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## **THE IMPACT OF FOURTH INDUSTRIAL REVOLUTION ERA ON NIGERIA'S COUNTERTERRORISM STRATEGY TOWARDS BOKO HARAM MOVEMENT**

*The emergence of the fourth industrial revolution (4IR) is both thrilling and frightening. The technology under this era would have an impact on mankind. The 4IR has the potentials of increasing income heights through new entrepreneur innovations. The new technologies under 4IR will improve productivity and reduce the cost of communication and transportation. On the one hand, there are numerous gains of the 4IR, on the other hand, there are also many challenges associated with it. With particular reference to security, it is feared that the 4IR could pave the way to greater insecurity, particularly when it is used by terrorists like Boko Haram to carry out their attacks. The main argument of this paper is that the non-deployment of 4IR technologies in countering Boko Haram terrorism is a major hindrance to Nigeria's war against terrorism. The major objective of this study is to investigate how the use of 4IR technologies have enhanced the activities of Boko Haram terrorist and Nigerian counterterrorism operatives. The data for this research were sourced through secondary sources and analyzed by the use of the qualitative method. The strategic theory was espoused as the framework of analysis. The research discovered that the sophistication in the activities of Boko Haram is bone out of the utilization of the 4IR technologies in their operations. The 4IR enable the terrorist to seek assistance from renowned terrorist groups and acquire state-of-the-art weapons and training. The paper further reveals that the Nigerian counterterrorism initiative is not effective in curbing the Boko Haram attacks partly because it is premised around the third industrial revolution technologies. This research recommends 4IR technology compliance as the first step to match the Boko Haram onslaught before the use of soft power.*

**Keywords:** *Boko Haram, Terrorism, Counterterrorism, Fourth industrial revolution, Security*

### **Introduction**

All phases of human development are confronted with different problems. The era of the first industrial development was faced with inter-state conflicts. These

conflicts were rooted in imperialist interests. In this era of the fourth industrial revolution (4IR), the contemporary world is faced with threats from terrorists' activities. The technology behind the 4IR has not only impacted mankind positively, but it also presents additional vulnerabilities, which necessitate the protection of high-tech transport systems from being broken, energy grids from being distantly crippled, and super-computers from getting into the hands of terrorist groups.<sup>1</sup> It is easy for an act of terrorism to be conducted globally because the 4IR has brought advancement in telecommunications, transportation, and technology in general. In this era of 4IR, terrorists and weapons can move across porous boundaries unrestricted thereby wreaking havoc across the world.<sup>2</sup> The incidences of terrorism have also increased in the world today. For instance, from 1968 to 1989 the incidences of terrorism in the world were about 1.673 per year, between 1990 to 1996 there was an increase of 162% compared to the previous period, indicating an increase of 4.389 per year.<sup>3</sup> Presently, the percentage increase in the incidences of terrorism is approaching 200 percent.<sup>4</sup>

At present, the technology behind the 4IR which is characterized by satellite communication, computerization, miniaturization, digitization, and the internet has made it possible for terrorists to collaborate at the global level. Through global corporations, terrorist groups/ organizations can acquire state-of-the-art assets and all forms of training that would enhance their operations. It was with the aforementioned features that the terrorist attack on the United States of September 11, 2001, was heard throughout the world. These features also aid terrorist propaganda. Terrorists operating in the era of the 4IR uses the mass media in disseminating their aims and activities to the international audiences via graphic images displayed on the internet, and audio-visual communiqués sent to the cable news network.<sup>5</sup> The terrorist groups around the world have no monopoly over the use of 4IR technology. States or other actors who wish to counter terrorist activities can equally acquire and use the technology. In most instances, developed states like the United States have keyed into and are effectively using the 4IR technology in their counterterrorism efforts.

On the other hand, developing states of the World, like Nigeria lack the interest to be 4IR technologically compliance. This has made these states to suffer a serious setback in their counterterrorism initiatives. The situation is compounded when the terrorists can acquire and use the current technology. The above is alleged to be the current situation in Nigeria. Why the Nigerian state has made a frantic effort in the past ten years to curtail Boko Haram terrorism within its domain, the activities of Boko Haram persist. The continuation of the Boko Haram attacks shows that the Nigerian security agencies have not fully succeeded in their campaign against Boko Haram.

