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Influence of Digital Surveillance on the Use of Information and Communication Technologies in Nigeria

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Abstract

Digital surveillance is the collection, analysis, and storage of various forms of communication data to understand the patterns of activities in the digital space and make predictions. This work is an attempt to investigate the influence of digital surveillance on the use of digital communication technologies in Nigeria. This is in response to the concerns raised by several social critiques and privacy advocates and the opposing views expressed by the government, several security agencies, and corporations on digital privacy and access to user data. This study was anchored on Thorstein Veblen's technology determinism theory. The descriptive survey research design approach was used for data gathering through the administering of the questionnaire. Though the study was carried out in Nigeria with an estimated total population of 198,583,014 persons, a sample of 600 respondents was drawn using a multistage sampling technique - from the state capitals of six states distributed through a quota system across the six geopolitical zones of the country. The study found that awareness of digital surveillance brings about significant levels of change in the pattern of usage of digital communication technologies. It is therefore recommended that digital surveillance should be conducted only as a matter of necessity and in a manner that is proportionate to the immediate need or circumstance.

Keywords: Digital technology, digital surveillance, Information and Communication Technology

Introduction

The wide use and application of the internet have led to the development of technologies that tend to make communication not only possible but also easy and user-friendly. This has led to such conceptualizations as *information and communication technologies* (Melody, 1986), *digital communication, digitalization, new media* (Russell Neuman, 1991 in Croteau & Hoynes, 2003, p.322), and *social media* (Leonsis, 1997 in Cross, 2013, p. 16). These concepts convey a sense of modern technologies such as the internet, computers, smartphones, and tablets as means of communication not just in the formal sense, but also as social tools. This is such that the average person today directly or indirectly employs modern digital technologies in at least one facet of his/her life. According to Howarth (2023), globally, people average 6 hours and 58 minutes of screen time per day. This could be through the use of cellular phones for calls, smartphones for surfing webpages, computers for carrying out office and academic responsibilities, dedicated platforms for electronic financial transactions such as automated teller machines and health services, or even as a registered voter in a local community. We communicate with colleagues and friends through social platforms like Facebook and Skype, indicate what we like through Pinterest, Twitter, and



Instagram, and also in our favourite pictures, we tag the location of where we have been and our friends in them. More so, we link our phone numbers to WhatsApp to enable us to chat and share information in groups and to our email accounts for quick recovery of our forgotten passwords. In addition, when people register for health insurance, a driver's license, or as voters, they produce a somewhat comprehensive digital profile of themselves. Thus, creating a somewhat mirrored version of our lives online.

The applications of the internet and the inherent modern technologies have become so multifarious. According to Petrosyan (2023), as of October 2023, there were 5.3 billion internet users worldwide, which amounted to 65.7% of the global population. The internet has become the Universal source of information for millions of people, at home, at school, and work (Miniwatts Marketing Group, 2017). However, people also use it for malicious purposes such as hacking to penetrate vulnerable accounts and steal official documents and people's identities. In addition, the internet (is) now a playground for paedophiles with vile fiends free to prowl for prey online (Dale, 2016). It is often utilized to promote and support acts of terrorism (United Nations Office on Drugs and Crime, 2012); and today, critiques fear the motivations for collected data by government agencies.

There have been some accusations of underhanded mass collection, that is, random collection of a large number of citizens' data without probable cause. Under the Obama administration of the United States, the communication records of millions of U.S. citizens were being collected indiscriminately and in bulk – regardless of whether they were suspected of any wrongdoing (Greenwald, 2013, p. para.3).

This issue is not unique to the United States of America as many other countries are reported to embark on massive digital surveillance projects. Figures published by journalist Oleg Solmanov indicate that almost 1 million Russian citizens have been wiretapped so far (Tilton, 2016). According to the Washington Post (2016) within China, government monitoring of private communication is not only common, but it is also explicit, institutionalized, and generally quite popular (para. 2). The Nigerian government is not left out as the contract with Elbit, an Israeli surveillance firm reveals. The Nigerian spy program, recently installed by Elbit Security, boasts of as much intrusion capability as the U.S National Security Agency (Emmanuel, 2014, para. 2). These go to explain that digital surveillance is practiced not only in the developed world but also in developing countries like Nigeria.

The Nigerian government in 2011 passed into law the Freedom of Information Act and a few years after that, entered into “a \$40 million contract with Eibit to help it spy on citizens” (Ogala, 2013). At present the government seeks to pass into law the Digital Rights and Freedom Bill. The latter is a clear indication of the government's recognition of the rights to communicate and

the value of digital communication as clearly stated through its information communication technology policy (The Ministry Of Communication Technology, 2012, p. 9). However, such contracts with Eibit, the product of which can be put into the categories of GhostNet by China, PRISM and Boundless Informant by the United States of America, and the United Kingdom's Smurf Suite and Mastering the Internet (MTI) programmes may point to a certain need to maintain vigilance in the digital sphere. (GhostNet, PRISM, Boundless Informant, Smurf Suite, and Mastering the Internet are various digital surveillance programmes used by the respective governments to collect communication data and monitor the activities of citizens. Most of these technologies can carry out mass surveillance in real-time. That is, they can listen to calls while still in progress, collect GPS data, monitor cell phone activities, and activate certain device features remotely).

The government has consistently stated its good intentions as reasons for data collection - to protect the citizens from terror attacks and understudy possible causes of violence before they erupt through digital surveillance.

However, digital surveillance is one issue that most governments have never been able to discuss openly to the satisfaction of critiques. This is often due to the sensitivity of its operations, the psychological impact this could have on users, and the chance that awareness may cause citizens to differ in their pattern of usage of information communication technologies which may have a negative impact on governance, the national economy and the society in general. At the core of these issues are the questions if awareness of digital surveillance would affect the use of communication devices and also if the users place data privacy over national security as the critics suppose. This therefore necessitated the study.

Due to huge government spending on intelligence gathering coupled with the growing agitations by critiques and privacy advocates, we may likely infer that these may have a direct impact on the ways people use communication technologies in this digital age which will invariably have a direct consequence for economic growth and the social life for many.

Studies such as that of Neuroscientist, Tali Sharot (2012) titled *The Optimism Bias* have proven that the mere presence of warning signs does not necessarily produce a direct effect on behaviours as she notes, "awareness rarely shatters the illusion" (para. 25). This fact is evident in the behaviour of smokers who daily disregard the health warnings on the packs of cigarette and also the statistics on divorce in some countries does not have a direct relationship with national marriage figures. This entails that users of digital technologies may choose to ignore issues raised by the critiques and offer their privacy as a trade-off for the gains of being connected. Nonetheless, there are significant risks if the users choose to yield to the warnings of privacy advocates. Hence, the objective of this study is to find out if

awareness of digital surveillance will cause Nigerians to modify their use of digital technologies.

