

Electronic Publishing

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1. Introduction

Information has been a significant instrument for societal development. Right from the ancient period to the modern world, information has been regarded as an essential commodity for effective decision making. Information to many nations of the world, particularly the developed is noted as a determinant to change and development. Okoro and Okoro (2006) have vividly considered the importance of relevant and speedy information in all aspects of human endeavors as very vital to development. It is pertinent to add that the potentiality of information has made it to be considered as the fifth factor of production.

The dissemination of information is as important as the information itself. The impact of information can only be felt when it is transferred or disseminated to the most appropriate beneficiaries. Thus, the provision of the right information to the right users in the right format and at the right time becomes very fundamental. In this perspective, various devices or media have been identified and used to communicate relevant information to target audience. Through the use of verbal, gesture and signs, information has always been disseminated but considering their limitations/challenges, writing, printing and particularly publishing possessed added advantages. This is because the latter allow comprehensiveness of information and its speedy transfer beyond geographical boundaries.

With the invention of writing, the knowledge and wisdom of man was recorded for the benefit of the immediate and future generations. The inadequacy of handwritten materials in meeting the number of copies needed led to the advent of printing. Initially, non-movable type of printing was adopted but with certain constraints, a more enhanced printing technique was invented by Johannes Gutenberg in the 15th Century. The advent of the movable type of printing by Gutenberg promoted the production of many copies of book/work within a short time, and thus, satisfying the demands of the target audience.

Publishing activities as described by Okwilagwe (2001) involve the manufacturing of newspapers, magazines, books, newsletters, journals, reports, and many other printed materials. It is suffice to mention that the traditional publishing attained its glory in the 15th century through the effort of Gutenberg and since then, the society has been witnessing mass production of printed information resources. With this development, there was significant transformation in the nature of library materials to a printed phenomenon. Obviously, publishing has transformed the society through the dissemination of views, ideas, thoughts, information, knowledge, norms, culture, etc to the immediate and future generations.

The dynamic nature of the society has however, led to new innovations and development. One of the fundamental developments is the invention of the modern technology known as Information and Communication Technology (ICT). Information and Communication Technology, according to Ahmed, Oyedum and Babalola (2013) has become the most vital tool in any household because of its speediness, accuracy and reliability. Perhaps, why most of the human activities have been revolutionized through the adoption of information and communication technology. The discharge of the various human efforts and particularly publishing using the information and communication technology is referred to as electronic publishing.

2. ICT and Publishing

Prior to the advent of the modern technology, the traditional method of service delivery was the order of the day. This implies that various human activities are usually carried out through the conventional

techniques. For instance, the major establishments in the information industries like the libraries, archives, and particularly the publishing houses discharged their services manually. In this contemporary period, the traditional method of information service provision cannot adequately satisfy the modern users in terms of speediness, accuracy and reliability. The struggle towards an enhanced device for effective information service delivery resulted to the advent of information and communication technology.

Information technology is the application of computers and other forms of technology in gathering, processing, storing, preserving, organizing, disseminating and retrieving of information contrary to the manual technique. As rightly observed, information technology has changed the way information is processed, stored and disseminated (Bashorun, Jain, Sebina & Kalusopa 2013). It is evident that there is drastic shift from the conventional method of doing things to the modern system using the ICT. Any service point or organization that still gives much emphasis on the traditional operations has the tendency to lose credence or desist from being patronized. To Saxena (2009), ICT has not only changed the way information is stored and disseminated, but also threatened the traditional approaches. In view of the modern trends, the universe of publishing has also been transformed thus, facilitating the prominence of electronic or paperless publishing.

There is a significant relationship between ICT and publishing which further extends to the library system. The primary objective of publishing activities is to disseminate new discoveries or research findings to the right audience / user in the right format and at the right time. To achieve this, the publishing products in this modern period must be tailored or directed towards the taste of the end users. The vital tool that can be instrumental to satisfying the taste or information desire of users / readers is the information technology. This modern tool (ICT), can be used to carry out all the processes of publishing which are in the following stages and steps:

- i) Pre-production
- ii) Editorial
- iii) Design

- iv) Sales and Marketing
- v) Printing
- vi) Binding
- vii) Distribution

ICT has actually made it possible for the publishing of information / knowledge both in paper and electronic formats. In paper based publishing for instance, computers, printers, and other forms of technology can be effectively adopted while the electronic publishing format can successfully utilize software like desktop publishing and word processing software application like Microsoft Word, Adobe PageMaker, including the computer, printer, scanner, etc. Through the use of electronic publishing language on the internet like Standard Generalized Markup Language (SGML) and Hypertext Markup Language (HTML), the text can be presented and published with multimedia effects.