This study argues that aside from the numerous identified hindrances like lack of synergy among Nigerian security agencies and corruption, the non-

utilization of 4IR technologies by the Nigerian counterterrorism agencies is one of the major setback. Also, the study upholds that fore the Nigerian military-based counterterrorism approach to extirpate Boko Haram, there is a need to incorporate the use of contemporary technology in the Nigerian security architecture. Based on the above argument, this study uses the approach of qualitative content analysis to investigate the impact of 4IR technology on Nigeria's counterterrorism measures.

## Conceptual Clarification

### *Terrorism*

The word terrorism stemmed from the Latin verb '*terrere*' which means 'to cause to shiver' or 'to cause to tremble'.<sup>6</sup> In its widest viewpoint terrorism connotes the deliberate use of indiscriminate aggression to create fear in the minds of a large number of people, to realize a political, religious or ideological goal. The terror created by terrorism is geared towards intimidation and coercion of both the noncombatant and the combatant population in a target society.<sup>7</sup> Terrorism is the placing of a large population in a condition that portrays a lack of the following: peace, hope, survival, and means of overcoming the threats posed by those carrying out the act of terrorism.<sup>8</sup> The danger posed by the terrorist group in the world today seems to be more complex and complicated, compare to the previous epoch. In this era of 4IR terrorism now causes enough destruction to the world's social order leading to heavy loss of lives and property.<sup>9</sup>

In another way:

Terrorism is a premeditated and unlawful act in which groups or agents of some principal engage in a threatened or actual use of force or violence against human or property targets. These groups or agents engage in this behavior intending the purposeful intimidation of government or people to affect policy or behavior with an underlying political objective.<sup>10</sup>

The definitions above show that the use of illegitimate force, attacks on noncombatants citizens, non-state actors, and the deployment of unconventional warfare strategy, are the major features of terrorism.

Bases on the aforementioned features, presently most definitions of terrorism are biased, they are predominantly used by the government to paint terrorism in a bad light. In this complication, there is a need for a value-laden free definition. Such a value-free definition should not ex-include any international actor. Since state actors can also carry out terrorist actions. That states perpetrate terrorist acts is no longer a debate in academic discussions. Evidence is bound about state terrorism. Based on Nigeria's recent terrorist experience with the Boko Haram, terrorism in this context is defined as a technique of violence used by actors (state and non- state) who are disenchanting with an existing political system. They intend to create fear in their targets who

could be states or non-state actors, combatant or non-combatant personnel. The act of violence is geared towards reinstating the power base of the actor carrying out the violent act or attaining goals that are not only political but also religious, ethnic, economic and ideological.

### ***Boko Haram***

This is a terrorist group operating around the Lake Chad Basin region of Africa. Its origin can be traced to the Northeast region of Nigeria. The name Boko Haram is a combination of two non-English words. Boko is derived from one of the dominant languages in Nigeria-Hausa. In the Hausa parlance Boko means western education. Haram, on the other hand, is an Arabic word meaning forbidden. A combination of these two concepts, Boko Haram means Western education is forbidden.<sup>11</sup> It is commonly used to refer to a terrorist group that is formally known as *Jama'atu Ahlis Sunnah Lidda'awati Wal-Jihad* (people who are committed to the propagation of the teachings of Prophet Mohammad (Peace and Blessing of Allah be upon him) and Jihad).<sup>12, 13, 14, 15</sup>

The group rejection of Western education was based on their clamor for a political change that will permit the whole country to be governed by Sharia law. They believe such a political change will solve the problem of poverty, unemployment, and other socio-economic problems, i.e. deprivation and marginalization.<sup>16</sup> The broad standpoint has exonerated the group from it been tag as a religious terrorist group. With climb down on the group by the Nigerian government, Boko Haram pledged allegiance to ISIL in 2015 and broken up into a faction known as *Wilāat Gharb Ifrīqīyyah* (The Islamic State West Africa Province (ISWAP)).<sup>17</sup> This new faction specializes in attacking military bases and convoys'. Apart from their affiliation to ISI, the group is also linked to Al-Qaeda in the Islamic Maghreb (AQIM). These international linkages are made possible as a result of easy communication and transportation that characterized our contemporary World. They have sustained their hostility as a result of the benefits form their intercourse with renowned terrorist groups. Boko Haram has benefited in terms of training, funding, and assets from foreign terrorist bodies.<sup>18</sup>