Research Questions

1. What is the level of awareness of digital surveillance amongst users of communication technologies
2. To what extent does users' awareness of digital surveillance bring about any significant change in their pattern of usage of digital technologies

Literature Review

The Digital Landscape

The development of modern technologies from the advent of the telegraph to the internet has brought about significant changes in the ways we do things especially the ways we process, store, and transfer information. This is expressed mostly in two folds – reduction in the material and processes and then a near extinction of the barrier of distance (physical and psychological). The Internet is at once a worldwide broadcasting facility, a mechanism for information dissemination, and a medium for collaboration and interaction between individuals and their counterparts without regard to geographic location, (Barry, et al., 2013). From “its humble beginnings as a research-oriented computer network, the Internet has become a worldwide phenomenon” (Venkatesan & Neetha 2014, p. 778) bringing about significant changes in the ways we communicate. We have consequently created a network of connected networks which in a way mimics the cosmological universe.

Nigeria has a relatively high internet penetration rate, driven primarily by a rapid expansion of mobile platforms (Akoh, Jagun, Odufuwa, & Akanni, 2012, p. 6). Also, in Nigeria, the Internet plays very significant roles from mobile banking to education as Nwezeh (2010), in a study of ICT in Nigerian Universities noted that 78% of staff and 85% of students at Obafemi Awolowo University use the Internet for their projects. In addition, they use Blackboard, WebCT, and other course-management software for administering online assignments, schedules, examinations, and grades (Yang, 2004, p. 96). From social networking to how we work, digital media are now integrated into much of what we do, improving our productivity and facilitating how we interact and communicate (Cocorocchia, 2016).

Digital Surveillance - Processes and Tools

The discourse on communication security, privacy, and the threats that various terror groups pose to the security of communication and human freedoms has been on for a long time. The speech by President of the United

States, John F. Kennedy titled *The President and the Press: Address before the American Newspaper Publishers Association* on April 27, 1961, seemed like an anecdote that should have prepared future leaders and industries for pre-emptive measures to protect the society. He observed that,

Today no war has been declared--and however fierce the struggle may be, it may never be declared in the traditional fashion. Our way of life is under attack. Those who make themselves our enemies are advancing around the globe. The survival of our friends is in danger. And yet no war has been declared, no borders have been crossed by marching troops, no missiles have been fired. It requires a change in outlook, a change in tactics, a change in missions--by the government, by the people, by every businessman or labor leader, and by every newspaper. For we are opposed around the world by a monolithic and ruthless conspiracy that relies primarily on covert means for expanding its sphere of influence--on infiltration instead of invasion, on subversion instead of elections, on intimidation instead of free choice, on guerrillas by night instead of armies by day. It is a system which has conscripted vast human and material resources into the building of a tightly knit, highly efficient machine that combines military, diplomatic, intelligence, economic, scientific and political operations (Kennedy, 1961).

This statement foretold the potential of the growing communication networks and the emergence of terror groups who would exploit the potential of these modern technologies to advance their cause.

According to the United Nations Office on Drugs and Crime (2012), the use of the Internet for terrorist purposes is a rapidly growing phenomenon, requiring a proactive and coordinated response (p.v). Digital surveillance is stated as a necessary proactive measure for counterterrorism and a means of trend analysis to understudy the nature of human activities in cyberspace to ensure fair usage and protect the citizens. It has proven to be very crucial in averting various acts of terror. This has led various governments such as the United Kingdom, United States, China, Russia, Germany, and Nigeria to develop tools and strategies for combating terrorism and other crimes within and outside cyberspace. Some countries have entered into multinational cooperation agreements to ensure their security. An earlier agreement between the United States and the British Empire on March 5, 1946, known as the British-US Communication Intelligence Agreement is indicative of earlier commitments to ensure national security across international borders. Echelon was a product of this agreement. Echelon evolved out of Cold War espionage arrangements set up by the US and UK in 1948 and later brought in Australia, Canada, and New Zealand, in their capacity as Britain's Commonwealth partners (Asser, 2000). He further noted that "the Echelon

spy system, whose existence has only recently been acknowledged by US officials, is capable of hovering up millions of phone calls, faxes and emails a minute” (para. 3).

While it is important to note that some of these tools have grown beyond the intended scale, this is sometimes necessitated by changing trends and the need to evolve side by side with evolving technologies. Some of the most globally prominent tools are Prism and Smurf Suite.

Digital Surveillance in Nigeria

A prominent issue around 2016 in Nigeria was the case that trailed the governor of Rivers State, his Excellency Nyesom Wike who was allegedly threatening INEC officials in an audio leak. In some societies, one might expect a little reaction to the retrieval process and access to such audio, which was asserted to be pulled from a remote server and this could raise some hairs. This is especially so when “a senior police officer said the panel will look into Wike’s incoming and outgoing telephone calls, as well as SMS exchanges. ‘Obtaining the CDR (Call Detail Record) shouldn’t pose any difficulty to the investigators because the telecom firms have it on their exchange’” (Ifreke, 2016, p. 3). From the audio recording, the alleged Wike’s voice is heard even threatening to kill one of the INEC officials (Vanguard, 2016, p. 2).

It is important to note that earlier, “the Nigerian Senate brushed aside public discontent with a secret federal internet and phone spy program, and gave an early approval to a legislation seeking to empower authorities to intercept electronic communications between, and from Nigerians” (Ekott, 2013). This was a Bill for An Act to Provide for the Interception, Development and Protection of Communications Networks, and Facilities for Public Interest and Other Related Matters, 2013.

Before the passage of the Cybercrime Act of 2014, on August 31, 2010, the then Acting President Goodluck Jonathan awarded “an approximately N6billion contract to an Israeli-owned but Abuja-based security firm, V & V Nigeria Limited, for the Procurement of strategic GSM Tracking System for the Nigeria Police Force and expansion/upgrade of the existing system with the DSS” (Mojeed, 2015). Then on October 21, 2010 another N2.61 billion contract was awarded by the same Ministry of Police Affairs “for the procurement of Strategic GSM Tracking and Interception Systems for the Department of State Services, under the Nigeria Police Reform” this was through contract to Gamma TSE Limited, a British security firm” (Mojeed para.6, 2015).

While it can be said that the Cybercrime Act thereby provided a legal framework for digital surveillance, the contracts provided the needed infrastructure to carry out the needed activities. There has been evidence of

other foreign surveillance companies and technologies operational within Nigeria. Participants in a technology forum in Lagos, in May 2013, were told that the State Security Service and all Nigerian GSM service providers – MTN Nigeria, Globacom, Airtel Nigeria, and Etisalat Nigeria – were already intercepting all forms of electronic communication using the Digivox (Emmanueul, 2014). Digivox is a company in the Netherlands that specializes in “the development of various advanced security-related applications, primarily used by law enforcement/intelligence agencies and telecom service providers” (Digivox, 2017). In the description of one of its products – Magna – the company explained that:

The MAGNA lawful interception system is a turnkey solution for nationwide interception of circuit-switched networks e.g. GSM, fixed telephony and packet-switched networks e.g. internet, email, 3G/4G, supporting thousands of concurrent targets, when required. The system is built up out of XYLON interception & mediation equipment to be installed at telecom service providers core network and MAGNA observation centre equipment to be installed at the governmental agencies” (Digivox, n.d.).

These documents and reports go to show that there are some possibilities of government and some agencies gaining access to users’ communication devices and this has been illustrated by such depictions as a means of mass sensitization. Thus, one wonders if such information could cause people to differ in their pattern of digital technologies for communication usage especially in Nigeria. The question is, how will they balance their need for communication and its attendant benefits against their need for individual security and privacy? Will the need for privacy count more than the benefits of usage?

