ICTs and the Dynamics of Information Administration in Nigeria: A look at New Media and Information Management in the Face of Contemporary Security Challenges

Joseph Wilson (PhD) [1]
Nuhu Diraso Gapsiso (PhD)[2]

Department of Mass Communication
University of Maiduguri, Nigeria

wilson@unimaid.edu.ng[1]
gapsiso@unimaid.edu.ng)[2]

Abstract

A good information management system in all sectors is required for overall prosperity of a nation. Security being a key component of national stability and development requires nothing less than a formidable information management base, especially considering the complexities associated with contemporary security issues. The current global security scenario and the influence of information on the security sector has made the information administration indispensable. The advances in Information and communication technologies and the chaotic nature of the information super highway have ushered in compelling changes on information administration globally. Since the public sphere is now an all comers affair, as a result of the emergence of new media technologies and the enormous influence on information resources, managing information becomes imperative for security stakeholders. This chapter examines new media and information management in contemporary security challenges in Nigeria.

.**Keywords**: ICTs, Security Challenges, Nigeria, Information Management

Introduction

Information is an indispensable part of human existence. It is so crucial to all aspects of our lives that we literally cannot afford to manage it badly. Individuals and organisations rely on their ability to select and process information, in order to make sense of their local environment and try to understand the larger society. Bentley (2006) observes that Information is the foundation of every organization and those with accurate, reliable and timely information have an advantage over competitors.

The emergence of new media technologies and the enormous influence on information resources make it imperative for skilful information management, especially in the face of current global security scenario. Therefore, this paper examines new media

and information management in the face of contemporary security challenges with a focus on Nigeria.

The complex relationship between media and security is longstanding. Traditional mass media have been used to amplify and extend viewpoints and ideologies, to persuade audiences at home, and to influence opposing sides in times of security challenges. However, both media and security complexities have changed extensively in recent years. Many 21st-century security challenges, for example, wars are not only about holding territory, but about gaining public support and achieving legal status in the international arena. Media are increasingly becoming essential elements of security. At the same time, newer media technologies have increased communication and information dissemination in the context of conflict and other security challenges. The growth of new media has changed the information sphere around security issues, by providing more people with the tools to record and share their experiences with the rest of the world (Sigal, 2009).

Security challenges in the 20th century was often characterized by a persistent lack of access to information, for both participants directly involved in the security challenges as well as observers such as reporters, rights groups, and humanitarian agencies. While many threat to security in the 21st century still occur whether in or out of the public eye, it is becoming more common for these security challenges to occur in the midst of information abundance. For example, in recent times security challenges around the world (Libya, Syria, Mali, Ukraine, Egypt and even Nigeria) play out in the context of diverse and resilient information sources and networks. New media tools remain an integral phenomenon to the operations. They are used for organizing and mobilizing forces and demonstrations, and for creating media content in attempts to influence the outcome of conflict.

The shift to new media and the attendant rise of networked, participatory media is the climax of a process that has only in the past decade reached a form that we cannot afford to ignore. The unprecedented spread of new-media-based information networks and communications is obviously perceived to have an effect on 21st-century security challenges, which increasingly centre on internal conflict, disputed borders of new states, separatist movements and in the case of Nigeria, Kidnapping, crude oil theft, human trafficking, militancy, the scourge of insurgency among others.

Most security challenges today take place in or near civilian populations with access to global information networks, so the information gathered by various parties to conflict may potentially be disseminated in real time around the globe. The ability to produce and receive diverse information through new media, is part of a struggle within conflict-prone societies and enabling those seeking power to organize for political influence, recruitment, demonstrations, political violence, and terror.

According to Sigal (2009) the U.S. Air Force has noted that in future wars and conflict, "Influence increasingly will be exerted by information more than by bombs". It is now obvious that increased access to information and dissemination via new media

technologies is like two side of a coin. It has both positive and negative consequences. With the new media, it is possible to construct communications architectures that encourage dialogue and nonviolent political solutions. However, it is equally possible for new media to increase polarization, strengthen biases, and foment violence. Therefore information management now becomes indispensable in the face of current security challenges.