On the whole Boko Haram's operations are concentrated in Nigeria's northeastern states of Adamawa, Borno, and Yobe. The group's activities have affected all spheres of life in Northeast Nigeria and beyond. In 2014 Boko Haram was considered one of the deadliest terrorist groups in the World.<sup>19</sup> With help of the 4IR technology, Boko Haram has withstood the counterterrorism efforts of the Nigerian security agents and a combination of some armed forces from the Lake Chad Basin countries known as the Multinational Joint Task Force (MNJTF).

## ***Fourth Industrial Revolution***

The phrase Fourth Industrial Revolution (4IR) originates from Germany where it was known as Industry 4.0. In the United States, it is recognized as “Connected Enterprise”, while in the United Kingdom it is popularly called the “Fourth Industrial Revolution”.<sup>20</sup> The economic and scientific transformations in human history before now signified three major industrial revolutions: (1) the late 18th-century mechanical manufacturing, which started in Britain. This development made Britain the workshop of the World. (2) The later 19th-century bulk goods production as a result of the division of labor, and (3) the 1960’s era of personal computers and the internet.<sup>21, 22</sup> The fourth wave of economic and technological development is known as the 4IR. It is typified by major technologies, such as artificial intelligence, cloud computing, 3D printing, biotechnology, and nanotechnology among others.

The 4IR has introduced an extensive application of the microelectronic and information technology. The 4IR can be described as the revolutionary transformation that ensues as soon as Information Technology (IT) flourishes in all industries. It can also be defined as a transformation in the contemporary World resulting from the horizontal enlargement of IT.<sup>23</sup> The 4IR is different from the previous industrial revolutions because of its extensive use of cyber-physical systems in the industrial domain.<sup>24</sup> It is on this note that the concept 4IR is often comprehended as the Cyber-Physical Systems (CPSs).<sup>25, 26</sup> Today, the 4IR is not only used in the industrial circle, the security domain is also utilizing the product of 4IR. This is because terrorist organizations have resulted in the use of 4IR technology to advance their onslaughts.

## ***Counterterrorism***

From the features of terrorism, it can be seen as a means of achieving certain goals that include political ends.<sup>27</sup> Based on the above position counterterrorism can be perceived as a contending political strategy. More so, counterterrorism can be defined as the responsibility to restore the disorder instigated by terrorist activities. Three prevailing counterterrorism procedures exist. These are military-based, justice-based, and political-based counterterrorism measures.<sup>28</sup> Due to the US-led role in counterterrorism, the military-centered counterterrorism strategy is the vogue around the World. The military-based counterterrorism adherents believe that terrorists are threats to the existence of states. Therefore, should be tackled with a hard power counterterrorism approach. In this regards counterterrorism is more of a war on terrorism.

The military-based strand of counterterrorism prefers to describe an attempt to prevent terrorism in military lexes as enemy-based warfare, where the state military is saddled with the responsibility of developing and implementing a military approach to counterterrorism on behalf of the state.<sup>29</sup>

In general terms, counterterrorism is a broad-spectrum strategy put in place to defeat terrorists, deny assistance to terrorists, diminish the causal conditions that terrorist manipulates, and defend citizens prone to terrorist attacks.<sup>30</sup>

## Theoretical Framework

Scholars have used many theories to explain the issue of terrorism, based on the dimensions of their argument. Concerning terrorism, counterterrorism, and 4IR, the strategic theory is considered apt and it is explored here. The concept strategy is commonly used but hardly comprehended. It is popular in all spheres of life. The concept is universally used in such a manner that it has lost its meaning.<sup>31</sup> Strategy can be defined as the course and occasioned of force and the peril of force for the motives of policy as determined by politics.<sup>32</sup> In a nutshell, a strategy is the use of techniques and available resources to realize desired ends. This is done through critical thinking, in other to utilize the principle of minimax.