The impact of information and communication technology can be felt by both the publishers and the end-users. This technology has made publishing easy through the enhancement of an environment where many volumes of information resources can be published within a short period. To the end user (customer or consumer), the ease and ability to access the available published resources is part of ICT especially through internet for the e-publications. The publishers also make effective distribution of the published items to their customers using the telecommunication and other mobile communication.

2.1 Overview of E-Publishing

E-publishing is a concept that connotes electronic publishing. This concept consists of two words: electronic and publishing. Electronic can be referred to as digital or a way of discharging an activity or responsibility in a non-traditional form but rather using modern technology or information and communication technology (ICT). Publishing on the other-hand, involves the activities of requesting for and acceptance of manuscripts, editing, production, binding, promotion and distribution of information materials (books, journals, magazines,

newspapers, bulletins, films, discs, etc. for the benefit of the public. Nyeko (1999) as quoted by Oyesiku (2004) described publishing as the whole process of producing for dissemination, books, films, computer programmes, records, newspapers, periodicals, discs, bulletins, magazines and other literary materials.

Electronic publishing therefore can simply be defined as the involvement of information and communication technology in carrying out all the processes of publishing and which can only be accessible and used digitally. Many scholars have described electronic publishing. Some of the descriptions are:

A form of publishing in which books, journals and magazines are being produced and stored electronically rather than in print. It has been noted that the electronic publications have the qualities of the normal publishing like the use of colours, graphics and images with much conveniences (Saxena, 2009)

Electronic publishing according to Ludwick and Glazer (2000) is the use of electronic devices in all aspects of production, management and distribution of primary and secondary information. In essence, any non-print information material produced digitally can be known as electronic publishing.

Also known as digital publishing and thus encompasses the digital publication of e-books, digital magazines and the development of digital libraries and catalogues. It is the type of publishing that evolves the format of materials produced online, on a compact disk, email or provided in a file format compatible with handheld electronic readers. This however, excludes printed materials.

Chennupati, Foo and Heng (2006) in their study "Trends in Electronic Publishing" perceived EP as the application of computing software by a publisher to information content created and packaged for a specific audience, and the distribution of the final product through electronic means.

Electronic publishing has also been regarded as the process of production, dissemination, storage and retrieval of information in an online environment. It was further viewed or considered as a digital divide that brings innovative ways of bringing the global economic

benefits to the stakeholders, who were marginalized from access to research findings (Bashorun, Jain, Sebina & Kalusopa, 2013).

From the foregoing description of electronic publishing by various scholars, it is pertinent to note that their perceptions focused towards the same goal. This implies the application of digital means in the production, preservation, organization, dissemination and retrieval of information materials without adopting any traditional techniques or a printed material. Electronic publishing whose concept started lingering over forty years ago (1970s), particularly when computer systems were adopted for the printing of abstract and indexing services has continued to be relevant in the society. The revolution created by electronic publishing has actually influenced the stakeholders in the publishing industry (authors, publishers, users and libraries) to take advantage of potentials of electronic media and noted to be continuous (Arora, 2001; Bashorun, Jain, Sebina and Kalusopa, 2013).

The development achieved through shift from the traditional to electronic publishing can be attributed to digital information systems and the internet. The desire to access and use electronic media has tremendously increased especially the scholarly publications. Most academic staff in institutions of higher learning geared to publish their research findings in a standard or scholarly journal which can only be processed, accessed and used electronically. To Oppenheim (2008), the role of reporting results quickly and as formal record of peer reviewed scholarly achievement was under stress in the print world, because the two functions could be achieved better in the electronic environment.

Despite the potentials of electronic publishing, it is glaring that many citizens still show much desire on printed resources. This set of people may not be phobia to electronic media but have a keen interest in keeping paper documents. Latamore (2011) in a study observed that the endless reliance on paper document was one of the largest drains on corporate funds and productivity. Though, the ICT revolution has transformed every sector of human endeavours, yet printed or paper documents are very evident everywhere. That's notwithstanding, electronic publishing through its products like e-books, e-journals, e-databases, etc has made significant impact on library services and thus, satisfying the desire of modern users who are not much comfortable with the traditional / printed resources.