Information

Information includes everything from simple facts to the most complex, highly contextualized analysis conveyed through identified channel(s). It is a valuable resource, and the pillar of accountability and transparency

People need information to plan their work and achieve their goals. Information is necessary, especially to information managers: to understand what the organisation as a whole is doing, as well as understand what is happening in particular unit or department; to be aware of wider industry developments that may impact on the business; to help in the day-to-day problem solving and longer-term planning; to help avoid having to reinvent the wheel, as being aware of different practices and other ways of doing things can spark off new ideas and facilitate change.

Organizations and other public bodies collect and create information in order to administer programmes and services. Information is needed to make policy development and make evidence-based decisions, as well as to ensure accountability to the public (internal and external).

Information is used all the time, sometimes unconsciously. It comes in many different forms, such as:

- **Internal and external** – information generated inside the organisation and information generated
  Outside. External intelligence and research may be incorporated into internal reports, and issues arising from internal reports may stimulate external research.
- **Electronic and hard copy (paper-based)**
- **Spoken:** conversation with others for information
- **Formal and informal:** Some of the **formal** information sources include:_ newspapers or electronic newsfeeds,_ magazine articles, _ management reports, _ staff disciplinary procedures, _ videos, maps, blueprints.
  There is also **informal** information sources – so informal that one might not even recognised as such! They can include:_ a chat with the CEO´s personal aid whilst queuing for lunch; _ checking out a problem with a colleague; _ meeting up with colleagues from the same trade or professional association at the annual conference_ informal contacts with civilians and other security personnel.
  In practice, it makes sense to use a mix of formal and informal, hard and soft data to get a complete picture.

Information is organized for a purpose and presented within a context that gives meaning. All recorded information (records), from the smallest of data elements to the comprehensive publications issued must be managed. Information by itself is only of use if it is:

- _ the right information (fit for the purpose)
- _ at the right time
- _ in the right format
- _ at the right price.

Universal elements of the value Information.

Simpson and Prusak(1995) identified universal elements of the value in information. They include:

- **Truth.** How confident are you about the validity of the information? In operational or systems terms, its validity or otherwise may be obvious; It is important to have a high degree of confidence in the information, especially to make a decision based on it.

- **Scarcity.** This refers to the value of information which is 'new' or not freely available to competitor organisations. There may be little that is new at first glance in your day-to-day operating data.However, using freely available information combined in a new way, or with a flash of insight, can produce something that provides your organisation with a real advantage over the competition.

- **Guidance.** This is the extent to which information points the way to what action needs to be taken in a certain situation or set of circumstances. This is most obvious in sets of procedures or instructions, but information can also give guidance where you are highlighting a problem or diagnosing the causes of a problem.

- **Accessibility.** This is the availability of information to its potential users when it is needed and in a form that they can use. Information is only of use if people know about it, can get at it and can understand it. An important element of this is the way the information is presented – does it encourage and help understanding by the user?

- **Weight.** This is what prompts recipients to treat the information so seriously that they will act on it. It will incorporate things like relevance to the user's situation, timeliness and accuracy. It sometimes has very little to do with the information

itself, but is closely tied up with the credibility or authority of the person providing the information.

Information Management (IM)

Information Management is an integrative discipline for structuring, describing and governing information acces, across organizational and technological boundaries, to improve efficiency, promote transparency and delivering organizational insight if don well (Bentley, 2013). It is the collection and management of information from one or more sources and the distribution of that information to various stakeholders.

Information Management (IM) is the means through which an organization ensures that the value of its information resources is identified so that these resources may be utilized to their fullest potential. The primary objective of IM is to ensure that the right information is available to the right person, in the right format at the right time.

IM is the way in which an organization plans, identifies, captures, manages, preserves and disposes of its information across all formats, (physical and digital), and includes the management of all functions associated with information, such as security, metadata management, quality management, etc. Information management underpins the key activities of planning, analysis, action and, above all, learning and development

Why Information Management?

An important fact about Information is that all information must be managed no matter the form or format Organisations need to manage information well and consistently in order to be responsive to the needs of their stakeholders. . Information today includes both electronic and physical information. The organizational structure must be capable of managing this information throughout the information lifecycle, regardless of the source or format (data, paper document electronic document, audio, and video) for delivery through multiple channels that may include cell phone and other web interfaces

The ability for an organization to respond to the needs of its public depends on how well it can create, use and preserve information to make decisions and take action to achieve its operational and strategic goals. Information is a key resource for goal attainment, as such, the management of that information is critical to achieving the organizational priorities.

