Mainstreaming Technology into Conflict Early Warning and Prevention for Effective Digital Response in Nigeria

Peter Adolphus Effiom

Abstract

The benefits of applying digital tools in conflicts prevention is unimaginable in conflict-affected and fragile context like Nigeria, where daily year on year the gap between warners and responders keep widening. The distasteful phenomenon has severely impacted on the peace and development of the country both internally and globally. Secondary information obtained from authors, journals, internet materials and official reports led that, though mainstreaming technology might be promising, it is imperative to examine the kind of technology in the context of conflict prevention before adopting any technology that will ensure effective conflict early warning and prevention. The reality simplifies why Nigeria still faces terrorism, kidnapping, piracy and banditry, while on the other hand the study gives reasons why technology innovation in conflicts prevention has not yielded the desired results. The technological determinism theory was used to analyse some factors hampering sustainable conflicts prevention even with the use of technology. The study concludes that except peace professionals and security organizations invest in information and communications technology for conflict management, mitigation and projects to study the important function of modern information and communications technology, conflict prevention and response will not achieve an optimal outcome through technology. Also, collaborative efforts are required from states and national government, civil society, regional and international bodies on the use of technology for conflict prevention.

Keywords: Technology, Conflict prevention, Determinism, Mainstreaming, Nigeria

Introduction

Technology evolvement has influenced the concepts and practice of peace and security, and the role of interconnection. This phenomenon has continued to live on the minds of peace building professionals and the governments from Civil War period to the 'endSARS' era on what appears as threats. This paper will answer questions: first, why technology played petite role in conflict preventions in Nigeri? Second, how can application of technology prevent conflict? Thirdly, why is technology important in conflict preventions in our society? These threats are technological manipulation crimes such as, disinformation, terrorism recruitment and ransom negotiation, protest mobilization, among other challenges to peaceful societies. In 2020, there were around 170 million mobile subscribers in Nigeria and as of January 2021 the figure surged to 185 million. This means that about 1.3 million additional telephone users came on board the various service providers network (NCCstats 2021). Despite the enormous advantages embedded in technology for conflict prevention such benefits is ineffectually harnessed in peace building and conflict management in Nigeria, unlike some advanced world where the potency of technology is adequately utilized in conflict management. The year on year unprecedented increases in conflict and violence such as terrorism, kidnapping, illegal arms movement etc continues. Thus, unsustainable conflict prevention has led to the reduction in revenue of government, direct foreign investment, infrastructural facilities which has weaken good governance, democracy, security and development. Pressing constantly for huge security budgets to sustain peace and security. Infact, peace and security in whatever sphere of human development is unfeasible in a society riddled by conflicts. It is therefore, imperative to employ digital technology as an alternative for conflict prevention. This paper even though is going to concentrate its analysis on digital innovation for conflict prevetion, however will provide scholarly advice to policy makers on the potency of digital technology for conflict Early Warning and Response (EWR).

Conceptual Clarification

For a proper understanding of this paper, it is necessary to conceptualize the following terms:
Technology, Conflict Prevention, Determinism, Mainstreaming, Nigeria.

Technology

As simple as the word 'technology' may seem, it has facets definitions. From tek comes the Greek techne, initially skills of working with wood but soon broadened to specialized expertise, 'know how', knowledge of how to make things that would otherwise not exist. Techne, therefore concerned the artificial (Annals of Science 2020, p.22). The dynamic nature of technology has provided opportunities for various definitions and concepts by the earliest scholars that sought to be renowned. According to Kumar et al (1999) technology consists of two primary components labour: 1) a physical which comprises of items such as products, tooling, equipment, blueprints, techniques, and processes; and 2) the information component which consists of know-how in management, marketing, production, quality control, reliability, skilled and functional areas. To Sahal (1981) technology is viewed as 'configuration', observing that the transfer object (the technology) relies on a subjectively determined but specifiable set of processes and products. Based on Sahal`s (1981) concept, Bozeman (2000) argues that technology and knowledge are inseparable simply because when a technological product is transferred or diffused, the knowledge upon which its composition is based is also diffused. Technology is always connected with obtain result, resolving certain problems, completing certain tasks using particular skills, employing knowledge and exploiting assets (Lan and Young, 1996).