Since there is no device or invention without any peculiar constraints, so also is the electronic publishing. In the world over, particularly in Africa. A comparative analysis of the merits and demerits of electronic publishing will at the end reveal its significant contributions to scholarship / knowledge sharing.

3. Historical Development of E-publishing

It is imperative to begin the history of e-publishing with the early methods of media distribution of books and manuscripts. In the fifteen century, it was a tedious business of producing a book with the use of parchments from animal skin or other materials like bark, cloth or paper for writing upon.

This was time consuming and only one book could be produced at a time. There was a dramatic change when Johann Gutenberg developed the technique of producing a number of letters or "types" which could be assembled to form a page of writing which was inked and impressed upon a paper in less than a minute. This method was called "letterpress printing".

By the end of the eighteen century, Alois Senefelder developed lithographic printing which was able to produce multiple copies with delicate shades and tints. With the development of photography in the middle of the 19th century, and the breakthrough in halftone printing, lithographic printing became a commercially accepted standard. When the technique of multi-colour printing combined with litho press was discovered, it became industry standard as it is today. Between the 1960s to late 1970s, the means of producing a document onto a plate for a litho printing press was time consuming.

To produce a design for distribution on a printing press, the artwork had to be created by hand with the use of microcomputer dot matrix photo typesetting system. Then, with the use of a darkroom, each individual artwork had to be shot to film before been burned to a plate.

In 1984, with the birth of the Apple-Macintosh and postscript, text could be input in digital form and images placed with the use of a scanner. Postscript was developed in the early 1980s by Chuck Geschke

and John Warnock who later founded the company. Adobe postscript was a very important development at the time for exchanging data in its page description and programming language. With the use of the Apple Macintosh and postscript language, digital files could be sent to an image setter (Linotronic) which exposed the digital file to film which was then burned to plate for printing. This technology made printing process more efficient, cost effective and cut out the use of the darkroom technique.

With the introduction of the internet commercially in 1993, electronic publishing became an existing prospect. Data can now be transmitted and disseminated to practically any part of the world at the speed of light. With the introduction of email, the publisher could send data file and graphics around the world but in the early days, file sizes were limited to 5 megabytes, Integrated Services Digital Network (ISDN) is a circuit - switched telephone network system, designed to allow digital transmission of voice and data over ordinary telephone copper wires, resulting in better quality and higher speed than available with analog system. This system was sued by many publishing house to transfer files and data. Another common method of transferring electronic published files is File Transfer Protocol (FTP) which is used to connect two computers over supports FCP/IP protocol. Large data can be sent from one computer to another. At present, "broadband" or "wireless" are the most widely and commonly used method to transfer data and files over the internet with a speed of several megabytes per second through a fiber optic cable; this connection runs 24 hours a day and the publisher can used files constantly. We can clearly see that electronic publishing has come a long way since Johann Gutenberg's letterpress printing.

With the potentials of Information Technology (IT), a lot of possibilities are obvious in the e-publishing industry. Today, several millions of scanned documents which do not violate copyright law can be read and downloaded for free. The e-publishing market has been fueled by a number of parallel technological advancements. The use of personal computers and handheld devices has grown exponentially over the years. To top it all, there are a variety of lightweight and user friendly e-book readers and handheld devices that make it easier to read on the move and the experience is a real book. Changes in lifestyle, better broadband connectivity, increased prevalence of online courses and e-teaching, and a

drive to get content immediately are some of the factors that are influencing the growth of this sector.

4. Types and Features of Resources Published in e-format

Types of electronic publishing include: (i) house (ii) self (iii) cooperative and (iv) broker publishing.

- **A house publishing** is based most closely on the model of traditional royalty paying publishing company. An author submits a query or a partial submission to the publisher. A complete manuscript is required if the publisher is intrigued by submission. Some electronic publishers in this category simply request that the full manuscript be sent most often as there is a file attached to an email as the initial submission. If the publisher accepts the manuscript and the contract is agreed upon, the house publisher provides most if not all of the services normally associated with a traditional royalty paying publisher. The benefit for the author is that there is little risk involved. The publisher pays the cost of production and distribution, while the author receives royalties ranging from 25% to 50%.
- **Self publishing** rather than visiting a traditional printing press to arrange for print runs, the self published author either prepares the book himself and convert it into digital format or arranges with independent contractors to perform the conversions. The author has complete control over the final presentation and he also receives all the proceeds from the sales.
- **Cooperative publishing** in its model, the publisher bases its operations on the traditional house model with the associated book preparation and royal payment. The advantage is the same as the house publishing.
- **Broker** a broker publisher simply offers the author opportunity of displaying his books at the broker's website and takes care of the selling and distribution of the books. The advantage of this model is that the author does not need to create a website to sell from or worry about selling and distribution.