Dominant Issues Relating to Digital Surveillance

Numerous studies have tried to evaluate issues relating to surveillance and digital privacy. While some like Kaspersen (2015) attempt to ask bold questions such as “*Can you have both security and privacy in the Internet age?*” others focus on *privacy and security in the Internet age* (Gorodyansky, 2015), *Online Privacy and Security is a Shared Responsibility: Government, Industry and You* (Magid, 2013). These researchers hold that while the right to privacy is very important, the need for security of the system of governance and protection of our society is also equally crucial. They maintain that,

With threats to national and international security on the rise, all agree that security services have to be able to operate in order to address them. However, as the haystack of data necessary to do so has become an object of interest, along with the algorithms that find the needles in it, it has become clear that the traditional mechanisms used to control surveillance are inadequate. The conundrum is how to ensure protection while retaining the

critical underpinnings of our democratic systems – free speech, freedom of assembly and association, and, critically, the right to privacy. It is clear that with the acceleration of technologies, there are no easy lines to draw. Moreover, in the internet age, almost all boundaries are being erased or redefined (Kaspersen, 2015).

This therefore entails that the citizens must be able to exercise some level of trust on those who rely on the use of communication data as a crucial factor in their duty to ensure national security. The security agencies on their part should be able to demonstrate a sense of responsibility in handling information collected for national security.

Government can play a role by helping to educate the public, by protecting its own infrastructure and by assuring that companies disclose any potential privacy or security threats and adhere to their stated policies. It can also set a good example by applying good privacy practices and due process before trying to access citizen's personal information. While it is true that over-regulation or dumb laws can stifle innovation and sometimes cause unintended consequences, it is also true that ignoring the problem or assuming that the marketplace can solve all problems is equally irresponsible (Magid, 2013).

On issues of trust and concern about the use of digital communication technologies, in a study titled *Assessing the Public Perception of Security and Privacy*, Rhor & Patruni (2018), noted that “respondents’ attitudes significantly affect their preferences concerning privacy, security, and surveillance. Moreover, these attitudes are influenced by age, gender, and income, as well as context-specific factors, such as travel frequency; time spent on the Internet, and current health condition” (para. 8). Other factors that may also be considered are the type of devices used and applications as ComScore (2017), *Mobile Apps Report* notes that “the smartphone dominates for 18-24-year-olds, who spend an amazing 2/3rd of their digital media time on smartphone apps alone. Mobile apps have a higher concentration of time spent in the top 10 and a significantly smaller long-tail than desktop and mobile web” (p.6). Issues relating to mobile applications and privacy have been of significant concern.

Sensitive information about the location and staffing of military bases and spy outposts around the world has been revealed by a fitness tracking company. The details were released by Strava in a data visualization map that shows all the activity tracked by users of its app, which allows people to record their exercise. The map, released in November 2017, shows every single activity ever uploaded to Strava – more than 3 trillion individual GPS data points (Hern, 2018).

The release of the data was an attempt to highlight some of the benefits of the application in terms of its wide use and social aspect through the creation of networks. As Rusell (2018), noted “It can help find new trails to run, find routes in new places, or even identify other runners to exercise with or compete against. With over one billion activities logged in the heat map, it provides an interesting look at how many people in the world exercise”. This data however compromised military positions and facilities as Rawnsley (2018), wrote “some heavy jogging activity on the beach around what looks like the reported CIA annex at Mogadishu airport” *see images below*. This can impact people’s views of such applications.



Figure 1: Mogadishu, Banaadir, Somalia

A global study conducted by Accenture (2016) found that “more than two-thirds of the consumers surveyed are aware of recent security breaches such as hacker attacks resulting in stolen data or malfunction... Overall, nearly half (47 percent) of consumers cited ‘privacy risk/ security concerns’ as a barrier to adoption with Indonesia (60 percent), South Africa, and China (both 58 percent) reporting the greatest concerns” (p.7). Findings however vary from country to country about the real concerns for digital privacy and national security. A study by Broadband Genie (2016), revealed that 63% of Brits now support the use of mass internet surveillance” (para. 1). According to the study, only 11% hold that “I no longer believe they will help protect our country”. While some opine that the government programmes may not be trusted as the top-secret documents leaked by former NSA contractor Edward Snowden significantly damaged the US intelligence community’s public image and that of the bodies charged with its oversight (Kaspersen,

2015), on the other hand, “67% lack confidence in ISPs” (Broadband Genie, 2016). These thus leave room for a lingering debate on the concerns of national security and digital privacy.

Theoretical Framework

We can say with utmost certainty that we live in a physical world that is almost paralleled by a digital version of itself. This is so because the evolution of digital technologies has been mostly based on the belief that our goals and needs can be met simply by employing technologies which Thorstein Bunde Veblen attempts to explain theoretically. His views are expressed in this thought that “the standard of expenditure which commonly guides our efforts is not the average, ordinary expenditure achieved; it is an ideal of consumption which lies just beyond our reach, or to reach which requires some strain” (Veblen, 1994, p.103). To put it simply, he asserts that technology is not for the value of being technologies in themselves but for what they can do with just little or no stress. Such views hold that when tasks are transferred from the physical to the digital sphere, they become much easier to process. An example is the processing of large numbers. Thus, leading to the emulation of life in the digital space. There have been several criticisms of this theory. Some believe that the theory is asking an important question but providing an oversimplified answer (Mackenzie & Wajcman, 1999, p. 6). However, this theory holds its weight as Adler (2006) puts it.

Technological determinism has been asserted at several levels of analysis. At the broadest level, it has informed many analyses of changes in socio-economic configurations: the transition from feudalism to capitalism, changing occupational and skill structure of the labour force in the 20th century, the emergence of post-industrialism in the post-World War II era, the subsequent emergence of the “information society,” “post-Fordism,” and globalization to us (Adler, 2006, p. 2).

Thus, stressing the belief that technology is a precursor to social change. A change that often pervades the scale of an individual to the mass society. In an era like ours where technology drives the majority of our activities, users conform to Thorstein Veblen’s *technology deterministic* human. He asserts that people in modern societies due to the proliferation of technological infrastructure tend to believe that they can make their hopes and expectations in life come through simply by utilizing technology.

People select a particular media (content) in anticipation that it will satisfy their needs. The needs could be “passing time, companionship, excitement, obtaining information, learning about specific content (Rubin, 1981); diversion, personal relationship, surveillance, personal identity (McQuail et al, 1972); connection with others, separation from others (Katz et al, 1973).

Wilbur Schramm in West and Turner (2010, p.394), sought to make clear that users judge the level of reward (gratification) they expect from a given medium or message. (Schramm 1954, p.19). The trade-off here is benefits in contrast to expense. That is, are users willing to use technologies because of the implied benefits when aware of digital surveillance regardless of the risk of exposure of private information and the possible loss of access and control?

Methodology

This study adopted a survey research design. The general population of this study comprises all residents of Nigeria who use at least one form of digital information communication technology. The total population of the country according to Worldometer (2023) was 226,253,82. For the sample size, using the Creative System Research calculator with a confidence level of 95% and a confidence interval of 4 to calculate the sample size given the population of the country at the time of the study, a sample size of 600 was adopted.

