Communities Strengthening Peace and Harmony: A Technological Perspective

Dr. Usha Yadav[1], Dr. Sheetal Soni[2]

Fashion Communication, National Institute of Fashion Technology, Bengaluru, India
Fashion Management Studies, National Institute of Fashion Technology, Jodhpur, India
usha.yadav.912@gmail.com

Abstract—*Mega technologies have completely revolutionized the way we interact with the world today. It has paved the way for opportunities and cooperation in almost every field. Technology is one of the most powerful factors to drive and build Peace in the world. In this data age, technology could also have adverse effects. Social media can spread misleading information and result in hatred and violence. Technologies such as Virtual and augmented reality can provide immersive peace education, artificial intelligence, semantic analysis, and digitalization can improve sustainability, governance and maintain security. This paper provides detailed insight on how in the present scenario, technologies are utilized and provided services to harness the peace. Also, this paper aims to provide suggestions to the policymaker and peacebuilder on the possibilities of inclusion of mega technologies in future and the suggestive projects to invest in for building peace and harmony.*

Keywords**:** *Mega Technology, Peacetech, artificial intelligence, Virtual and Augmented Reality*

1. INTRODUCTION

Communities should strive to achieve peace in order to increase the wealth and prosperity of society. In social and commercial ecosystems that depend on communication and collaboration, peace is a source for businesses, governments, and cities that use technology to create value. The purpose is to clarify how technology aids in identifying a route to foster lasting peace by encouraging communities to produce value within digital, social, and commercial ecosystems (Nedelea & Nedelea, 2018). As a source of progress and development, technology encourages communities to pursue lasting peace and supports peacebuilding.

Technology has a pretty broad definition by itself. Everything falls under the category of technology development for global peace, from the wheel to the most recent satellite deployed. It has the potential to completely transform the planet and make it a nice place to live. By integrating us on a national and worldwide level, it has in some ways made our lives more pleasant and convenient. Our lives have gotten so complicated in the modern world that we need its assistance to maintain harmony. It is widely used in promoting peace throughout the world (*View of Role of Technology in Promoting Peace*, n.d.). Therefore, it is the responsibility of each and every citizen of the country to use it in the greatest manner possible for the advancement of humanity. Even if we cannot ignore the numerous negative effects of technology, we can nonetheless work to limit these effects and make the best use of it to advance peace.

There are numerous ways to promote this peace, including through theatre, other performing arts, campaigns, sports, and education. Aside from this, we cannot discount technology's contribution to world peace. Technology is the body of methods, procedures, skills, and techniques employed in the creation of commodities and services. Technology includes everything from a basic wheel to the most recent satellite to be deployed. As a tool, information and communication technology enables global communication. As a result, it helps us in our efforts to advance peace. From climate change to public health, from food security to sanitation, from disarmament to disaster management, etc., technology has enormous potential to promote peace (Kahl & Larrauri, 2013).

How and when we hear about events and decide how to react to them are changing as a result of new technologies. The internet and mobile devices have changed how we interact with the outside world. In the developing world, technology use is growing quickly, opening up new opportunities for involvement, engagement, and responsibility. More people around the world now have the chance to actively participate and use these tools to influence processes that have an impact on their society.

2. PEACEBUILDING DIGITAL NETWORK

This section presents some of the most successful and crucial digital network which helps and contributes to

developing peace across the globe (*Tech for peace: Facts and figures*, n.d.). Some of the details such as the name of the network, tool utilized, target area and the description is shown in Table 1.