4.1 Electronic resources

These include electronic books, e-journals, e-magazines, online newspapers, etc.

Electronic book is a book length publication in digital forms, consisting of text, images or both readable on computer or other electronic devices.

E-journals are scholarly journals that can be accessed via electronic transmission. Electronic magazines are published on the internet, through bulletin board systems and other forms of public computer network.

Online newspaper is the online version of a newspaper either as stand-alone publication or as the online version of a printed periodical.

The features of e-resources include the following:

- i. Resources in electronic publishing are accessed via electronic transmission
- ii. They have the purpose of providing materials for academic research and studies e.g. e-journals
- iii. They are subscription based on pay per view access
- iv. They are usually published on web
- v. They are specialized form of electronic document
- vi. They are stable and manageable for cost effective publishing.

5. Global Trends and Opportunities in E-publishing

Electronic publishing (EP) which is the process for the production of typeset quality documents containing text, graphics, pictures, tables, equations etc. can be represented with this formula
$$EP = \text{Electronic technology} + \text{computer technology} + \text{communication technology} + \text{publishing.}$$

Electronic publishing is used to describe the application of computers to traditional print publishing from word-processing to

computerized order processing. The term electronic publishing refers more precisely to the storage and retrieval of information through electronic communications media. It can employ a variety of formats and technologies, some already in widespread use by business and general consumers, and others are still being developed.

The prospects of e-publishing are multifaceted. The following are some of the prospects and opportunities that are derivable from e-publishing:

- Faster publishing time for accepted manuscripts. Rather than waiting up to two years for a manuscript to see print, electronic publishing allows for publishing of work within a few weeks to a few months after acceptance.
- Greater flexibility in the relationship between the writer and publisher. E-publishing grants the writers more opportunity in preparing the work for publication. A paper publisher might ask a writer to change a character, plot line or other features of a story to make it more marketable. An e-publisher might also make suggestions, but the writer will generally have more say. The writer might also be instrumental in providing graphics for the work, such as an electronic jacket.
- Writers have the opportunity to update the texts often and easily at virtually no cost. This is particularly handy for works related to fast-moving industries, such as computer technology. Since the publisher does not have an investment in printed books already loosing shelves, text can be electronically updated in seconds.
- E-publishing offers longevity for works with slower sales. While paper publishers will remove slow movers from active status (print), electronic storage affords unlimited archiving.
- Works published electronically have an ISBN number, like printed books. This means any one can walk into a store front bookstore and order an electronic copy of the book. Writers often get a higher percentage of royalties through this method because the initial financial layout for the publisher is so much less than for a paper publisher. Some writers receive as much as 70% of the profits in royalties.

- With e-publishing, writers normally retain all other rights to the work such as the option to go to a paper publisher later, adapt a screenplay, or use the work in some other capacity.

Electronic and networked information creation and dissemination have created new opportunities for the information products and new varieties in the kind of information that could be made available. E-publishing offers the potential of enhancing information with additional dimensions in a cost effective way and that enable information to reach a wider audience of users compared to paper based print publications.

Value has been added to publishing through e-publishing. With publishing, the expertise and experience of publishers are put to good use to package and produce electronic information products that suit the targeted users' needs.

Corporate and government organizations have benefited maximally from the potentials of e-publishing. For the corporate organization, EP has been adopted for as functional aspect of a core business. For government organization, EP technologies have been used for better management of information that could improve the efficiency of bureaucracy and support decision makers need for efficient information.

A lot of formats and media of publications are made possible through EP. Some of them include: digital / content or shorter length content, electronic books (e-books), electronic newspapers (online newspapers), electronic magazines, e-mail publishing, database publishing and courseware publishing.

With electronic publishing, it is also possible to have print on-demand (POD) publications which are hybrid publications that reside in cyber space until they are printed on special digital printing machines. It is also possible to have direct publishing on the web. HTML is still the most widely used web programming language but XML is making headway and is regarded as the future direction of the internet.