The strategic theory has its origin from Games theory but quickly exceeded its origin. Some of the proponents of this theory are Harry Yarger, Colin Gray, and Thomas Schelling. The strategic theory has been used over the years as an instrument that assists the understanding of decision making. The relevance of utilizing the strategic theory made Yarger stressed that "Strategic theory opens the mind to all the possibilities and forces at play, prompting us to consider the costs and risks of our decisions and weigh the consequences of those of our adversaries, allies, and others".<sup>33</sup> Strategic theory can be viewed as a sequence of purposive postulations that guide analysis.<sup>34</sup> The concept strategy is inescapable because man, the common link between yesterday and tomorrow, always desires security. To achieve security human behave politically and strategically to counter impending dangers.<sup>35</sup>

The study of ends and means is of the major assumptions of strategic theory. This is hinged on the fact that strategic analysis is the study of obtainable resources to achieve any objective. In this context, the concept 'resources' is not limited to tangible assets that can be used to achieve a set goal but similarly include intangible dynamics that may affect the outcome of the actors' decision. This can be a lack of political will of state actors to acquire state-of-the-art technology in their attempt to curb terrorist activities. The strategic theory also assumed that understanding the behaviour of actors is central to comprehending any social phenomenon. In this regard, the theory sees the individual as the basic unit of analysis. The importance of the individual is based on their role in a state or other organizations. States and institutions are incapable of taken decision, it is the man that takes decisions on their behalf. An examination of the calculated decision of actors is the core work of strategic theory. These actors may be state or non-state. Understanding the actor's value system is also strategic to strategic theory. Under this assumption emphasizes is placed on the

motivation of actors, how do actors aggregate their interest and how they strive toward achieving their objectives.

Another central assumption of the strategic theory is that actor's interests are motivated by their larger strategic environment. All actors operate within an environment. The environment in this perspective goes beyond the physical territory to include the resources that are found therein. Therefore, situating actors' values and first choices in the context of their environment will give a clear understanding of their behavior. Harris posits that:

The strategic environment is described as the determinant of the information that is available to an actor and the structure within which actors operate. The environment determines what the actors think they know for sure and what they have to infer, if possible, from the behavior of others.<sup>36</sup>

From the environment, actors can also predict the reactions of other actors and adequately strategize on how to overcome obstacles that can prevent them from reaching their desired end. Rationality is another central assumption of strategic theory. Strategists believe that actors are rational in behavior. Based on this assumption, the strategic theory posits that actors can critically analyze their environment and select the strategy that will enable them to achieve their biased or subjective goals.<sup>37</sup> This shows that not all rational decisions are the best choices. Rationality in this situation entails that actors' choices are subject to careful cost-benefit analyses. After which they opt for the best means to achieve their set objectives. "To pass judgment on whether anyone is rational or irrational in political life is to assume that one exists in Olympian detachment with a unique insight into what constitutes supreme powers of reasoning".<sup>38</sup>

Strategic theory also believes in the notion of conflicting interests. The existence of many actors and scarcity of values in the environment where these actors operate makes clash of interest unavoidable. This is because as an individual actor strives to pursue their interests and goals, their ability to achieve their ends to a large extent depends on the choices and interests of other actors.<sup>39</sup> When actors attached high importance to their interests an inharmonious situation may occur. In some cases, actors may resort to violent means to attain their objectives. This usually occurs after weighing the possible options available at their disposal.

From the above assumptions of strategic theory, Boko Haram terrorism can be seen as a war between the Nigerian state and the terrorist group. On the part of Boko Haram, they are not just disgruntled elements of the Nigerian society but a non-state actor with well-articulated objectives. In their rationality, they have mapped out strategies on how to attain their ends by using religious and political options. Boko Haram has over the years deployed financial, political, economic and military powers at their disposal to wage and win the war against the Nigerian state. The first strategy employed by the Boko Haram group was their use of holy movement (*Hijra*). They used *hijra* to win the hearts of many Muslim youths. It was through the holy movement that the

majority of the people were radicalized.<sup>40</sup>

Boko Haram though not professionally trained in the art of war, has adopted the military strategy in their confrontation. To prove that not all rationality is the correct decision, the Boko Haram military strategy takes no cognizance of the number of their members they stand to lose in a confrontation with the Nigerian military. The group is more concerned about the number of fatalities they can cause to the Nigerian state. While the Nigerian government is worried about the loss of war veterans and assets to the war against Boko Haram terrorism, the terrorist is ready to sacrifice their lives and property. They are ready to sacrifice the aforementioned to achieve their goals. The Nigerian government perceived Boko Haram as a domestic terrorist group that can be squashed easily using the military approach. Without considering the ease of linkages that come with the 4IR.