The varied definition on the concepts of technology showed two primary components: 'knowledge' or technique; and doing things' (Kumar et al 1999).

Concept of Conflict prevention

Conflict prevention is any structural or intercessory means to keep intrastate or interstate tension and disputes from escalating into significant violence and use of armed force, to strengthen the capabilities of potential parties in violent conflict for resolving such disputes peacefully, and to progressively reduce the underlying problems that produces these issues and disputes (Lund 2002). Conflict prevention also entail is a whole array of activities geared towards predicting and avoiding the outburst of conflict or trying to curb its degree or increase. Within the real sense, conflict prevention comprises of early warning, conflict resolution, peacemaking, crisis management, peacekeeping, peacebuilding program, and any kind of preventive actions at national or international level to foster peace. Even though the field has witnessed significant changes now than ever, it`s still been analyzed based on two major corresponding options of structural prevention and operational (Letouze et al., 2001). Structural prevention consists of intermediate to long-term development plans to address consequential causes of conflict like levelled inequality, poverty, selected few wielding onto power or wealth to the detriment of the masses etc. conflict sensitive encoding and conflict possibility assessments constitute some of the measures of structural prevention, which originally falls on macro-economic and micro-political motivated factors. While operational prevention is examined on the basis of conflict early warning and response systems including prevention diplomacy. Its treats the closest, more immediate and delicate causes of conflict. Indicators for conflict early warning systems are usually developed based on risk assessments undertaken as part of structural prevention efforts (Meier, 2009). On a promising outcome this is what is often referenced as warning-response gap. Practically the gap shows that in decision making there is a disconnect between early warning and timely response by the decision makers. Where timely warning are analyzed and alerted, untimely responses jeopardize such early signal because of lack of earnestness towards political goals (Rubin, 2000).

Framework: Determinism

Determinism is a creed excellently defined that influences event in the natural science. The thesis that all procedures in the realm of nature, including human judgments and actions coincidentally defined determinism in

the context of philosophy and science. Determinism entails that, a situation in which a person makes a certain decision or performs an action, it is impossible that he or she could have made any other action (even if, in fact, one could not have decided to do so), (Moore, 1873-1958). Another proponent of determinism whose ideas will expound this theory is Stephen H. Kellert's In The of Chaos (1993), his elucidation of the layers of determinism will assist in understanding how the similarity between ontological determinism and predictability traverses the developments in physical theory and better philosophical analyses. Kellert used what he classified as varied layers of determinism: A, B, C, and D to judge whether determinism is capable of using any layer or combination of all for the consequence of determinism tenets.

Layer of Determinsm

Layer A: The point here is that layer A means a model is deterministic if all conditions give details of M_s according to the rules and narrative of the condition of M_s.

Layer B: In determinism B is a theory that depict how the universe changes autonomously through decision makers that acknowledged it changes.

Layer C: Well before Earman, Clark Glymour (1971) already maintain that a proper definition of determinism also needs determinateness of quantities.

Layer D: Is defined as certain selection in determinism where condition of the system has the entire and accurate knowledge of the laws, accurate explanations of the assorted conditions of the system at various times, and the psychological apparatus needed to comprehend each of the intricacies associated in the evolution of a system. The criticism for these three definitions is that they fused determinism to be an ontological idea (B) with prediction (D). This is a shortfall for determinism because if prediction fails, it means that determinism has fail. By separating theses B and D this can be prevented. Earman explained that the combination starts from failure to discern determinism, its metaphysical tenets of how the universe evolves from predictability to an epistemic tenets about what can be supposed concerning the future or past. A deterministic system though consistently suffered falirue from determinists in trying to predict the furure states of a system nevertheless is upheld as a metaphysical tenet. The germane of determinism to this paper cannot be overemphasized because if Nigeria political economy has been glowing significantly with a multiplier effect to peace and security system, the necessity to predict an ideal state for peace building management through technological determinism would have otherwise been contrary. Determinism I think in this course will address what has caused the system to evolve and if such system can be quantify pragmatically through it physical properties such as perfect knowledge of the laws, best descriptions of the various states of the system at different times, and mental apparatus necessary to understand all the complexities involved in the evolution of its political milieu. Determinism assures that it overwhelming advantages over a few shortcoming can be instrumental in devising means to end the old narrative of conflict state. Hence, the concept of technological determinism is adopted to lead the study.