The study adopted a multistage sampling procedure such that at the first stage, through stratified sampling, the population was divided according to the six geopolitical zones, each zone with a proportional fraction of the entire population. In the second stage, simple random sampling was used to select one state from each of the regions to represent the regions. This was done by randomly selecting one state from five zones and Abuja from North Central through the use of balloting. Then, purposive sampling was adopted to select the capital for each of the states. From here, purposive sampling was adopted in the distribution of the research instrument amongst the target population, specifically those who own or use digital information communication facilities. The research instrument was administered in each of the capitals proportionately based on Bowley's proportional sampling technique. See the table below.

Table 1: Distribution of the sample size across the selected states from each geopolitical zone

Region	Percentage of Tot. Pop.	Selected State	Fraction of Sample Size
South East	11.7%	Anambra	70
South South	15.0%	Delta	90
South West	19.7%	Lagos	118
North East	13.5%	Bauchi	81
North West	25.6%	Kaduna	154
North Central	14.5%	Abuja	87
Total	100%		600

A questionnaire with open and closed-ended questions will be used as the instrument for data collection in this study. The questionnaire was structured to gather both demographic and psychographic data.

Results

From the data gathered and analysed as presented below, figure 1 shows the level of ownership of digital technologies among the respondents. From the chart, it is seen that mobile phones are the most widely owned device (52.7%). It doubles the rate (20.7%) of ownership of a laptop, the next most widely owned device. Smartwatches are the least owned (4.2%). However, the respondents noted that they own 0.3 percent of other forms of communication devices not listed in the categories. The chart below shows more details of the data for better comparison.

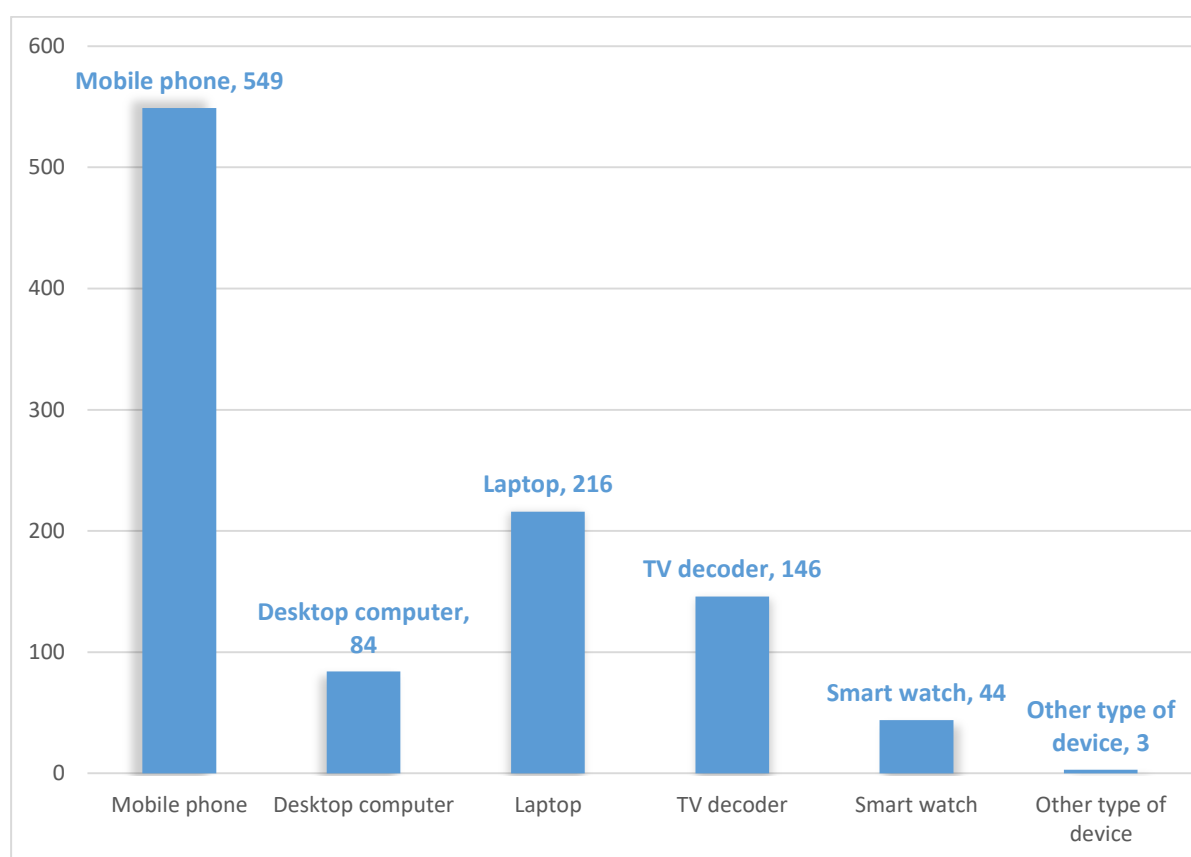


Figure 2: Distribution of communication technologies among the respondents

Awareness/Source of Awareness	Frequency	Percentage
Heard over the radio	147	24.5
Heard from family/friends	104	17.3
Seen on the internet	219	36.5
Read in newspaper/magazine	60	10.0
Had no idea	58	9.7
Other sources	12	2.0

Total	600	100.0
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Table 2: Users' awareness of digital surveillance and sources of awareness

In assessing their level of awareness of digital surveillance, their responses presented in Table 2 show that the majority of the users are aware of the concept of digital surveillance and they got their information from various sources like the radio (24.5%), the internet (36.5%), newspapers and magazines (10%), family and friends (17.3%) and other sources (2%) while only 9.7% had no idea of it. This implies that a very large proportion (90.3%) of users, that is, a cumulative of all who got their information from various sources are aware of digital surveillance. The knowledge of a situation may not be sufficient but the feeling such knowledge evokes is what one may consider to cause some form of behaviour modification or reinforce existing behaviour. Hence, they were asked how knowledge of the possibility of digital surveillance makes the users feel. The responses gathered are presented in Table 3 below.

	Frequency	Percent
Uncomfortable	276	46.0
Comfortable	192	32.0
Indifferent	103	17.2
Other opinions	29	4.8
Total	600	100.0

Table 3: Responses showing how people feel about digital surveillance

From the table above it is seen that many persons (46%) are uncomfortable with the idea of digital surveillance while some (17.2%) are indifferent. A few (32%) are comfortable with the idea while a little more (4.8%) hold other opinions. Going forward to see how these feelings may differ across the various states, figure 4 below shows that the majority (61%) of the residents in Lagos State are uncomfortable with the idea of digital surveillance. This is in line with most (57%) of the residents in Delta State but a sharp contrast from those in Bauchi and Kaduna States which show a low 20 and 39 percent rate of discomfort respectively. These two states, however, show very high levels of comfort with digital surveillance which is 71 and 44 percent respectively.