Due to the reaction of the Nigerian counterterrorism agents, Boko Haram has used a number means to make sure they have a strategic advantage over the Nigerian troops. One such means is the use of guerrilla warfare. Through the use of this strategy, they were able to cease some territories in the northeast and assert their influence. The hard handedness of the Nigerian troops made them switch over to suicide bombing. A strategy that helped the terrorist group to be known World-wide. The group also engages in planting bugs in strategic Nigerian institutions as a means of intelligence gathering. As the Nigerian state was busy negotiating for collaborations with other states in the fights against Boko Haram. The group was also seeking assistance from other renowned terrorist groups like ISIS and Al-Qaeda. These terrorist groups assisted Boko Haram in terms of funding, training, and provision of a 4IR technology environment. With the above strategies of Boko Haram, the group persisted in their attacks for almost ten years.

### **Boko Haram And The Use Of The 4IR Technology**

4IR technology is a two-edged sword. It can make life easy and can as well make life miserable. In terms of terrorism and counterterrorism, the technology can be used by both terrorist and counterterrorist operatives. Terrorists use 4IR technology to expedite their assaults. 4IR technology has offered novel gears, skills, and strategies to Boko Haram terrorists.<sup>41</sup> With the 4IR, the acquisition of military-based technology is made easy. Technologies with essential military functions are accessible on the internet, they can be procured via marketing webs by terrorists.<sup>42</sup> This was the rationale behind ISIS's fortification of internet network in the Lake Chad Basin region, which is the hub of Boko Haram's operations.

The development of artificial intelligence systems to imitate other people's speech forms and also blend imageries to impersonate important people is a powerful tool used by contemporary terrorists. On more than one



occasion, the Nigerian military has declared Shekau dead,<sup>43,44</sup> but his videos and audio messages keep emerging online. With this, it is difficult to categorically state that Shekau-the leader of the original faction of Boko Haram is dead. This uncertainty has psychological implications on the Nigerian masses and the moral of the counterterrorism agents. The power of nanotechnology in this era cannot be under-estimated. It can be used to assemble smaller but powerful explosives. More so, it has been confirmed that Daesh employed small drones to drop bombs in Iraq.<sup>45</sup> Boko Haram is said to have used drones to spy on Nigerians troop's locations and detect their advances. The accuracy and success in their ambushes support this point.

In the era of 4IR, the Cyberspace has become a solid platform that promotes terrorism. The cyberspace permits terrorists' access to propagate information beyond boundaries. The internet and social media are enabling environments for terrorists to influence and recruit people all over the world. Terrorists' are known to have used Facebook, blogs, websites, Twitter and YouTube to persuade a good number of people around the world.<sup>46</sup> Boko Haram is not left out in this trend. The group has adopted 4IR technology as a medium for fundraising, planning, propagating violent ideology, collaborating, planning, and implementing assaults.<sup>47</sup> Unfortunately, the Nigerian security community is yet to cash in on the opportunities of the 4IR and advanced concrete methods to abate the Boko Haram manipulative activities.

Contemporary terrorist organizations have turned Information communication technology (ICT) new tools of attack.<sup>48</sup> Boko Haram is utilizing ICT to the fullest in their activities around the Lake Chad Basin. Through their allegiance to renowned terrorist groups like ISIS, they have acquired technological competences that empower them to carry out high caliber damaging activities like cyberterrorism. By using the social media stages to communicate and organize attacks, it means that Boko Haram has taken their onslaught to cyberspaces. With the power of media and internet technology, present-day terrorists' can cause great panic and pressure public opinion on sensitive issues. They do this by their ability to combine images with text as a means of mass communication.