Wireless internet /web publishing which offers another avenue for the distribution of time - sensitive and compact content is also possible. This form of publishing relies on the widespread availability and continuing growth of mobile phones, PDAs and other wireless devices,

these now have multimedia capabilities, including the ability to retrieve email and access information from the internet.

6. Challenges of E-Publishing

While it is beyond any reasonable doubt that electronic publishing (EP) has unfathomable potentials in the present information driven epoch, it should be stated in clear terms however, that some challenges are bedeviling EP. Some of the challenges are considered globally and with particular reference to African countries. The challenges are discussed below:

- a. **Format Barriers:** In the formation of any industry, there will be division among competitors. In the case of e-publishing, the division comes in the form of formats. With e-book conversion services, the key players of the industry use various formats. There is a big challenge of developing e-reading software that is compatible with several formats. This is important for those who will be collecting e-book so that there is no duplication.
- b. **Piracy:** Piracy is a great threat to any media that is digital. The internet is still a chaotic place. It is hard to say who has the authority to patrol it, let alone bind people's freedom to use it with miles and parameters. This gives cyber criminals the chance to abuse this freedom, hence piracy is massively rampant. As any digital product is available to be purchased, users also have the ever present option to pirate it.
- c. **Lack of Credibility:** The traditional publishing industry was hard to reach. There are plenty of authors who are denied the chance to publishing due to high standards. The e-publishing industry charged that the gates are opened to everybody. One can be a self-published writer and it would cost little to publish. Free publishing platforms are widely accessible to anyone which makes e-publishing to be susceptible to lack of credibility.
- d. **Transient Materials:** The ephemeral natures of materials on the internet make them to be temporal as compared with the permanent mode of print format. Materials that are on the internet today might not be there tomorrow. Such materials might be removed or altered.

Challenges of e-publishing in Africa

The challenges of e-publishing in Africa as noted by Bashorun, Jain, Sebina and Kalusopa (2013) are:

Lack of Adequate Supply of Electricity: Most of the e-materials would require the powering of the computer and other communication gadgets before they could be accessed. The constant epileptic power supply in most countries in Africa especially in Nigeria would make accessing electronic materials with case a mirage.

Language Barriers: Many of the e-materials are mainly sent from developed countries. The system understands their own languages and culture. Most of the languages and traditions in Africa are yet to be captured by the computer and other communication gadgets which are the brain children of the advanced economies. In addition, many counties in Africa have multiplicity languages that make it difficult for them to use one language as a national language.

Lack of Qualified Manpower: People that have the skills and the technical know-how are rare in most African countries. In terms of e-publishing and navigation of the internet, developed nations have gone far ahead of developing rations.

Low Internet: Internet facilities are one of the major infrastructural facilities that are visually lacking in most of African countries. Most of the places that are connected to internet are either disabled or malfunctioning. The cost of getting regular, stable and uninterrupted internet facilities in Africa is abnormally too high.

Poor Developed Publishing Infrastructure: The existing e-publishing infrastructures in most countries in Africa are defective. They are not fully developed to deliver optimally compared with those of developed economies.

Lack of Sustainable Funding: Donor agents who would sponsor e-publishing and other internet productive activities are inactive in Africa. In many developed countries, a good number of organizations and spirited individuals would volunteer to fund e-references, e-discoveries, e-innovations, etcetera.

Poor and High Telecommunication Access Charges Constraint: While it is true that most internet facilities are disabled in Africa, where the internet facilities are available, the costs are usually unbearable for an average man in Africa. The cost of telecommunication, the cost of power supply and other tariffs are so burdensome for an average man in Africa.

Summary

In this chapter, the concept of electronic publishing has been explained as being a form of publishing in which books, periodicals (journals, magazines, reports, etc), databases, etc. are produced, accessed, preserved and distributed using the modern technology or digitally. With the advent of information and communication technology (ICT), most of the activities of man have been transformed from traditional techniques to digital thus, enhancing service delivery. The impact of ICT on publishing has been stressed while an overview of electronic publishing was also made.

The historical antecedent of electronic publishing was traced back to 1970s, when computer systems were used in the processing of publishing. Types and features of resources published in e-format like e-books, e-journals, e-databases, etc were also explained. Global trends as they affect the e-publishing were considered and the advantages derivable from it were also discussed. Since no effort is without its peculiar problems, the challenges of e-publishing were highlighted and explained.

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