Conceptualising Mainstreaming

The Contemporary definitions of mainstreaming are knotty and have occasioned more conceptual and pragmatic drawbacks. The concept of mainstreaming can be defined in many ways: challenging the established political order (Voice); presenting an alternative policy vision and reching a position of political resilience on the political agenda (Agenda Setting); and incorporating the alternative vision into the mainstream of the organisation (Bibbings, 2012). This definition has three stages of inquiring processes. The first debates opined that mainstreaming has lived history and is a continuum that suffered poor clarification, the work of Gerring (1999) is a suitable direction on this erudition abysmal journey at his conceptual analysis methodology. The second angle relate methodology with the concept of mainstreaming in oreder to unload the concept to diverse academic and organisational fiction with the intention of limiting the paradigm to pragmatic and theoretical exploit. Lastly, thematic account is refined with a narrowed term that mainstreaming is naturally a political method with unrelated

characteristic such as: Voice, Agenda, Setting and Implementation. When there is a problem or a snail progress in both vertical and horizontal structures of an anticipated impact, the need to integrate and adapt some tools are deployed to aid facilitate the specific priorities within policy-making institutions.

The idea of allowing the use of information communication technologies (ICTs) in promoting peace was suggested by Maurice Strong, a senior Advisor to the United Nations Secretary-General Kofi Annan and by La Francofonie in their 2003 Geneva Declaration Contribution to the World SUMMIT on the Information Society (WSIS), (Stauffercher, 2005). The Geneva and Tunisia were code-named WSIS I & II. However, WSIS phase I gave little attention on the impact of conflict on development, its phase II published the Document "Information and Communication Technology for Peace'' a key role in relation to armed conflict, conflict prevention and management, peace operations, humanitarian relief and disaster assistance, post-conflict peace building and reconstruction (WSIS 2005, P. 6). Nigeria being a member of the UN subscribed to this novel idea on the premise of her overwhelming challenges on peace and security, as it mainstreamed two policies: Nigerian Natiional Policy for Information Technology, 2001, aimed at assessing, planning, managing development and for achieving sustainable growth (NNPIT, 2000, p. 2) and National Information and Communication Technology Policy, 2012, to provide a framework for streamlining ITC sector, and enhancing its ability to catalyze and sustain socioeconomic development critical to Nigeria's vision of becoming a top 20 economic by 2020 (NICTP, 2012).

The Application of Information Management and Systems
Nowadays the diffusion of computers and internet has made information dissemination faster. Interconnectivity has become easy and more accessible even at the comfort of one`s home, which would have been difficult without computers and active network. Intelligence gathering becomes easier when digital tools are fully used. The government, community, peace ambassadors, and civil society organizations must document every incident report of civil disorder, crisis and conflicts, together with their major and proxy actors. These incident reports include early warning signs that alert the habitual disturbance, including the root and remote causes of such disturbance (Nwogu 2018). And ensured a proper horizontal sharing of intelligence among the security organizations like the Police, Special Task Force and other operations mitigating and managing conflict before dispatching personnel for early response. For instance State Security Service is principally an intelligence gathering unit while the Immigration Service: A back-up for the Special Task Force, responsible for ensuring that other agencies from Niger, Chad and other part of Nigeria, will find its decision making and response easier with ICT.

ICT Aerial Surveillance and Tracing
Sophisticated technological tools have lessened the cumbersomeness of conflict prevention and management. Sundry devices and technologies can be incorporated to create a super-hi-tech and faultless intelligence system. The utilization of Closed Circuit Television (CCTV) for surveillance can significantly improve the capacity of government and her agencies to timely respond to possible crisis-induced situation (Nwogu 2018). Early warning signs imply crisis and conflicts are threatening, and if carefully x-rayed and action taken, can help in preventing conflict occurrence. A CCTV surveillance system involves the use of video cameras to capture and transmit image to a specific place. The camera in a CCTV system is tactically placed at selected locations like banks, seaports, train stations airports, super-store and other high risk areas. Such risk once detected is averted by the appropriate authority. Also, drones are deployed for intelligence gathering and vigilance from reasonable distance to support habitual early warning system. Drone may be equipped with image sensors control by remote that receives reports and forward data to intelligence divisions to find out whether threats are possible in certain areas.