ISIS is known to be proficient in the use of the cyberspace. They have recruited young fighters via the internet by using about 21 languages.<sup>48</sup> More so:

ISIS collaborated with other terrorist groups like Boko Haram to spread its messages and provided cyber and media training to them. Through this partnership, Boko Haram was exposed to and subsequently developed new tactics, and was provided with symbiotic relationships with other groups through which the Boko Haram message could be propagated. The mutual relationship between the two groups granted Boko Haram unfettered access to Al Qaeda's Al-Andalus media arm, which assists in the area of the propaganda campaign.<sup>49</sup>

In the 4IR technology age, terrorist groups have seen social media technology as a new and vibrant weapon that will assist in their struggle. In the previous epoch, terrorist groups could use one or a combination of these three communication channels: handbills, secret radio outfits and clandestine publications such as pamphlets.

The influence of ISIS on Boko Haram is so severe that most of Boko Haram's activities are currently tied to the 4IR technology. This confirms the assertion that internal and external factors have the capacity to influence crime-related activities that could endanger the security of any state.<sup>50</sup> Boko Haram has utilized the fourth industrial revolution to their advantage. Some of the notable areas and percentages of usage are as follows: Propaganda 42 percent, Surveillance 26 percent, Recruitment 17 percent, Fundraising 10 percent and crime 5 percent.<sup>51</sup> The above-mentioned percentages show that Boko Haram's link with other well-known terrorist groups has made them mastermind the use of contemporary technology. This could be part of the reason why the Nigerian counterterrorist operatives are having glitches in ending the Boko Haram menace. Boko Haram is using cutting-edge technology (encrypted media). For instance, telegram is used in communicating with members about their secret activities. In another instance, Boko Haram made use of YouTube to claim responsibility for their abduction of over 276 Chibok schoolgirls in 2014.<sup>52</sup>

### **Nigeria's Counterterrorism In The Era Of 4IR**

The growing influence of the Boko Haram terrorist group is a worrisome prospect for Nigeria.<sup>53</sup> More disturbing is the fact that the Nigerian counterterrorism measures lack the different trends of 4IR technology. For instance, intelligent robots now champion the ongoing remarkable changes in our daily lives. The current revolution (4IR) disposes of numerical skills that distort the lines between the physical and computer world.<sup>54</sup> The clamor for 4IR compliance is tensed, but it is not the priority of the Nigerian government. The truth is that any government and organization that have failed to key into this industrial revolution may not be able to solve some of the problems confronting them effectively. The prolonged activities of Boko Haram terrorism in Nigeria is as a result of the above assertion. Puzzlingly, the 4IR is hosting technology to arbitrate between humans, to build more foretelling relationships, but some actors in our contemporary world lack interest in it, probably because of lack of wherewithal.<sup>55</sup> In this circumstance, a state may have the interest but would lack the ability. The case of Nigeria may not follow the above argument, because Nigeria is not a poor country, the Nigerian state lacks good leadership that can champion the cause of authoritative allocation of value. This is caused by the huge cases of corruption in public places, which most public office holders are culprits.<sup>56</sup>

Since Boko Haram terrorist group is currently utilizing the 4IR technology to sustain their activities, it would be equally advantageous for Nigerian counterterrorism operatives to follow suit. Counterterrorist agents can use the 4IR technology to deny terrorists of cyber safety, eliminate the resources that aid them to carry out cyber recruitment and deployment.<sup>57</sup> Because terrorists have taken their activities to the cyberspace, creation of a safe cyber environment through integrated information operation (IO) is ideal for contemporary counterterrorism campaigns. Besides, the Nigerian state can deploy predictive analytics technology and drone technology to boost the country's chances of effectively countering Boko Haram terrorism.

Predictive analytics is an advanced online technology whose scope span beyond the individual use of mobile devices to people's activities, which include who they discourse with, where they go, and what they explore.<sup>58</sup> The vital purpose of predictive analytics is to predict the result of forthcoming incidents by relying on the answers from the following questions: What transpired? What is transpiring? and What will transpire?<sup>59</sup> Since corporations use predictive analytics to forecast trends in consumer behaviour, product usage, and the probability of purchases.<sup>60</sup> This technology through the use of geospatial data can be helpful in counterterrorism operations. The Nigerian security agencies can use predictive analytics technology to predict, prevent and counter terrorist attacks. The employment of geospatial data will permit the equitable allocation of resources to areas most prone to terrorist attacks. Furthermore, the geospatial analysis will enable the Nigerian security agencies to swiftly develop a counter-strategy to alleviate potential threats of terrorist assaults.