Table 1: Significant Peace building digital network

Name	Tools	Target area	Description
All for Peace Radio	Radio	Israel, Palestine	Through stories of relevance to both Israeli and Palestinian society, All for Peace Radio aids in bridging the gap between them. a collaborative project of Jewish-Arab peace centre Givat Haviva and Palestinian non-governmental organisation Biladi
Crack in the Wall	Social media	Israel, Palestine	For discussion and interaction between families who have lost a family member as a result of the Palestinian-Israeli conflict, there is a Facebook group called Crack in the Wall.
FrontlineSMS	Text messaging, the cloud	Indonesia, Kenya, Malawi, Nigeria and elsewhere	FrontlineSMS supports peacebuilding by assisting NGOs in developing nations with communication, local radio programming, and peacekeeping. has been modified to enable election surveillance to stop violence, for example in Kenya and Burundi
Groundviews	Website	Sri Lanka	A website called Groundviews allows citizen journalists to provide viewpoints on matters such as peacebuilding, human rights, and governance.
HarassMap	Text messaging	Egypt	HarassMap is a reporting system fighting sexual harassment in Egypt
Internews	Online and broadcast media	Global	Internews teaches journalists and laypeople how to use cutting-edge platforms and multilingual networks to debunk rumours in conflict zones, such as the Nile FM community radio station in South Sudan.
Peace Direct	Blogs, mobile technology	Parts of Africa and Asia	Peace Direct collaborates with local peacemakers and runs educational initiatives to promote local efforts to end disputes.
PeaceFactory	Video	Middle East	Facebook campaigns by PeaceFactory encourage users to share messages of friendship and love regardless of conflict barriers.
Search for Common Ground	Audiovisual media	Africa, Asia, Europe, Middle East, North America, South-East Asia	Through community discourse, Search for Common Ground helps find common solutions to conflict that is destructive. For instance, the goal of Radio for Peacebuilding Africa is to create, disseminate, and promote the use of radio broadcasting methods and information for peacebuilding. It held a video contest in 2012, challenging young people in Lebanon to "Shoot Your Identity."
Soliya's Connect Programme	Web-based virtual exchange	Middle East, North Africa, South Asia, Europe and North America	Through its online cross-cultural education initiative, Soliya's Connect, which brings together university students from around the world, young people from the West and societies with a predominance of Muslims are connected.

3. STATE OF THE ART

The Security Council is one of the UN's six main organs, and the UN was founded in accordance with its mandate in 1945. According to the UN's founding charter, the committee's four principal goals are to uphold international peace and security, preserve international relations, resolve international disputes, and defend human rights, as well as to foster harmony among member states' policies. The Security Council has strived to uphold this one goal while appeasing all the nations represented since its inaugural meeting in 1946. At any one time, the committee is made up of fifteen members, ten of whom rotate and five of whom are permanent (*Striving Towards Establishing Peace and Harmony with AI and UNSC*, n.d.).

AI has the potential to advance the health and well-being of people, communities, and states while assisting in the achievement of the Sustainable Development Goals set forth by the UN. Certain applications of AI, however, have the potential to jeopardise global peace and security by sparking questions about the technology's security and safety, quickening the tempo of armed conflicts, or reducing human control over the means of war.

In order to foster a multistakeholder discussion among experts from Member States, industry, academia, and research institutions, the United Nations Office for Disarmament Affairs, the Stanley Center, and the Stimson Center collaborated on a workshop and a series of papers in 2019 with the goal of increasing understanding of the implications of AI for peace and security. It is

meant to serve as a springboard for deeper discussions among various stakeholder communities as they work to maximise the advantages of AI while minimising the inappropriate use of this crucial technology.

The fifth realm of warfare—from the Kalashnikov to the keyboard—has been embraced by the global community with the advent of the twenty-first century. "Guns don't kill people; people kill people," it was claimed. The decisions are now made by weaponry. There are two possible results when artificial intelligence (hence referred to as AI) and robotics combine. On the one hand, our society has made immense social, economic, and political advancements. In contrast, the military develops new weapons of mass destruction using these techniques (referred to as lethal autonomous weapon systems, or LAWS), making nuclear weapons obsolete.