Role of Internet, Websites and Social Media in Conflict prevention and Management
Internet and networks are undoubtedly the determining factor of ICT. Almost all ICT services or connection are done on the network. The internet has provided a massive increase in the number of mobile devices with cameras and greater accessibility of the intuernet (ITU 2010). Apparently, social media has played an important role in peace mission in conflict prone zone of the world (Issue Brief: Using Technologies for Conflict Prevention 2012,

p, 1). Social media and other innovative media tools have aided citizens' press for accountability from their governments, create awareness to douse tensions and mobilize citizens against conflict, coordinate humanitarian intervention and ensure channel of communications across boundaries (Jenny et al., 2018: 33). In some cases, most governments launch and use official websites to engaged and mobilized the citizens on the culture of peace especially when early warning indicators are clearly visible. According to Loy Okezie (2013), the Liberia Truth and Reconciliation Commission`s website has helped in post conflict reconstruction and reconciliation.

Big Data for Conflict Prevention
In general, big data refers to the exponential increase in the volume and speed of information being created every day in our digital, hyper-connected world (Anderson, 2013). Currently, technological innovation is shaping as an important tool for conflict prevention in a wider scale, even in early warning and response. Big data for development is a sub discipline of conflict prevention that comprised two structures of analysis: structural prevention and operational prevention (Adolfo, 2014). The former imply that every big data for conflict prevention plan will by-design address the issues of structural conflict prevention (such as poverty). What may be factors of instability and conflict in one community may be unrelated to another; for instance, maternal mortality gets a great concern in several countries however do not rouse tensions while poverty and political exclusion in another clime can trigger conflict. Therefore, big data can strengthen peace building by showing the correlation between development objectives and conflict dynamics (Blumenstock 2012). Studies causes, expressions of concerns and stress in a given community, i.e. via Twitter in Indonesia in order to better understand and address them before they fuel grievances (UN Global Pulse, 2011), for operational prevention using satellite imagery to reveal alerts that are within the early warning grouping of big data for conflict prevention.

Analysis of Mainstreamed Projects in Nigeria
The concept has been push by varied objectives for a system-wide performance that goes beyond the traditional context in many institutions in Nigeria. Mainstreaming application is accompanied by innovative ideas adopted and utilized in different fields, technology mainstreaming was corroborated following the Nigeria subscription to Africa of Globalization Information age in Addis abba in 1999 and national worshop on National Information and Communication Infrastructure held 2000 in Abuja that integrated technological solution for long term challenges of development goals. Mainstreaming in Nigeria is a hybrid between the horizontal and vertical method to overcome pass and current non-functioning strategy in policies aimed to achieve a greater political goals.

This section will provide some insights into digital technology landscapes on conflict prevention in Nigeria and its enomous achievements contrast to the threats posed by the multi-facet conflicts that plagued the country. Although a huge investment is needed for conflict prevention and peace management which little or mere attention is concerned in exploiting the potency of digital technology for conflict management, nevertheless non-governemental orgainsations and peace promoting instituions have always been commiited to spearhead and financed businesses of peace management in that capacity where the sub-national or national government seemed incapacitated.

Digitalized Early Warning System for Plateau State
In 2012-2013 the Plataeu state was funded by the United State Institute for Peace (USIP) to test the use of SMS-based conflict early warning system (EWS) in Jos region of (SFCG, 2013, p. 4) The objective of this pilot scheme was aimed at building the capacity of local peace ambassadors to analyze and respond to rising clash before it shoot up into a continual violence. This digitalized early warning and early response system offered many innovative approaches in Plateau state. The Community Action for Popular Participation (CAPP) and Search for Common Ground (SFCG) were established as trusted technological backbone to store, receive, and send SMS messages of the entire conflict mapping system (SFCG, 2013, P.6). Under the project 109 focal persons undergone training on early warning prevention using the SMS system to report on conflicts, through a crowd map website that enabled clients to mail-in incidents information and frontline SMS system. Civil society organizations were

fully engaged as a channels for early warning messages. The SFCG/CAPP, engagement with Special Task Force, Operation Rainbow, SSS, Immigration and other security agencies were strengthened through horizontal information systems. Finally, peace was returned to many of the project areas, but the conflict cycle relapses due to lack lack of structural prevention mechanisms. In other words, operational prevention of conflict prevention without a structural transformation to deal practically on the root cause of trigger factors, as seen in Plateau State only guaranteed a short term peace.

