementations, such as balancing transparency with the confidentiality needed in sensitive diplomatic situations and ensuring the accuracy and representativeness of feedback, especially in conflict-affected areas (Anchia, 2024).

Infographic Display (Of the above-mentioned framework)



Source: Created by the author based on examples and study carried out in this paper.

Measures for Implementing GenAI Strategies

The implementation phase follows a three-step process to be operable in its original form.

Phase 1- Planning and Pilot Projects

The first phase should concentrate on identifying key diplomatic functions, like attitude analysis, language translation, and data-driven decision-making that can benefit from AI integration. AI skills can be tested by implementing pilot programs in key embassies or consulates. Tools for attitude analysis, such as Brandwatch or Hootsuite Insights can offer insightful information about how the general public feels about Pakistan's foreign policy. Establishing partnerships with AI companies and educational institutions is critical so that tailor-made solutions can be developed for consular services. The recent draft National AI Policy advocates for collaboration with local tech companies and universities to build an ecosystem conducive to AI (Government of Pakistan, 2023). To combat the challenges such as resource constraints and limited awareness, phased resource allocation can effectively handle financial investments, while awareness campaigns can educate diplomats on the benefits of using of AI applications.

Phase 2- Upscaling and Capacity Building

After pilot projects prove successful, the next step is to expand these initiatives across all diplomatic missions by providing diplomats with extensive training on how to use AI tools effectively. The Ministry of Foreign Affairs should have a central AI support team to assist with this endeavor. Improved diplomatic relations and increased operational efficiency are two benefits of this phase; nevertheless, resistance to change within diplomatic circles and staff members' differing degrees of technological competence could provide difficulties. Change management initiatives might use early adopters' testimonies to highlight the advantages of AI integration and tailor training problems to diplomats' varying skills in order to overcome these problems. Moreover, innovative approaches like gamified training modules can enhance the retention of AI concepts and boost engagement.

Phase 3- Integration of all components

In this third phase, diplomatic missions should be incorporated with AI with the inclusion of improved AI tools based on the user's feedback to adapt according to diplomatic requirements. This can lead to improved efficiency and effective

work as predictive analysis can predict and identify potential conflicts through historical evidence.

However, hurdles such as data security assurance, privacy maintenance, and ethical standards need to be addressed. To overcome these, robust cybersecurity measures need to be implemented alongside mechanisms that can keep in the loop human judgment during decision-making. By addressing these challenges and bringing in strategies that are innovative throughout the diplomatic process, Pakistan can ensure the successful functioning of AI-driven technologies to enhance its diplomatic functioning while overcoming all the potential hurdles.

Conclusion

GenAI, the revolutionizing element of today's world and entering the arteries of each field of human life, is also going to be a great game changer for diplomacy and peacebuilding. However, it is still not implemented in Pakistan's diplomatic and peacebuilding function in its true meaning. If its actual functions are utilized, Pakistan's diplomatic functioning will evolve in a very life-changing way. It will prove both cheaper and smarter for the country. In this regard, this paper has highlighted the applications of GenAI in general and then its applications in diplomacy to set the stage which include the UN's application of GenAI in its affairs in the UNDP, the UNSMIL, and its use by the UN in large-scale digital dialogues in states like Libya and Yemen. It then moves over to a brief analysis of Pakistan's comparative diplomatic functioning. Towards the final portion, this paper has devised a specified and shaped framework alongside the implementation strategies of the framework for its effective enactment. This framework touches on diplomatic functioning by endorsing Diplomatic Communication using AI for translation and speech generation, data analysis and intelligence gathering through predictive analysis and big data integration, The VR diplomacy, AI for crisis management through simulation, strategies for reducing costs by automated tasks, engaging internal and external stakeholders and ensuring surveillance and assessment. For the implementation strategies, this paper recommends a phase-wise enactment of AI into diplomacy having planning and pilot projects for the starters,

then upscaling and capacity building, and finally the integration of all the components involved for efficiency and effectiveness.

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