Lethal autonomous weapons pose a threat to global peace and security, thus 116 founders of robotics and artificial intelligence businesses from 26 nations wrote an open letter demanding the UN to outlaw such weapons. As a result, a Group of Governmental Experts (GGE) on Lethal Autonomous Weapons Systems was established in 2016 under the supervision of the United Nations Conference of the Convention on Certain Conventional Weapons (CCW). The GGE is tasked with investigating cutting-edge developments in the field of deadly automated weapons systems. However, additional steps are required to limit and outlaw the use of LAWS. In order to mandate a new international law on fully autonomous weapons, the UN Security Council is responsible.

The Sentinel Project (*Una Hakika | The Sentinel Project*, n.d.), a nonprofit organisation, has created a number of platforms to combat rumours and hate speech (*Tech for peace: Facts and figures*, n.d.). The most common hate speech target is showin in Fig. 1. One is WikiRumors, which gives false information priority and offers corrections. Conflict all over the world is shown through the Sentinel Conflict Tracking System. Nearly 500,000 items in Hatebase, an online database of hate speech, span many different countries and languages.

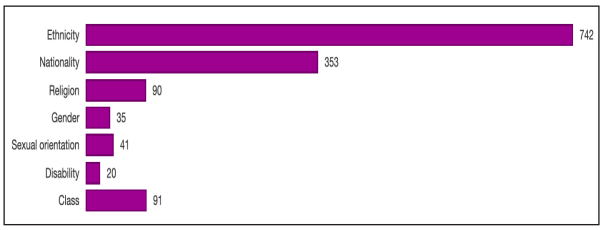

Figure 1: Most common hate speech target

Source: https://www.scidev.net/global/features/tech-for-peace-facts-and-figures/

4. TECHNOLOGY DRIVEN PEACE PROMOTION

In this section, some of the ways by which technology is contributing in developing peace is described in detail (*3 Ways Technology Can Promote Peace: Geneva Peace Week*, n.d.).

Sentiment Analysis

Sentiment analysis is one of the powerful tool to understand the sentiments of the public towards any policy or any matter of concern such as Politics, corruption, climate change, world peace. Big data technology and the machine learning algorithm can analyse the view of public on different social media platforms such as Twitter, Facebook, instagram etc. and authorities can take appropriate action.

Cyberspace Governance

Cyber crime is growing as the data is the most important thing in this era. Cyber crime can do great damage to the people and the government; it is as harmful as any kind of war. There is a need to provide and promote governance in cyberspace by making legal international or institutional structure to diminish the impact of cyber crime. Due to geographical boundaries and the impact of pandemic, it is challenging for the peace communities to meet and discuss things in person, even though the rise of digital and social platform allow the peace bearers to continue to share their opinions.

Satellite Imagery

The coverage of data collection from the Satellite is huge. It helps in locating the suspicious activities in the designated area. The patter drawn from the data collected could be utilized to draw attention towards any kind of non-violence or actions which violates human rights.

Artificial Intelligence Surveillance

The use of artificial intelligence (AI) technologies is expanding quickly on a global scale. Deepfake movies, which blur the line between fact and fiction, and sophisticated algorithms that can outperform the top players in the world in multiplayer poker are just a few of the startling new advancements that keep happening. Businesses use AI to enhance analytical processing, and local officials use it to monitor traffic and manage smart energy metres. However, an increasing number of states are using sophisticated AI surveillance tools to track, monitor, and surveil citizens in order to achieve a variety of policy goals, some of which are legal, others of which are against human rights, and many of which

fall somewhere in the grey area (*The Global Expansion of AI Surveillance - Carnegie Endowment for International Peace*, n.d.).

Unsurprisingly, nations with autocratic regimes and limited political freedoms are making significant investments in AI surveillance technologies. Numerous governments in the Gulf, East Asia, and South/Central Asia are purchasing sophisticated monitoring tools, facial recognition cameras, and complex analytic systems. However, liberal democracies in Europe are also moving quickly to implement automated border checks, predictive policing, secure cities, and facial recognition technology. The Fig. 2 shows the percentage of countries adopting AI surveillance.