The use of drones or unmanned aerial vehicles is one of the new tactics used in contemporary warfare. The drone technology is one of the most sought after by states using the military approach to counterterrorism. Based on its 'hypothetical visual superiority', "drones have been used extensively for counterterrorism operations, especially in carrying out pre-emptive strikes, surveillance on specific locations as well as eliminating threats".<sup>61</sup> Nigeria's acquisition and deployment of pilotless drones to detect and annihilate terrorist targets will help in the country's counterterrorism campaign. The ability of drones to fly in the sky at 10,000 feet,<sup>62</sup> will be an advantage to the Nigerian counterterrorism forces. Due to drones' capability at intelligence gathering and its ability to unleash hell on its targets by operators hundreds of miles away from the target. With this new technological set-up, the Nigerian counterterrorism agents will be able to identify and eliminate terrorists without violating the rights of non-terrorists.

The Nigerian counterterrorism operatives lack the latest technology that comes with the fourth industrial revolution. This has constituted a major setback to Nigeria's war against Boko Haram terrorism. The 4IR portrays a situation of an arms race between Boko Haram and the Nigerian state. One

of the setbacks of Nigeria's fight against Boko Haram was the ability of Boko Haram to quickly recognize the opportunities that come with 4IR. While Nigeria was grasping with issues of corruption, lack of synergy among security agencies, blame game politics, religious and ethnic divisions. Boko Haram, on the other hand, had made contacts with global terrorist groups that enable them to tap into the opportunities that the 4IR made available.

The utilization of the technological advancement of the fourth industrial revolution by Boko Haram to enhance their tactics entails that states like Nigeria are expected to apply the same technologies in their efforts to counterterrorism. Failure to do so will spread doom for Nigeria. Counterterrorism operatives can use nanotechnology to uncover potentially destructive materials. Apart from this, counterterrorism agents can gain from big data examination, which is reinforced by artificial intelligence.<sup>63</sup> From the forgone, it seems the Nigerian state has underestimated the ability of Boko Haram to use 4IR technologies. In the Nigerian counterterrorism strategy, there is no provision on how to tackle the threats emanating from new technologies. This has made winning the war against Boko Haram terrorist group wishful thinking. The risk of Boko Haram resilience is not only to the northeastern region, but the whole of Nigeria is also vulnerable to the Boko Haram attacks.

## Conclusion

This paper examined the security implication of the 4IR. A close examination of the use of 4IR technology in the security realm reveals that comparatively, the security implication is complex to comprehend. The technology is readily available for those that can afford it. Terrorists around the world have been using technology to champion their courses. Advanced states have also used technology in their counterterrorism effort. But states like Nigeria are lagging in the use of the 4IR technology for counterterrorism. This has made the Boko Haram attacks go on for a decade. Boko Haram in collaboration with ISIS have used encryption expertise to transmit their messages undetected, including the dark web, and payments via cryptocurrencies to recruit new members and proliferate their propaganda.

With the growing sophistication of the Nigerian youth in cyber competences, they can acquire the capability to make dangerous weapons with mass damaging capacity. This can be influenced by the level of impoverishment, government suppression, and lack of opportunities for the Nigerian youth. These factors put together can make Nigeria and any other country with similar characteristics a rich ground for cyber-terrorist enlistment. More so, given the present condition of Nigeria, Boko Haram and other armed groups will be able to use cyberspace to strike essential infrastructures like aviation, health and financial systems. Without an adequate response, terrorism will reach this point in Nigeria sooner. To avert the aforementioned impending

dooms, the Nigerian state and others facing terrorist attacks need to integrate the 4IR technology in their counterterrorism strategies.

The use of contemporary technologies such as machine learning algorithms and artificial intelligence are sure ways of combating terrorism in cyberspace. Since terrorist has imbibed the use of cyberspace and high technology, the use of technologies remains the sustainable mechanisms to overcome terrorists' effect in cyberspace. For the Nigerian counterterrorism initiative to be productive, the use of the 4IR defense capability is required. Since Boko Haram has become 4IR compliance, the Nigerian counterterrorism initiative need to change strategy and modus operandi

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