Every new project is often associated with peculiar challenges which social scientists termed as unintended consequences was never short of the early warning system in Plateau State as some constraints were encountered in the Digitalized Early Warning System mainsreamed to rid Plateau state of diverse violence and its dangers.

The following downsides were apparent

Inadequate handset network coverage seemed to have be responsible for uneven passage of messages from the focal points as they rarely received response to their report. Especially in flashpoints of Jos North, Riyom and Barkin Ladi communities encountered problem with network coverages. The SFCG and CAPP were sometimes not receiving the messeges that was sent by the focal points. Fatalism and suspicion of security agencies hampered the rate of reporting from focal points particularly in Riyom. The project was decelerated following the intervention of security agents in monitoring of messages emanating from the crisis in other to check rumour mongering and tension, and deliberate shutting down of cellphone networks. Occasionally conflicts were still occurring because of the gap between warning and response time.

ICT-Based Conflict Early Warning and Response System (CEWRS) for Kaduna State Peace Commission (KSPC)

The UNDP in 2019 partnered with the Kaduna State Peace Commission proposed to develop an early warning and response system in the state. With the widespread use of mobile phones, over 90 million Nigerians even in remote areas can make calls and communicate via SMS or have access to the internet through phones, thus making it the best platform for an early warning system (UNDP/KSPC 2019). The CEWERS leveraged on the concept of Ushahidi crowd sourcing, categorization and geo-tagging platform which enable information flow through (twitter), SMS, images and videos that will be geo-tagged on map. Digital tools amplified citizens concern to the authorities, it aggregated concerns in a way that allowed authorities (Security, Electoral Commission and Civic Groups) to quickly comprehend and make timely responses. It ushered in opportunity of geographic information and contact lists of security agencies and relevant stakeholders, the development of Kaduna monitoring data for State Peace Commission, rapid response mechanism for emergency response and intensive training of trainers' workshop for civil partners. It also provided a platform for regular joint meetings on conflict monitoring and mitigation, as well as configuration and integration of at least 80 units of Android Smart Mobile phones for field data collection. The pilot scheme brought the above innovation even though Kaduna State is still facing a great security challenges.

ICT-Based Monitoring and Evaluation (M&E) for Niger Delta

The Uinted Nation Development programme assisted the government of Nigeria in the area of conflict prevention, established the ICT- Based programme management software to provide the basis for effective co-ordination of development programmes and support for conflict prevention through technology in Nigeria. Its achievements included the formulation of the Niger Delta Collaborative Development Framework, the Niger Delta Action Plan, the establishment of functional Niger Delta Council, the Ministry of Niger Delta Affairs website, Socio-economic and infrastructure Resource Database, the ICT-based monitoring and evaluation (M&E) System and Scorecard and the 25 competent officials to manage and operate the ICT-based system. This project would combine the results achieved through building the capacity of 400 MNDA officials to utilize the system for the coordination, planning, operation and management, monitoring and reporting of development interventions in the Niger Delta (United Nations Development Programme 2018, p. 5) This project was a three year planned actions 2018-2021, which the final evaluation is not yet ripe for now.

Constraints on Mainstreaming Technology into Conflict Prevention
The mainstreaming of technolog for conflict prevention and management in Nigeria overtime have encountered several drawbacks due to some consequential factors. Such ingredient manifested in the form of lack of political will, insubstantial infrastructure, and poor maintenance culture among other things that fraught the continuous complementary of habitual conflict preventive skill with digitalized preventive apparatus.