Currently, because of the dynamic nature of the information super highway, organizations are responding to their own information pressures with the creation of specific solutions to address their needs. For instance the floating of portals by organizations has highlighted the need for specific policies, standards, and practices to improve the availability of information, promote integration of technology, encourage collaboration among partners, and extend access to multiple stakeholders.

Bentley (2015);Capuro (2007) note that information management is important because:

- It improves organizational efficiency. Produces desired results by delivering measurablecompetitive advantages such as stakeholders' intimacy and optimization

- Risk mitigation
- Data-driven decision support
- Internal transparency
- Provides reliable and relevant knowledge at the right time, in the right place for the right person and in the right medium

Elements of Information Management

It is important to note that all information must be managed no matter the form or format. The following elements provide a guide for information management.

a. **Identify and Use Trusted Information Sources**
There are many sources of information, including structured information held in databases along with huge volumes of unstructured electronic and paper documents. To be trusted, information must be up-to-date, and recognized as the source of truth. It is important to be able to prove that it is authentic, and to trust it as a full and accurate representation of the relevant facts. It must be complete, unaltered, and be available for as long as it is required. It is vital to identify who is responsible for each information source, to ensure that the information is kept accurate and up to date.

b. **Appropriate Collection of Information Resources**
In order to effectively manage information, it is necessary to first assess the extent of the information being collected, and ensure that it is only collecting the information elements necessary for realising the organization goals.

c. **Support for Increased Transparency and Citizen Engagement**
Openness, transparency and participation are key elements to earning public trust and confidence in organizational decisions. Too much secrecy and non-involvement of other stakeholders breeds distrust and encourages rumour mongering.

d. **Regulated Compliance**
All departments must ensure compliance with obligations to maintain records of decisions and respect the privacy of the organization. While traditional records and IM practices for physical records tend to be well-established, it is important to

adapt to the changing requirements of an electronic information environment, the proliferation of electronic documents, and the ever-expanding amount of data that is being collected and created. Introducing IM policy in the form of regulation, will ensure that the organization has the appropriate reference authorities in place to govern the management of information resources at an organizational level.

e. Support Collaboration

Effective IM practices will support inter-departmental collaboration for policy development and seamless service delivery for an organization. Across and within the various departments, there are many information silos. In order to allow for genuine collaboration across the organization, efficient group interactions and cross-departmental decision-making is important. Putting up an integrated IM practices and automated processes to better facilitate knowledge sharing, access, and re-uses of existing information resources. This is made easier throughdigital information collection and management and would decrease paper footprint and enable an environment in which information can be accessed across multiple areas and departments.

f. Clarity regarding Roles, Responsibilities and Accountabilities

Lack of clarity in IM roles, responsibilities, and accountabilities, and the associated lack of capacity affect goal-targeted information. It is important to ensure that endorsed standards and practices for IM are in place, and proactively improve the IM knowledge and skills of staff to fulfil their roles (increase the capacity of IM professionals) at all levels.

g. Improved Information Risk Management

Information risk management relates to integrity, quality, availability and confidentiality of information resources in the information environment. There is very little value in information that is not available when it is needed to make a decision or deliver a programme or service. In addition, failing to meet acceptable standards of availability and integrity may also pose significant risk when faced with litigation.

New Media

New Media is a 21st Century concept used to define all that is related to the internet and the interplay between technology, images and sound. It is a generic term for many different forms of electronic communication that are made possible through the use of computer technology. New media includes: websites, streaming audio and video, chatroom, email, online communities, Digital Versatile or video Disc (DVD), Compact Disc, Virtual reality environment, digital camera, mobile computing, cell phones and internet telephony, (Beal, n.d)

New media has increased communication and information dissemination in the context of contemporary security challenges. The struggles for authority, support, funding, and international status that accompany changes such as human trafficking, oil theft and terrorism are played out on the field of media. For example, modern terror organizations design attacks for maximum media exposure in the theatre of the real. Emergence of new media, such as the internet, ensures real-time access to international events on a global scale, now available throughout the world in many languages. The Internet, cell phone networks, and an abundance of media production tools such as digital cameras have expanded the ability of both professional media and citizens to produce and disseminate information in all contexts, including violent conflict.