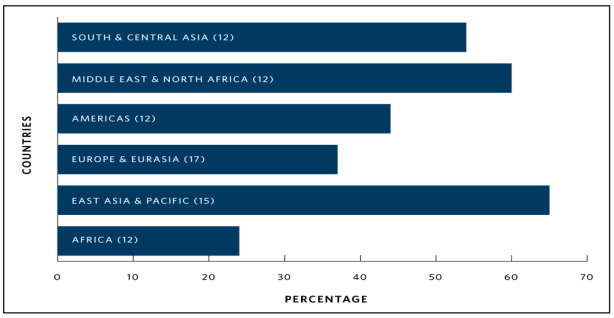

Figure 2: Percentage of countries with AI surveillance systems

Source: https://carnegieendowment.org/2019/09/17/global-expansion-of-ai-surveillance-pub-79847

Data Coordination:

With increase in connectivity among people, new members are added in the ecosystem of peace building and the data collected for it are enormous. There is a requirement for the better communication and the coordination system to be certain that verified data is accessible to all the people in the community across the world.

Digital Democracy

On an average, people spend almost 15% of their time on social websites or engaging into digital contents, but social media platforms are inappropriate platform for discussion on politics. In this digitally connected world, productive discussion on the country democrarcy is challenging. It is suggested by Emmanuel Letouze that there should be the arrangement of democracy parks digitally which provides a platform for the society and the government to discuss, coordinate and decided on various democratic inclined decisions.

Social Media and Social Communities

In present connected ecosystem, misleading information spread within seconds intentionally or unintensionally across the globe (*Six ways technology can harness the power of peace — Peace Insight*, n.d.). The online platform such as social networking sites, forums, blogs, podcast allow the peacebuilder to stay active online and disseminate their story. Peacebuilders are utilizing the power of online communities to motivate the social change required for peace in this phase of social distancing. These platforms provide an opportunity to share the knowledge in open spaces which could open path for creating new paternship and analysis of the collection action to be taken.

The fast pace of technology has drastically changing the lives of people. It is better to adopt the hybrid approach. The peacebuilder blending the online and offline environment for maximum reach and to optimize the work. Therefore, they can connect to wider audience depending upon their geographic location. The adaptability in handling the digital and analogue tool has given peacemaker the confidence to sustain in any kind of environment. It is also vital to arise with the upcoming technology and being flexible to using it in every day to day activity. This will surely be an important parameter for effectively building peace.

Privacy and Safety

With the rise in digitalization, the researchers in this peace building should be attentive towards negative impact of technology and its digital data should be used to provide benefits to all general people and should not be the cause for any kind of harm. It should be ensured that the technology is used to promote non-violence rather than igniting violence. The spread of hatred speech, misleading information and the provocating statements should be prevented and ensured that the online data of all individuals should be protected. The expert of peace building and human rights should be included in the conversation for better accountability and transparency.

Conflict Resolution Using Network Analysis

Almost all people around the world are connected to social network. Some people are influential in a network and in case of conflict, their opinion really decide the wave of heat in any direction. Peacemaker can decide whom should be contacted for maintaining stability. There are APIs which provide interface for the analysis of the connected network and could able to identify the people who are influential in any network.

5. KEY INITIATIVES UTILIZING TECHNOLOGY FOR PEACE

As an illustration, the Pakistani organisation HIVE uses holographic technology to bring to life its teachings of social cohesion and interfaith dialogue by narrating their

story digitally and promoting peace. People from all over the world can participate in online debates about topics like youth-led peacebuilding and the effects of COVID19 thanks to Platform4Dialogue, which Peace Direct created in 2019. These internet networks can support the online expansion of successful peacebuilding efforts and outreach while strengthening civil society as a whole (*Six ways technology can harness the power of peace — Peace Insight*, n.d.).