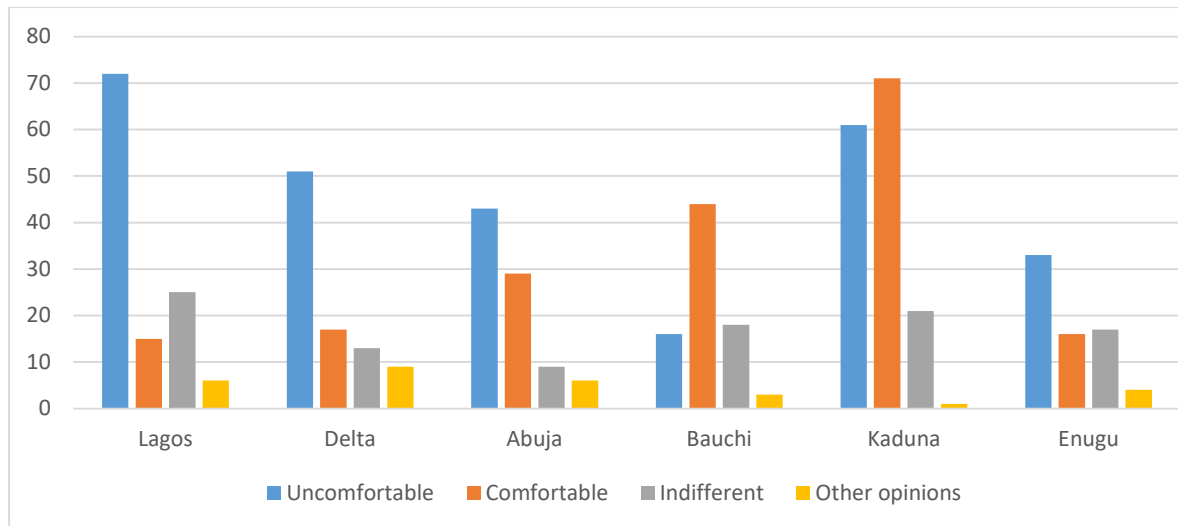


Figure 3: Responses showing how people feel about digital surveillance across the states

To find out if the level of awareness and feelings expressed come with an opinion of the practicability and operation of digital surveillance both of which may form the foundation for persistent behaviour modification, the study went further to enquire about the users’ perception of the practicability and operation of digital surveillance. This is to eliminate the tendency of proportionality bias that mere awareness induces an equal amount of change in behaviour. The data is presented below.

Table 4: Users' perception of the practicability and operation of digital surveillance

	Frequency	Percent
Possible but not being done	236	39.3
Not possible for now	151	25.2
Possible and it is being done	213	35.5
Total	600	100.0

For most of the respondents, digital surveillance is possible. However, their views differ significantly on its operation as 39.3 percent opine that it is possible but not being done and 35.5% hold that it is possible and it is being done. About a quarter (25.2%) of the population suggests that it is not possible for now. To find out the ratio of those who hold that it is possible and their feelings to understand specifically who among the population are comfortable based on their views of the practicability and operation of digital surveillance, a cross-analysis is presented below.

Table 5: Cross-tabulation of users' perception of the practicability and operation of digital surveillance and their levels of comfort

Opinions	Uncomfortable	Comfortable	Indifferent	Other opinions
Possible but not being done	99	91	34	12
Not possible for now	76	37	34	4
Possible and it is being done	101	64	35	13
Total	276	192	103	29

This table shows that those who hold the opinion of the general possibility of digital surveillance (that is 99 and 101 of the respondents combined) have a higher tendency to feel uncomfortable. However, it does not directly imply that those who hold that it is not possible for now are more comfortable. However, one can draw a tendency that a belief in its practicability and its being operational might have a significant relationship with the level of discomfort and comfort as expressed by 101 and 64 of the respondents respectively.

Therefore, we can assert that there is a high level of awareness of digital surveillance as only 9.7% had no previous idea. This awareness came mostly through the internet. Others became aware through family and friends and the radio. This awareness has brought about a significant level of discomfort, especially for residents in the South-West and South-South. The North-East and North-West, however, showed significant level of comfort. It was further noted from the data that those who hold a view of the possibility of digital surveillance have a higher tendency to feel discomforted by it. This, however, does not suggest a direct or inverse relationship. Further study is therefore recommended to investigate precisely such a relationship.

To find out if this awareness brings about any significant level of change in use as implied by research question two *Does users' awareness bring about any significant change in the pattern of usage of digital technologies?* the following data were gathered through the research instrument.

Here the study tries to find out if the users of digital communication technologies can trust the government, service providers, or other third parties with their personal data using digital platforms. This may have a significant impact on the decisions they make. The data from this question are presented in the table below.

Table 6: Who can the users trust with their private digital data?

Who users can trust with their digital user data				
The government	Service provider	A third party	All of the above	None at all
111(18%)	149(24%)	42(7%)	64(10%)	250(41%)

From Table 7 above, the highest portion (41%) of users opine that they are unwilling to entrust their data to the government, service providers, or third parties. About 24 percent can trust their service providers with handling their data and 18 percent are willing to hand their data to the government or its agencies. This establishes that if the majority of the users are aware and will trust no one else in the communication process with their communication data, one might assume they may make certain decisions. Thus, to find out what digital communication choices users might make, the following data was provided and presented below.

Table 7: What users will change in their usage of digital communication

Communication activities	Frequency	Percentage
Chatting/mailling	237	39.5
Calling family/friends	95	15.8
Browsing	99	16.5
Business transaction	108	18
Streaming media online	61	10.2
Using NHIS	6	1
Using decoder	24	4
Using all of my devices	38	6.3
Nothing at all	121	20.2
Others	22	3.7
Total	600	100

From the table above, an overwhelming majority of the population (78.8%) opine that if they are certain that their digital communication is being remotely monitored, they will certainly make some changes in the ways that they communicate. This is represented by 39.5 percent who will stop chatting and mailing, 15.8 percent will stop making phone calls, another 16.5 percent will stop browsing the internet, 18 percent will stop using digital technologies for business transactions, 10.2 percent will stop streaming media online, 1 percent will stop using NHIS, 4 percent will no longer use their decoder and 6.3 percent will stop using all of their digital technologies. Thus, giving a cumulative 79.8 percent who will stop using digital communication technologies in one form or another. Only 20.2 percent will remain consistent in their use of the technologies. Thus, the majority are unwilling to trade their privacy for some sort of ease or satisfaction derivable from the use of communication technologies.

From the details presented in the tables above in response to Research Question Two, we can see that most users would rather no one have access to their communication data, and if they become aware of some sort of access or remote monitoring majority of them will make significant changes. The uncertainty that this data seems to clarify then raises another question that relates to issues of the need for a government agency or third-party access to

data for national security, an angle often adduced as a reason for digital surveillance. Hence, the need for further study to investigate if they would rather retain their privacy, or sacrifice privacy for the sake of national security.

Discussion of Findings

Apart from 9.7 percent of the population, every other member of the population is aware of digital surveillance in one way or another. That is, about nine in every 10 persons are aware of digital surveillance. This is similar to the findings of Rainie & Madden (2015), who studied people in America and noted that, overall, 31% have heard a lot about government surveillance of telephone calls, emails, and other online communications as part of efforts to monitor terrorist activity, and another 56% have heard a little (para. 1). Most (36.5%) of these persons got their awareness through the internet and a few (17.3%) got informed by family and friends.

While only about 32 percent are comfortable with the idea of digital surveillance, 46 percent are uncomfortable and 17 percent are indifferent. Most of the residents in Bauchi and Kaduna States are comfortable with it. The feeling of discomfort expressed in Lagos and Delta States is in sharp contrast to that expressed in Bauchi and Kaduna States as most of them expressed a high level of comfort with digital surveillance.