Insurgencies, states, and non-state parties to civil conflicts have become accustomed to thinking of new media as vehicles to support their goals. With over 3 billion Internet users globally in June 2015, (42.4% of the entire world's population) and the massive amount of both the good, the bad and the ugly information available on the internet, nothing short of proper information management is required by, especially security agencies to stem the tide of contemporary security challenges.

People need information to plan their work, meet their deadlines and achieve their goals. They need it to analyse problems and make decisions. Information is certainly not in short supply these days of proliferation of New Media and the daily expansion of virtual communities, but not all of it is useful or reliable. Thus information Management is required to achieve the set goals.

Contemporary Security Challenges

In the past, national security had centred on the strategies that political and military leaders pursue in their respective countries to defend their national interests, with a focus on military, diplomatic, economic, and informational instruments of power. In recent times, however, the world has become more interdependent and the number and character of the threats have become, respectively, more numerous and complex, with some threats crossing national boundaries and challenging the wellbeing of humanity as a whole. Thus, the current list of immediate and long-term threats to the national interests of countries worldwide now includes interstate conflicts, civil wars marked by genocide, abuses of human rights, attacks on civilian populations by terrorist organizations, the proliferation of weapons of mass destruction, global pandemics, and the catastrophic effects of global climate change (Clerke Forum, 2014). The traditional notion of security has become broader to capture the degree to which ordinary people are threatened by crime, hunger, disease, and environmental hazards.

Unfortunately, Nigeria is not isolated from these challenges. In fact it has its own share of the menace of insecurity. There are obvious agitation and violent crimes against the Nigerian state by some individuals and groups. Such crimes include militancy,

insurgency, kidnapping, armed robbery, destruction of government or public properties, and oil theft among others.

A disturbing dimension to these challenges is the impact of new media on information resources. Technology, in this case, becomes a double-edge sword. The very technologies that empower us to lead and create, also empower individual, organized criminal groups, terrorist networks to disrupt the critical infrastructure that is vital to our economy, and public safety.

As information increasingly stands out as an important commodity in issues of security in out contemporary world, it behoves on stakeholders to effectively manage information resources taking cognisance of new media trends.

New Media, Information Management and Contemporary Security Challenges

Emphasizing the role of information as a key security component, Zack (2009) posit that, accurate and timely information always help to comprehend and proffer solution to ameliorate security challenges.

New media is bringing about substantial increases in stakeholder strength through facilitating communication within stakeholder groups and between different stakeholder groups.Information pours out of digital spigots and now arrives surprisingly fast from an astounding number of directions.

Furthermore, still in respect of information, Zack (2009) stresses that the new media (such as the Internet) has it all. That, the new media is a silos of unimaginable information. The greatest thing about the web and other new media is that "you can use it to keep in touch with changes in the field and groups that make these changes happen".Moreover, the new media exemplified by the internet have created virtual worlds with their own changing norms, value and codes of practice. Altering the ways in which "people engage in time and space" (Greer, 2010)

Some of the basic components of information management are as follows:

1. **Information Gathering**

The new media has made the collection of information from various internal and external sources in various formats easier, faster, adequate and universal. New media, such as the World Wide Web provides all forms of information on both international and local issues, from which one is expected to sift and collect only the relevant information. For example there abound tons of information on security challenges and best practices from around the world, news reports, research findings etc., readily available on the web for security stakeholders to use.

The electronic mailing (E-mail) systems are good sources of reliable information collection. Individuals, institutions or groups can collect information from these systems. The individual or group or institutions can request for information from an Email distributor or mailing list. The information is then sent by transferring the information to the individual, group or institutions' computers. This system of collecting and sending information can be on national and global network.

The range of information gathering by new media technologies is far and wide. For example, the use of cell or mobile phone, digital camera, digital recorder, digital surveillance camera, camcorder , internet and associated media (social media), Global positioning System (GPS) applications make the process if information management in respect of information gathering less cumbersome, faster and timely.

New media affords security stakeholders an unimagined information gathering opportunities so as to be information sufficient at all times to meet the information demands of the contemporary security challenges (Insurgency, militancy, armed robbery, human trafficking, oil theft etc.). The information collected would also to plan with precision and make informed decisions. There are various ways to gather information resources from the various new media tools.