Poor Electricity Supply and State of Nigerian Grid
The existing Nigerian power system is highly unreliable both in content and in essence; the generation and transmission capacity is grossly insufficient, and the distribution network is out dated and inefficient. As a result of this, energy losses, planned outages (load shedding) and forced outages (voltage collapses) are everyday experiences (Adhekpukoli, 2018). That means where power outage is frequent in a day or last for days, the possibility of utilizing digital gadget or equipment becomes challenging as they solely dependence on electrical energy. Threats or alerts are digitally harvested and disseminated effectively in an environment where electricity investment is huge otherwise volunteered citizens, civil society organization, peace building institution and security agencies will be constraint from achieving the lofty aims of digital technologies in peace and conflict management.

Inadequate Internet Coverage
Internet service suppliers are inadequate compare to the demand. Also, the potency of the bandwidth is usually too slow. The ineffective urban and rural network coverage is one problem that hinders sustainable conflict prevention in Nigeria. This means that the problem of irregular network coverage often times delay delivery of sent SMS messages that alert warning. The network coverage is more acute in rural communities, where sometimes is only one network carrier..

Short-fall of Professionals to Sustain Capacity Building
Capacity building is a critical factor for mainstreaming technology into conflict prevention otherwise known as early warning and response system. The promising power of ITC can only be sustained where there is a framework of trained information technology experts that will impact the right skill and knowledge required for training and retraining of manpower, procurement and maintenance of gadgets. Where an expatriate is the trainer and on a high cost, without a well-trained local workforce as back-up facility to fill the vacuum on his/her departure. This usually led to absence of manpower to sustain both short and long-term peace building management that is technologically oriented.

Inadequate Funding
Poor funding is a key setback for mainstreaming technologies into conflict-early-warning mechanisms from the nation`s budget. Early warning and response are often not getting sufficient funding to meet its responsibility and for that are unable to work out feasible ICT plans. To Fund a digitalized early warning requires more funds since it entail the purchase of software, spare part, electronic database, apparatus as well as steady power supply, and Very Small Aperture Terminal (VSATs) and International Society of Automation (ISP) fees in order to operate. More often than not, it is the support from donor of the United State Agency for International Development (USAID), United Nations Development Programme (UNDP) and Oxfam Great Britain (Oxfam GB) that mainstreamed most digitalized conflict prevention projects in Nigeria and Africa.

Lack of Institutions Joint Cooperation
Solution to conflicts and violence would have been more practical if various organizations have cooperated in sharing resources and engaged in joint programmes. As a result of this many institutions and organizations may find it difficult to procure super technology equipment with little budgetary capacity and in designing innovative tool against active conflicts. This if activates will create cooperation between peace builders and manufacturers of technological equipment.

Low Government to Government ICT Intervention

The Lack of robust actions by state-led mainstreaming of technology for peace building constitutes a great problem. It is evidenced that responsible agencies for crimes across Nigeria do not have ''single information source'' where early warning signals can be shared. The NigComSat, supposed to complement the ability of security agencies, chiefly the military, civil police and court on effective intelligence sharing and preventive planning, as well as the possibility of transmitting such improvements across states and local communities. This centralized digital platform could help to gather and interpret large quantities of unprocessed data needed for early warning. However, between the authorized agency and the citizen information channel is very slow if any, as well as lack of confidence on government and its agencies in real time solutions (Search for Common Ground Nigeria 2013, p. 18).

Ways to Mainstream and Leverage Technology for Violence and Conflict Prevention

This section suggest the steps that those who want to use new information and communication technologies for effective prevention of violence. Conflict prevention is a complex strategy that is selective to some technologies because of limited impacts as related to tools and approaches in the context of conflict type; criminal violence and counter-terrorism differs in effect to a situation of election related violence, in essence priority should be given in seeking for a technology for conflict prevention by government and non-governmental organizations in concomitant to early-warning and response efforts as applicable in Plateau State intervention.

Not every Hammer is a solution, not every nail is Problem

Assuming the underpinning factor is political problem, using technologies will lead to dangerous path. Though technology has huge potential to prevent conflict, however is not the cure for it elimination. When integrating operational prevention for an emerging crisis and structural prevention in tackling core causes of variances, innovative technologies need to complement more traditional tools like preventive diplomacy, governance reforms and economic initiatives. Also such tools should capture citizens and civil society organizations participations.