The majority of the population think that digital surveillance is possible but only one in three persons thinks it is being done. A few are of the view that it is not possible for now. The study further reveals that regardless of their comfort or discomfort with the idea of digital surveillance, a good proportion of the population, that is about four in ten persons will not trust the government, service providers, or third parties with their communication. Twenty-four percent however agree that they can trust their service provider while 18 percent will trust the government. This is similar to the findings of a UK study, which reveals, "Many of the residents do not trust providers to safely store sensitive data. In light of the TalkTalk hack and other incidents, it's not surprising. This information would be extremely valuable to criminals and it's hard to see how they'll be able to keep it safe. This is one of the many issues that critics have raised as a concern" (Broadband Genie, 2016). The study further reveals that 67% of the respondents will not trust the UK service providers with their web history.

Based on their level of awareness and discomfort with the idea of digital surveillance, most of the respondents are of the opinion that if they are

certain that they are being remotely monitored they will change their pattern of use of digital communication technologies in one way or another. This new awareness has prompted people even those with nothing to hide and who support broad surveillance for national security reasons to try to regain some control over their online privacy (Oppenheim, 2013).

According to Accenture (2016), security has moved from being a nagging problem to a top barrier as consumers are now choosing to abandon devices and services over security concerns. More than two-thirds of the consumers surveyed are aware of the recent security breaches such as hacker attacks resulting in stolen data or malfunction. Out of the consumers aware of hacker attacks and owning or planning to own devices in the next five years, 18 percent decided to terminate the use of the devices and related services until they get safety guarantees (p.7). The report went further to state that "Overall, nearly half of the consumers cited privacy risk/ security concerns as a barrier to adoption with Indonesia (60 percent), South Africa, and China (both 58 percent) reporting the greatest concerns" (p.7).

Conclusion

Digital surveillance might be a necessary step towards safeguarding the country as most persons agreed. However, knowledge of mass surveillance may cause some significant levels of change among users of communication technologies and this will yield a negative return for governance and society in general. Digital surveillance should be carried out on a need-to-know basis with some level of clarification on the type of data collected and assurance of its safety and use only for the purposes stated. This way, users may come to develop confidence in the actors and the process thereby maintaining the use of the technologies to meet their various needs.

Recommendations

Based on the findings of this study, the following recommendations are therefore put forward:

- Citizens should be enlightened on the crucial need for digital surveillance.
- Digital surveillance should be conducted only as a matter of necessity and in a manner that is proportionate to the immediate need or circumstance.
- Government agencies, service providers, and other third parties should be transparent on the type of data they intend to collect, and the scale and duration of time they intend to collect such data. This will ensure some level of trust from the users.
- Those who collect data should also ensure the highest level of security for the data they are collecting as data breaches have been seen in recent times as one of the major factors that lead to a lack of confidence in the surveillance process

References

- Accenture Research. (2016). *Communications, Media & Technology Igniting Growth in Consumer Technology*. Retrieved May 1, 2018, from Accenture LLP: https://www.accenture.com/_acnmedia/PDF-3/Accenture-Igniting-Growth-in-Consumer-Technology.pdf
- Adler, P. S. (2006, July 7). Technological Determinism". (S. Clegg, Ed.) *International Encyclopedia of Organization Studies*. Retrieved from <http://www-bcf.usc.edu/~padler/>
- Akoh, B., Jagun, A., Odufuwa, F., & Akanni, A. (2012). *Mapping Digital Media*. London: The Open Society Foundation.
- Anderson, N., & Farivar, C. (2013, March 10). *How the feds took down the Dread Pirate Roberts*. Retrieved October 13, 2017, from Ars Technica: <https://arstechnica.com/tech-policy/2013/10/how-the-feds-took-down-the-dread-pirate-roberts/>
- Asser, M. (2000, July 6). Echelon: Big brother without a cause? *World: Europe*. Retrieved from <http://news.bbc.co.uk/2/hi/europe/820758.stm>
- Bagley, A. W. (2011). Don'T Be Evil: The Fourth Amendment In The Age Of Google, National Security, And Digital Papers And Effects. *Albany Law Journal of Science and Technology*, 21(1), 153-191. Retrieved from <http://www.albanylawjournal.org/archives/pages/article-information.aspx?volume=21&issue=1&page=153>
- Ball, J., & Rushe, D. (2013, June 6). NSA Prism program taps in to user data of Apple, Google and others. *The Guardian*.
- Barnett, R. (2015, Winter). Why the NSA Data Seizures. *Harvard Journal of Law & Public Policy*, 38(1), 1.
- Barry, L. M., Vinton, C. G., David, C. D., Robert, K. E., Leonard, K., Daniel, L. C., . . . Stephen, W. (2013, January). *What Is the Internet?* Retrieved January 19, 2017, from Internet Society: <http://www.internetsociety.org/internet/what-internet/history-internet/brief-history-internet>
- Borger, J. (2018, March 15). US accuses Russia of cyber-attack on energy sector and imposes new sanctions. *The Guardian*.
- Broadband Genie. (2016, January 11). *Survey reveals Brits now in favour of internet surveillance following recent terror attacks*. Retrieved May 1, 2018, from broadbandgenie.co.uk: <https://www.broadbandgenie.co.uk/blog/20160104-web-history-survey>
- Burgess, M. (2017). *Wikileaks drops 'Dark Matter', part two of its Vault 7 CIA leaks*. Britain: Wired. Retrieved April 2, 2017, from <http://www.wired.co.uk/article/cia-files-wikileaks-vault-7>
- Cadwalladr, C., & Graham-Harrison, E. (2018, March 17). *Revealed: 50 million Facebook profiles harvested for Cambridge Analytica in major data breach*. Retrieved from The Guardian: https://www.theguardian.com/news/2018/mar/17/cambridge-analytica-facebook-influence-us-election?CMP=tw_t_gu
- Channels Television. (2017, August 23). *We Now Monitor Social Media For Anti-Government And Anti-Military Information – Military*. Lagos, Lagos, Nigeria.