External Information Resources gathering
- Using Search Engines (Yahoo, Google, Bing etc.)
- Visiting (regularly) Portals/Websites (professional Associations)
- Using an Agent System
- Using Spatial Data Initiative for searching in professional data bases?
- Connecting with experts
- Using blogs, wikis, and mailing lists, subscription relevant sites

2. **Storage of information**

One of the functions of the new media is that it provides adequate storage for all available data or information. Storage in the sense used here is not concerned with putting away of the hardware or software that houses the information. But it is concerned with the safety, permanency, consistency and irretrievability of the information when needed.

Since the new media is not limited to local existence only, even if some individuals, groups or institutions loose contact with their information, it is possible to get connected to such an information with little or no effort on request. For example, The Defence Information Infrastructure (DII), is a secure military network owned by United Kingdom Ministry of Defence and used by all branches of the armed forces and Ministry of Defence civil servants to access tons of stored information (alphanumeric data, graphics, and video). DII supports 2000 Ministry of De sites with some 150,000 terminals (desktops and laptops) and 300,000 user accounts. It is designed to offer a highly level

of resilience, flexibility and security in the provision of connectivity (Atlas Consortium, n.d). Other similar bodies are: South Africa National Defence Force Central Library

The current security challenges require a good storage of information for easy access and use by stakeholders when the need arises. The Web serves a good storage facility and supported by other new media such as DVD, CD, External hard drive, Memory or Secure Digital (SD) cards, flash drive etc.

3 Processing of Information

Information processing is the conversion of latent (hidden, inactive, raw) information into manifest (apparent, active, refined) information (McGonigie and Mastrian, 2011). It is about interpreting information to make a response suitable within the context of a situation.

The new media is dynamic and continuous in its operations. It is concerned with process documentation as well as summative evaluation which constantly helps to determine how current and effective the information circulated is and how to update and improve on the information or the data bases given.

Information can best be managed in its use or practice and not only in theory or policy formation. Security stakeholders need to use information thus collected without bias, distortions or unnecessary exaggeration and provide avenue for proper feedback and response from their clients (Internal and external public). This will allow continuity in security strategic programmes.

New media technologies readily available for this are computers and several software, especially editing technologies (Adobe Photoshop, nonlinear editing software etc.)

With the massive volumes of information that we all encounter day after day. This will involve the ability to evaluate information sources so that irrelevant information are instantly discarded. It will also require amore consideration of the informationthat are given to other people – and the number of people that get the information, thereby refining the concept of fitness for purpose – the right information at the right time. Making this available across a shared-access system can help to improve the way in which the growing volume of informationis managed.

Evaluating information from the Internet and other sources is a key component of information processing. The universal elements of information management can be applied to information generated within or outside the organisation. They can be used to evaluate information received over the Internet. The checklist below can be used to evaluate sites that are dedicated to a particular organisation or based around a specific subject area.

Checklist for evaluating websites
- _ Is the purpose of the site clear? (Guidance)

- _ Are contact details and basic information easy to find? (Accessibility)
- _ Is the coverage of the site appropriate for its purpose? (Accessibility)
- _ Does the institution responsible for the site have an established reputation and expertise? (Weight)
- _ Is the information likely to be accurate? (Truth)
- _ Is the information current? Are there details of when it was last updated? (Weight)
- _ Is a site map provided? Is navigation clear and straightforward? (Guidance)
- _ Is the information well-presented and arranged? (Accessibility)
- _ Does the site compare well with those of similar organisations or those in the same subject area? (Weight)
- _ are there good help facilities? (Guidance)
- _ Does the site provide links to other sites, or supporting materials? (Guidance)
- _ Are these other sites or supporting materials useful? (Truth)

Another important aspect information processing, especially in the area of quality information for decision making is that, the information needs to be up to date.

One way of doing this is by joining mailing lists and newsgroups in the areas of interest. For example, a good place to start is http://groups.google.com which offers a list of groups to browse in all subject areas.

For the latest news and current affairs, there is a huge selection on offer. All the major search engines will have a news service of some kind. A more personalised offering is Create Your Own Newspaper or CRAYON, which allows users to personalise their own information sources and subject areas.