Considering the Background

Prior to undertaking any preventive strategy that aims at adopting innovative digital tools, initiators need to assess whether the project will fetch the desire effects. First, the social and economic background from technology penetration and level of know-how should be thoroughly studied to see whether technology is capable of addressing the problem for good before considering its application.

Predictive Harm

Inability to predict any on shaky grounds of using a particular technology can be unpredictably dangerous to its results in conflict settings. Actors whether in government agencies, criminal gangs or a rebel group who use new technologies and information can incite violence, promote conflict and perpetrate crimes (Marie et al 2013, p. 90). Every actor seeking to apply new technologies for prevention initiatives should apply conflict sensitive approaches and be aware of possible negative and knock-on effects emerging from their use of specific technologies (International Peace Institute, 2010, p. 90).

Incorporation of Local

In any ongoing project, regular involvement by the local beneficiary is cardinal in every effort to use technology in sustaining prevention attempts. Where an intervention designed shows no involvement by the affected communities in terms of consultation, it means no acceptance from those who are supposed to benefit (Marie et al, 2013, p. 90).

Apply Technology to Aid information flow Horizontally over Vertically

The important aspect innovation has created is a platform for individuals to take part in conflict prevention

initiative concerning owned communities and societies. This horizontal stretch can be utilized to exert pressure on policy makers a lot more successfully at local than international level. For example, the EndSARS protests in Nigeria. Hypothetically modern technologies have better impact neither in top to bottom nor bottom to top arrangements, but for bottom to bottom approach.

Agreeing on Ownership and Information Sharing
Community involvement alone may not advance conflict prevention, particularly on a large-scale collective violence. New technologies enable international organizations and government agencies to get further information to enlighten preventive efforts, whether the data is freely provided by citizen coverage, collected from the data inundation online, or harvested through modern surveillance technologies. What is required to see is the level of reliance, intelligibility, and manage what persons, industries and government are eager to admit as it involves partaking statistics using digital technologies within the perspective of violence and conflict.

Encourage Joint Ventures for Better Ends
Joint ventures would be necessary for the successful use of new digital tools for preventive results. Studies asserted that prevention plans that are designed to complement the potencies of governments, civil societies, corporate bodies and international donors proved more efficient. The context of big data necessitate collaborations because the whole actors must be involved in harvesting useful information from the data stream of private companies who owns the data, technical experts and academic world that has expertise to analyze, civil societies capable of putting it in the perspective and international organizations and governments that can control its application and motivate cooperation.

Conclusion
Mainstreaming technologies into conflicts prevention is rather new and has not been evenly integrated in most peace building programmes because of numerous limitations inherent in Nigeria`s milieu. However, this paper has discussed information and communication technologies in conflict and crisis management generally. We have seen how technology can be used to bridge the glaring disconnect between the warmers and responders to foster peaceful society. Similarly, it can become a dangerous weapon if left in the hands of the spoilers. The fact remains that tech-enabled without traditional tools; conflict reduction will continue to be a great challenge. But when both are deployed without political sentiments technology can build and guarantee the world free of negative peace and human induced crisis. As reflected in the United Nations` ICT4peace project proposed by Maurice Strong in 2003. It is believed that this paper will serve as reminder to Nigerians and the Nigerian government to the certainty of mainstreaming digital tools for peace safeguarding and conflict management. Similarly, it is hoped that Nigerians and peace experts beyond doubt will maximize the various prospects and opportunities offered by ICT in sustaining national and global peace.

Recommendations
- Underpinned from Plataeu state's digitalized conflict early warning programme, records showed a mere sub-national and national government's investment in non-kinetic conflict prevention approach, such insensitivity necessitate collaborative efforts amongst governments and private sectors in providing the needed technological infrastructures that will foster and sustain peace building.
- The available findings revealed that Nigeria Sat I and II are no longer optimal in harvesting the required information, and this call for urgent need to replace the satellites in other to serve as a central information system (information pool) to link security agencies, peace agencies, civil societies and general public for effective horizontal information gathering capacity.
- The findings show that internet penetration is inadequate in remote areas where conflicts are common. Therefore there is need to decentralize internet and digital technology in local communities to create awareness on the importance of technology in timely alert and response.
- Based on the research findings, mainstreaming technology into conflict prevention without addressing

most structural issues will be an abysmal journey. To priortize what happen to poverty and dearth of basic amenity will catalyze the peace restored through digital innovation applications.