- Retrieved October 11, 2017, from <https://www.channelstv.com/2017/08/23/nw-monitor-social-media-anti-government-anti-military-information-military/>
- Cocorocchia, C. (2016, January 19). *How we use digital media is changing our lives*. Retrieved January 19, 2017, from weforum.org:
<https://www.weforum.org/agenda/2016/01/how-digital-media-use-is-changing-our-lives/>
- Coinmill. (2017, October 31). *Coinmill Currency Converter*. Retrieved from CoinMill.com:
https://coinmill.com/BTC_NGN.html
- ComScore. (2017, August). *The 2017 US Mobile App Report*. Retrieved from Ponder360:
<https://www.poder360.com.br/wp-content/uploads/2017/08/2017USMobileAppReport-1.pdf>
- Dale, R. (2016, September 19). *nowhere to hide Internet now a 'playground for paedophiles' with vile fiends free to prowl for prey online*. The Sun. Retrieved April 2, 2017, from <https://www.thesun.co.uk/news/1808314/internet-now-a-playground-for-paedophiles-with-vile-fiends-free-to-prowl-for-prey-online/>
- Davis, M. (2015, March 11). *Average person now spends more time on their phone and laptop than SLEEPING, study claims*. Retrieved from [dailymail.co.uk](http://www.dailymail.co.uk/health/article-2989952/How-technology-taking-lives-spend-time-phones-laptops-SLEEPING.html#ixzz4Yj8BYbbz):
<http://www.dailymail.co.uk/health/article-2989952/How-technology-taking-lives-spend-time-phones-laptops-SLEEPING.html#ixzz4Yj8BYbbz>
- Devanny, J. (2018, September 21). *Why it's unwise for the UK to boast about its cyber attack capability*. *The Conversation*.
- Digivox. (2017, October 11). Retrieved from Digivox: <https://www.digivox.nl/home/>
- Digivox. (n.d.). *Magna Summary*. Retrieved October 12, 2017, from <https://www.digivox.nl/home/solutions/solutions-law-enforcement/lawful-interception/>
- Ekott, I. (2013). *Senate backs controversial internet, phone spy programme*. Premium Times Newspaper. Retrieved October 12, 2017, from <https://www.premiumtimesng.com/news/144915-senate-backs-controversial-internet-phone-spy-programme.html>
- Elebeke, E. (2017, April 10). *Lai Mohammed denies reports on monitoring of calls, Social Media posts*. Retrieved October 11, 2017, from Vanguard Newspaper:
<https://www.vanguardngr.com/2017/04/lai-mohammed-denies-reports-monitoring-calls-social-media-posts/>
- Emmanueul, O. (2014, February 10). *U.S. spy program reforms spotlight Nigeria's expanding surveillance program*. Retrieved October 11, 2017, from <https://www.premiumtimesng.com/news/154931-u-s-spy-program-reforms-spotlight-nigerias-expanding-surveillance-program.html>
- Epstein, Z. (2014, January 20). *How to find the Invisible Internet*. Retrieved from BGR:
<http://bgr.com/2014/01/20/how-to-access-tor-silk-road-deep-web/>
- Fuhrman, P. (2016, January 29). *Government cyber-surveillance is the norm in China – and it's popular*. Retrieved April 2, 2017, from The Washinton Post:
https://www.washingtonpost.com/opinions/cyber-surveillance-is-a-way-of-life-in-china/2016/01/29/e4e856dc-c476-11e5-a4aa-f25866ba0dc6_story.html?utm_term=.4df75190e75e
- Gayathri, A. (2011, November 6). *From marijuana to LSD, now illegal drugs delivered on your doorstep*. Retrieved October 12, 2017, from International Business Times:
<http://www.ibtimes.com/marijuana-bsd-now-illegal-drugs-delivered-your-doorstep-290021>

- Gorodiansky, A. D. (2015, January). *Privacy and Security in the Internet Age*. Retrieved from WIRED Magazine: <https://www.wired.com/insights/2015/01/privacy-and-security-in-the-internet-age/>
- Greenwald, G. (2013). *NSA collecting phone records of millions of Verizon customers*. Retrieved June 5, 2013, from <https://www.theguardian.com/world/2013/jun/06/nsa-phone-records-verizon-court-order>
- Gressin, S. (2017, September 8). *The Equifax Data Breach: What to Do*. Retrieved from Consumer Information: <https://www.consumer.ftc.gov/blog/2017/09/equifax-data-breach-what-do>
- Hern, A. (2018, January 28). *Fitness tracking app Strava gives away location of secret US army bases*. Retrieved October 8, 2018, from The Guardian: <https://www.theguardian.com/world/2018/jan/28/fitness-tracking-app-gives-away-location-of-secret-us-army-bases>
- Hong, N. (2015, May 29). *Silk Road Founder Ross Ulbricht Sentenced to Life in Prison*. Retrieved October 12, 2017, from Wall Street Journal: <https://www.wsj.com/articles/silk-road-founder-ross-ulbricht-sentenced-to-life-in-prison-1432929957>
- Howarth, J. (2023, December 4). *Alarming Average Screen Time Statistics*. Retrieved from Exploding Topics: <https://explodingtopics.com/blog/screen-time-stats>
- Ifreke, I. (2016, December 19). *Leaked call: Police demand Wike's call records from telecoms*. Retrieved January 13, 2017, from Daily Post: <http://dailypost.ng/2016/12/19/leaked-call-police-demand-wikes-call-records-telecoms/>
- Jerry, C., & Andrea, B. (2013). *Bitcoin: A Primer for Policymakers*. George Mason University. Arlington: Mercatus Center. Retrieved October 12, 2017, from <https://en.wikipedia.org/wiki/Bitcoin>
- Kaspersen, A. (2015, July 21). *Can you have both security and privacy in the internet age?* Retrieved from World Economic Forum: <https://www.weforum.org/agenda/2015/07/can-you-have-both-security-and-privacy-in-the-internet-age/>
- Kaspersen, A. (2015, July 21). *Can you have both security and privacy in the internet age?* Retrieved from World Economic Forum: <https://www.weforum.org/agenda/2015/07/can-you-have-both-security-and-privacy-in-the-internet-age/>
- Kennedy, P. J. (Performer). (1961, April 27). *The President and the Press: Address before the American Newspaper Publishers Association*. Waldorf-Astoria Hotel, New York City, New York, United States of America.
- Lambo, J. (2012, March 7). *Intercepting private communications*. Retrieved from International Law Office: <https://www.internationallawoffice.com/Newsletters/Telecoms/Nigeria/Udo-Udoma-Belo-Osagie/Intercepting-private-communications>
- Latzer, M. (2013). Media Convergence. In E. Elgar, & E. Elgar (Ed.), *Handbook of the Digital Creative Economy*. Cheltenham: IPMZ, University of Zurich.
- Levinson, P. (2000). McLuhan and Media Ecology. *Proceedings of the Media Ecology Association*, (pp. 17-22). Maine: Paul Grosswiler.
- Mackenzie, D., & Wajcman, J. (1999). *The social shaping of technology* (2nd ed.). Buckingham: Open University Press.