Interestingly, the last few years have seen the rise of robots (bots) or intelligent agents, which can learn a person´s requirements and scurry around the Web looking for information on that person´s behalf. They are more effective than average search tools (Edmunds and Morris, 2000)

4 Dissemination or Transfer of Information-

The ability of the new media to disseminate or transfer information cannot be overemphasized. New media platforms, such as Blogs, electronic mail (Email), Wikipedia entries, twitter and Facebook, portals, Short Message Service (SMS) etc., have revolutionized the manner in which information is disseminated. The new media has added unparalleled dimensions to the manner in which information spread and is perceived.

New media has made the dissemination of information two-dimensional through its interactive characteristics. (Source and receiver interactivity). There are also the new media attributes of constants updates and correction of information, vastness (it can reach millions of people instantly: there are over 3 billion internet users worldwide as at June

2015). New media also has the characteristic of specialize information delivery (new media have filters, tags and channels that enable the audience to focus only on the information of interest) bringing similar minded people together and encourage the exchange of valuable information

New media has placed so cheaply the power of spreading information (positive or negative) in the hands of every internet user and thus creating a huge concern for security. While it is perceived as a positive tool in one hand, it is perceived as a negative tool in the other hand. This is because new media has been used and still being used to perpetrate criminal activities and promote inhuman ideologies. Criminals use the new media freely to promote their ideologies, recruit members, and instil fear in the minds of innocent people etc.

This is a challenge to security stakeholders, which require a step up of their new media game. Timely and constant dissemination of useful information through new media platform is a key requirement in information management. Acquaintance with the various new media platforms such as Twitter, Facebook, a vibrant website etc. is a necessity.

The United States Army (n.d) highlighted that "Social media is an integral part of Army and Department of Defence operations. In addition, its website is designed to serve as consolidated registry and resources for all information regarding official Army presence on public social media sites (Facebook, Twitter, Google +, YouTube, Pinterest, Flickr, Slide share, Army Live Blog).

In Information dissemination it is necessary to focus on clarity of information. It makes it easier for the recipient to understand the message, which saves time. Information that is clear and unambiguous are easy to follow and act upon.

A successful information is that information which persuasivelyget people to decode the information and do what is required of them. The most effective documents, whether long or short, are those where the author has taken the trouble to ensure maximum impact.

5. Information Security (InfoSec)

InfoSec is the practice of defending information from unauthorised access, use, disclosure, disruption, modification, perusal, inspection recording or destruction. It is the preservation of confidentiality, integrity and availability of information (Cherdantseva and Hilton, 2013)

Government, military and other security agencies, financial institutions, medical institutions, private business amass tons of confidential and other information. Most of these information are usually collected, processed and stored on electronic platforms and devices such as computers and transmitted across networks to other computers. In the course of these information management processes, should confidential information fall

into the hands of a computer black hat hackers (a hacker who violates computer security for malicious reasons and personal gains), such organization could suffer widespread, irreparable damage to its reputation.Security threats present themselves directly from hackers andindirect threats of four major types: worms, viruses, Trojan horsesand logic bombs.

Protecting, especially confidential information is an information management requirement and in many cases an ethical and legal requirement. Hence, and considering the contemporary security challenges in the digital age, a key concern for security stakeholders is to derive the optimal information security investment. _ Data can be made more secure through the use of firewalls, user authentication, data encryption, key management (Digital signature: A digital code attached to an electronically transmitted message that is used to verify the origin and contents of a message) among others.

Conclusion

The unprecedented power of the new media and its unhindered influence on information resources are crucial factors that security stakeholders cannot afford to overlook because of the positive and negative effect it can have on security issues. Its influence must therefore be recognised and managed. Since information resources has become one of the key elements in fuelling of solving most contemporary security challenges, it is important that information must be managed and it is also crucial that the new media be properly harnessed in this regard.

Security stakeholders need to understand new media, they need to accept that it is not going away and if they allow it, they need to monitor it and recognise that managing information effectively through new media tools can produce security intelligence to improve security process and enhance performance.

Security professionals need to change their thinking regarding security issues. The mind-set need to change from only securing the perimeter (keeping the bad guys out) to effective information management, using modern-day media technologies to stay ahead to the information-driven security tides.

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