- The findings inform that not all forms of technologies are useful for conflict prevention, in that regard an appropriate technology should be infuse for peacebuilding management to avert waste of resources.
- From the data gathered in the course of this research was lacked of experts for maintenance of technological equipment and appliance. Consequently, training and retraining of technicians and users will ensure continuity and efficient utilization of its application.
- The findings show that when digital technologies are in the hands of criminal minded men it becomes a dangerous tool. To ensure positive influence of technology government must monitor its use and regulate policy.

Also there is more need now than ever in making the established National Information Technology Development Fund available for technological projects anchoring on early warning and responses. This framework will significantly enhance the utilization of ICTs for peace building.

References

Akinpelu, O. (2020). NCC Stats: MTN is still king and Glo continues to lose internet users despite improvement in GSM subscribers. Nigeria.

Stauffacher et al (2005). Information and communication technology for peace: The role of ICT in preventing, Responding to and recovering from conflict, the United Nations Information and communication Technologies task force one United Nations Plaza New York, NY, 10017.

Blumenstock, J. (2012) inferring patterns of internal migration from mobile phone call records: Evidence from Rwanda, information technology for development. www.jblumenstock.com/files/papers/ ijblumenstock_itd2012.pdf.

Kumar et al (1999). Building technological capability through importing technology: The case of Indonesia Manufacturing Industry Journal of technology transfer, 24, 18-19.http://dx.doi.org/10.1023/A: 1007728921126.

Lund, M. (2002). Preventing violent interstate conflicts: Lessons from experience, in searching for peace in Europe and Eurasia: An overview of conflict prevention and peace in building activities (Ed.) Boulder, CO: Lynne Rienner.

Maar, Alexander. (2019). Kinds of Determinsm in Science (pp. 1-9).

Nel-Epistemology and Logic Research Group, Federal University of Santa Catarina (UFSC). Brazil.

Bibbings, Sharleene. (2012). The Politics of Mainstreaming in Critical Perspective (pp. 20). Cambridge Scholars Publishing, 13 Back Chapman Street, Newcastle upon Tyne, NE6 2XX,
 UK.

Matveeva, A. (2010). Conflict cure or curse: Information and communication technologies in Kyrgyzstan. In F. Mancini. (Ed): New technology and the prevention of violence and conflict (pp. 58-70). New York: International Institute of Peace.

Meier, P. (2009). Fourth generation early warning systems: conflict early warning and response blog. https://earlywarning.wordpress.com/2009/03/06/fouth-generation-early-waring-systems.

Musila, G. (2005). Early warning and the role of new technologies in Kenya: (pp. 51-54). In F. Mancini F. (Ed). New York: International Institute of Peace.

National information technology policy: (2000). Nigeria.

Pimienta et al (2010). International telecommunication union: Encourage the development of content and Put in place technical conditions in order to facilitate the presence and use of all world languages on the internet. Place des Nation CH-1211 Geneva Switzerland.

Reginald, N. (2012). Internet banking implementation in Nigeria: Security issues analysis and solutions. Masters` thesis, unpublished.

Slotin, J. (2010). Power, politics, and change: How international actors assess local context. In F.

Mancini. (Ed). New technology and the prevention of violence and conflict: (pp. 91). New York: International Institute of Peace.

Stine, K. (2012). Search for common ground: Participatory early warning for more effective response.

United Nations development programme: Conflict prevention and peace building programme (2018). Niger Delta region. Nigeria.

United Nations development programme: ICT-based conflict early warning response system (2019). Kaduna State peace mission. Nigeria.

World summit on the information society: ICT4peace Tunis II (2005). Tunisia.

Peter Adolphus Effiom is of the Institute for Peace and Conflict Resolution, PMB 349, Plot 496 Abogo Largema Street, CBD, Garki, Abuja, Nigeria. Petereffiom8@gmail.com, +234(0)7034589148