Consider the crowdsourced data mapping project Safecity in India. They encourage women to report instances of sexual assault anonymously to their platform, which compiles and interactively maps the information. They have gathered more than 12,000 accounts of sexual assault in public settings to date, highlighting high-risk areas for violence while also finding trends and hotspots.

A study by the Australian Strategic Policy Institute and ABC News that used satellite images to assess the number and distribution of Uyghur internment camps in western China was described by Branka Panic from the NYU Center on International Cooperation. Nigerian civilians are faced with two social media puppet masters in the context of the Boko Haram fight, according to Dr. Medinat Abdulazeez Malefakis, Research and Information Analyst for the Norwegian Refugee Council's Assessment Capacities Project: Boko Haram and the Nigerian government. Nigerians utilise social media in response to immediately share their experiences with the crisis and dispel rumours among themselves.

A Peacebuilding and Conflict Prevention Data Hub, modelled after the Humanitarian Data Exchange, was proposed by NYU's Branka Panic. The Taiwan crowdsourced consensus-building platform and the e-Democracia virtual communities set up by the Brazilian Chamber of Deputies are two current examples of Digital Democracy Parks.

More than 1000 stakeholders from various sectors joined together to launch the Paris Call for Trust and Security in Cyberspace in 2018, which aims to establish nine guiding principles for the security of cyberspace. The Paris Call has the ability to promote peace and security in the digital sphere by bringing together governments, internet corporations, researchers, and civil society.

6. FUTURE PERSPECTIVE ON TECHNOLOGY SHAPING PEACE

There are some digital technologies to watch and others that are beginning to have an influence as technological advancement broadens the possibilities for peacebuilding. Drones, virtual reality, and video games are all included. With help from the social company Build Up, the UN Development Programme and the UN Alliance of Civilizations (UNAOC) have created PEACEapp, a competition that highlights online games and apps that promote intercultural understanding and conflict resolution. Through the use of shared virtual experiences to foster trust, the online community Games for Peace works to narrow the trust gap between young people in the Middle East and other conflict areas (*Peacekeepers in the Sky: The Use of Unmanned Unarmed Aerial Vehicles for Peacekeeping – ICT4Peace Foundation*, n.d.).

Users of The Enemy, an immersive virtual reality experience that fuses artificial intelligence and empathy neuroscience research, come face to face with the concepts of enemy and empathy, expanding their understanding of protracted battles.

Medical and humanitarian organisations engaged in disaster response are already testing virtual reality projects. Some claim that these programmes can aid in educating local people on how to handle calamities, including armed confrontations.

Aerial drones, despite their reputation as weapons of war, are being used in peacekeeping operations. These remotely piloted aircraft systems can be employed for humanitarian micro mapping or for surveillance to maintain order and protect civilians.

Since they are a part of intricate political, economic, and social systems, technologies cannot be used to resolve conflicts on their own. And as a result of these intricate relationships, technology both contribute to and are responsible for social development. In the end, they can aid in fostering the understanding that is "an vital ingredient in conflict prevention and post-war reconciliation," according to Kofi Annan, a former UN secretary-general.

7. CONCLUSION

Globalization processes should encourage social and economic communities to enter an era of expansion focused on world wealth and peace. Developing technology as a means of encouraging processes of collaboration and cooperation among private and public organisations, within cities, through businesses going digital to design business ecosystems interacting with communities, is essential to creating an enduring and fruitful status of peace in the modern world. In order to achieve and maintain peace as a source that enables social, economic, and public value creation, private and public organisations, businesses, and communities should be motivated by the advent of digital technology to create

new mechanisms of cooperation and collaboration. This will lead to the transition from business global ecosystems to sustainable communities.

Rediscovering the community by combining the forces and drivers of globalisation, technological, and digital sources and advancements to enable organisations and businesses to create sustainable social, economic, and public value helps build peace by removing obstacles to coexistence such as cultural, religious, and ethnic barriers to ensure better quality of life for people living in a territory to create values and meanings.

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