- Magid, L. (2013, February 12). *Online Privacy and Security is a Shared Responsibility: Government, Industry and You*. Retrieved from Forbes: <https://www.forbes.com/sites/larrymagid/2013/02/12/online-privacy-and-security-is-a-shared-responsibility-government-industry-and-you/#7c9d715d5320>
- Melody, W. (1986). *Information and Communications Technology: Social Sciences Research and Training: A Report by the ESRC Programme on Information and Communication Technologies*.
- Michael J. Glennon. (2014). National Security and Double Government. *Harvard National Security Journal*, 1-114.
- Miniwatts Marketing Group. (2017, March 26). *Internet growth statistics: today's road to e-commerce and global trade*. Retrieved from Internet world stat: <http://www.internetworldstats.com/emarketing.htm>
- Miniwatts Marketing Group. (2017, March 25). *Internet usage statistics the internet big picture: world internet users and 2017 population stat*. Retrieved April 2, 2017, from Internet World Stat: <http://www.internetworldstats.com/stats.htm>
- Mojeed, M. (2015). *Nigerians Beware! Jonathan procures N11 billion equipment to tap your phones*. Premium Times Newspaper. Retrieved October 12, 2017, from <https://www.premiumtimesng.com/news/headlines/177557-exclusive-nigerians-beware-jonathan-procures-n11-billion-equipment-to-tap-your-phones.html>
- Mullen, J. (2013, July 2). *CNN exclusive: George W. Bush on AIDS, Mandela, Snowden and his legacy*. Retrieved from CNN Politics: <https://edition.cnn.com/2013/07/01/politics/bush-interview/>
- Nakashima, E. (2016, June 14). Russian government hackers penetrated DNC, stole opposition research on Trump. *The Washington Post*.
- Neilson Group. (2016). *Forces of Nature: The Media Universe Moves at the Pace of Technological Change*. New York: Neilson Group. Retrieved from <http://www.nielsen.com/us/en/insights/news/2016/the-media-universe-a-bounty-of-boundless-choice.html>
- Newman, L. H. (2017, March 10). *Yahoo's 2013 Email Hack Actually Compromised Three Billion Accounts*. Retrieved from WIRED: <https://www.wired.com/story/yahoo-breach-three-billion-accounts/>
- O'Flaherty, K. (2018, May 3). Cyber Warfare: The Threat From Nation States. *Forbes*.
- Ogala, E. (2013, April 25). *EXCLUSIVE: Jonathan awards \$40million contract to Israeli company to monitor computer, Internet communication by Nigerians*. Retrieved January 12, 2017, from Premium Times: <http://www.premiumtimesng.com/news/131249-exclusive-jonathan-awards-40million-contract-to-israeli-company-to-monitor-computer-internet-communication-by-nigerians.html>
- Oppenheim, C. (2013, December 10). *Big Brother spying is reaching scary levels*. Retrieved May 2, 2018, from CNN: <https://edition.cnn.com/2013/12/10/opinion/oppenheim-privacy-reform/index.html>
- Peterson, A. (2014, December 18). *The Sony Pictures hack, explained*. Retrieved from The Washiton Post: https://www.washingtonpost.com/news/the-switch/wp/2014/12/18/the-sony-pictures-hack-explained/?utm_term=.79ec73413782
- Petrosyan, A. (2023, Octobe 25). *Number of internet and social media users worldwide as of October 2023*. Retrieved from Statista: <https://www.statista.com/statistics/617136/digital-population-worldwide/>

- Rainie, L., & Madden, M. (2015, March 16). *Americans' Views on Government Surveillance Programs*. Retrieved MAY 2, 2018, from Pew Internet: <http://www.pewinternet.org/2015/03/16/americans-views-on-government-surveillance-programs/>
- Rawnsley, A. (2018, January 27). @arawnsley. Retrieved October 8, 2018, from Twitter: pic.twitter.com/1OLP8zWKGI
- Rhor, C., & Patrui, B. (2018, April 8). *Assessing the Public Perception of Security and Privacy*. Retrieved from Rand: <https://www.rand.org/randeurope/research/projects/pact-security-privacy.html>
- Rusell, J. (2018, January 28). *Fitness app Strava exposes the location of military bases*. Retrieved October 8, 2018, from Techcrunch: <https://techcrunch.com/2018/01/28/strava-exposes-military-bases/>
- Security Service MI5. (2018). *LAW AND GOVERNANCE*. Retrieved from Security Service MI5: https://www.mi5.gov.uk/law-and-governance?adhoc_referrer=011607016011
- Sharot, T. (2012, January 1). *The Optimism Bias by Tali Sharot: extract*. Retrieved April 2, 2017, from theguardian: <https://www.theguardian.com/science/2012/jan/01/tali-sharot-the-optimism-bias-extract>
- Snowden, E. (2015, October 5). *Edward Snowden interview: 'Smartphones can be taken over'*. Retrieved from BBC News: <http://www.bbc.com/news/uk-34444233>
- Sottek, T. (2013, August 21). *NSA used PRISM to collect more than 200 million internet communications a year as of 2011*. Retrieved from The Verge: <https://www.theverge.com/2013/8/21/4645042/nsa-prism-internet-communication-collection-200-million-fisc-order>
- Sottek, T., & Kopfstein, J. (2013, July 17). Everything you need to know about PRISM: A cheat sheet for the NSA's unprecedented surveillance programs. *The Verge*.
- Sui, D., Caverly, J., & Rudesill, D. (2015, August). The deep web and the darknet: a look inside the inside the internet's massive blackbox. *Science + Technology innovation program*, pp. 1-17.
- Techopedia. (2017, October 12). *Deep Web*. Retrieved from Techopedia: <https://www.techopedia.com/definition/15653/deep-web>
- The Gaurdian. (2018, March 17). *Revealed: 50 million Facebook profiles harvested for Cambridge Analytica in major data breach*. Retrieved from The Gaurdian - International Edition: https://www.theguardian.com/news/2018/mar/17/cambridge-analytica-facebook-influence-us-election?CMP=tw_t_gu
- The Government of the Federal Republic of Nigeria. (2014). *Cybercrime Bill, 2013*. Abuja: National House of Assembly. Retrieved October 12, 2017, from <http://www.pinigeria.org/download/cybercrimebill2013.pdf>
- The Ministry Of Communication Technology. (2012). *National Information and Communication*. Abuja: FEDERAL REPUBLIC OF NIGERIA.
- The Week. (2013, June 7). *White House admits it has 'access' to Facebook, Google Read more: http://www.theweek.co.uk/us/53475/white-house-admits-it-has-access-facebook-google#ixzz4XJ16FZY7*. Retrieved December 8, 2016, from The Week with The First Post: <http://www.theweek.co.uk/us/53475/white-house-admits-it-has-access-facebook-google#ixzz4XJ0Uxaih>
- Tilton, A. (2016, October 21). *Over 1 million Russians could be surveillance targets by year's end*. Retrieved from www.dw.com: <http://www.dw.com/en/over-1-million-russians-could-be-surveillance-targets-by-years-end/a-36113272>

- Travel Guide China. (2017, October). *Silk Road*. Retrieved October 12, 2017, from Travel Guide China: <https://www.travelchinaguide.com/silk-road/>
- United Nations Office on Drugs and Crime. (2012). *The use of the internet for terrorist purposes*. New York: United Nations.
- Vanguard. (2016, December 15). *Rivers re-run: audio alleged Wike made calls to INEC officials on election*. Retrieved January 12, 2017, from Vanguard Newspaper: <http://www.vanguardngr.com/2016/12/rivers-re-run-audio-wike-caught-allegedly-making-calls-to-inec-officials-to-rig-election/>
- Winter, A. S. (Producer), Winter, A. (Writer), & Winter, A. (Director). (2015). *Deep Web* [Motion Picture]. Retrieved October 8, 2017
- World Economic Forum. (2015). *New Vision for Education: Unlocking the Potential of Technology*. Geneva : World Economic Forum. Retrieved January 19, 2017
- World Economic Forum. (2016). *Digital Media and Society: Implications in a Hyperconnected Era*. World Economic Forum. Retrieved from http://www3.weforum.org/docs/WEFUSA_DigitalMediaAndSociety_Report2016.pdf
- Worldometer. (2023, December 16). *Nigeria Population (live)*. Retrieved from Worldometer: <https://www.worldometers.info/world-population/nigeria-population/>
- Yang, C. (2004, September 20). Big Program on Campus. *BusinessWeek*, pp. 96-98.

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