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IMPACT OF MODERN TECHNOLOGIES ON THE DEVELOPMENT

OF PUBLISHING INDUSTRY IN NIGERIA

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ABSTRACT

The focus of this study is to enumerate the major influence that modern technologies have on the growth of publishing industry in contemporary Nigeria. The historical antecedents of publishing in Nigeria were examined. It was revealed that the first attempt to publish books in Nigeria was made by Rev. Hope Waddell in Calabar, in the year 1846 and by the end of 20th century modern web and desktop publishing techniques were introduced and this has greatly influenced the quality of books produced by Nigerian publishers. It was concluded that the new innovations in technological world are valuable tools for re-engineering publishing industry in contemporary Nigeria.

KEYWORDS: Modern Technologies, Publishing industry, Contemporary Nigeria, Modern web, Desktop Publishing

INTRODUCTION

Modern technologies are on course to revolutionize the art and science of book publishing in Nigeria. The major problem facing book publishers in this process is the question of how to harmonize the old tradition and the extant technological innovations ushered-in by the contemporaneous Information Technology (IT). While book packaging demands good judgment, vivid imagination, dedication and some creativity-all qualities derived from previous experience, principles and formulas of artistic design, it is discovered that most publishers are not well acquitted with these myriads of factors needed for writing or editing contemporary books.

Most importantly, the rigid approach employed by most scholars for the study of traditional method of publishing has stifled academic outlook towards the contemporary book publishing techniques. Then, few individuals who have written related literature on contemporary method of publishing just grope each in his or her direction. There has not been a suitable and consensus approach.

Scholars such as Tumbull and Baird (1967), Sellers (1968), Herbert (1969), Warford (1971), Evans (1974), Baskette and Scissors (1977), Berner (1982), Butcher (1996) and Okoye (2000) have written on this subject-matter, focusing on *The Art of Editing, Graphics of Communication, Modern Typography* and *Book Production in Computer Age*, but none of them deemed it fit to examine the influence that modern technologies has had on contemporary layout and design, and the overall outlook of published books. It is this gap in knowledge that this study attempts to fill.

The main thrust of this study is to investigate contemporary issues in Nigeria's publishing industry. Specifically, the researcher tried to reappraise quality control in book production and to assess the development of new techniques in Nigeria's publishing industry. He compared the old *manual method* and modern *Desktop* technology. Furthermore, he made attempts to have more insight into the consequences of modern technologies on the future of bookmaking in the Nigerian society. All these factors were investigated with a view towards making workable recommendations that could assist publishers in packaging quality products.

In the study, the researcher sought to answer three basic research questions which are as follows: (1) What are the challenges facing book publishers and stakeholders in Nigeria's publishing industry? (2) How has modern technologies affected book publishing and the finances of some Nigerian publishers? (3) What effect will low quality of input in publishing industry has on educational growth of Nigeria and intellectual capacities of its citizens?

The information collected through these research questions provides data that create the following testable hypotheses (1) Publishers and stakeholders in publishing industry will face the challenges of adaptability and change in the process of introducing modern technologies (2) The high level of sophistication introduced by modern technology will ameliorate the standards of published books and economic power of some Nigerian publishers and (3) Low quality of input in publishing industry will affect educational growth and intellectual capacities of Nigerian citizens.

The issue of publishing and educational development stretches from individual to community, to national and global milieu. This study, therefore, is expected to extend to all identified human endeavours, but the geographic scope is limited to Nigerian milieu and its knowledge industry. Above all, the study will be a useful addition to the growing body of literature on publishing industry in contemporary Nigeria.

In order to avoid confusion in the course of reading this work and to put the study in the right perspective, three important words that were frequently used by the researcher are operationally defined, the words are: (1) technology (2) development and (3) publishing.

Technology refers to knowledge about scientific and/or industrial methods or the use of these methods. According to Ate (2008:73), technology is an aspect of culture and the nature of the society depends on the type of technology it has. In relation to this study it refers to the current usage of Information Technology in the science and art of book production.

Development means gradual growth for bigger success or more advancement; it is the process of planning or building human society. It is also a participatory process of directed social change in a society; attempt to bring about social and material advancement including greater equality, freedom and other valued qualities for the majority of people through their gaining greater control over their milieu.

Publishing is the business or profession of the commercial production and issuance of literature especially in book form for public distribution or for sale. The business of publishing is done by the publisher, who produces work intended for public consumption or he may be the owner or operator of a newspaper or periodical.

THEORETICAL FRAMEWORK

Working or Operational theory was adopted as the basic narrative structure for explaining the impact that modern technologies have on the development of publishing industry in Nigeria. The arguments under the *working* or *operational theory* were based on the concept of *gate-keeping* (propounded by Kurt Lewin in 1951)*,* which stresses that no publishing house can singularly transmit all information received in the course of daily routine or operation at once without adding, subtracting or eliminating some.

The publishers, therefore, have to decide which information to be transmitted, which to be deferred, which to be modified and which to be deleted totally. The publishers' editors open and close the *gate* that stands between high quality

and low quality, between the information source and the recipient. The concept of gate-keeping is not restricted to accepting and rejecting some data collected; it equally involves shaping, displaying, timing and repeating messages for clarity and emphasis.

An emphasis can be placed on the ethical issue relating to communication profession, which states that gate-keeping is nothing but voluntary self censorship, which emanates from the understanding that apart from legal restrictions on what to be published, including pictures, there is moral obligation to be socially responsible to the readers in whatever messages to be packaged for them. The concept of gate-keeping, which is here discussed in the light of working theory, needs to be critically examined in the study of modern technology and the growth of publishing industry in contemporary Nigeria.

METHODOLOGY

Archival research design was used for the study. The design was considered apropos because the variables under-studied (1) Independent Variable- *Impact of Modern Technology*-the cause and Dependent Variable-*Development of Publishing Industry in Nigeria*-the effect were not directly manipulated, but measured *in-situ*. Information was collected qualitatively. The primary data were gathered through interviews with relevant individuals while the secondary data were obtained through archival records. The data were synthesized and later analyzed using descriptive analysis tools such as *case history, idea study* and *tabulation.*

DATA ANALYSIS

Development of Manual Publishing Techniques in Contemporary Nigeria

The study revealed the following: (1) first attempt to publish pamphlets and books in Nigeria was made in 1846 by Rev. Hope Waddell, a Clergyman of the Church of Scotland based in Calabar, Nigeria (2) in 1859, the missionary gentleman, Rev. Henry Townsend also published the first Nigerian newspaper *Iwe Irohin fun awon ara Egba ati Yoruba* in Abeokuta, and (3) they both used very crude method to accomplish publishing tasks (4) a group of patriotic Nigerians such as Victor Bababoni, Herbert Heelas Macauley, Ernest Ikoli, Nnamdi Azikiwe and Obafemi Awolowo followed the footsteps of these alien publishers to further the course of nationalism by publishing works that fostered the attainment of the country's independence in the year 1960 (5) the method they adopted was a step ahead of what was employed in the early time and (6) by the end of 20th century, modern desk top publishing technique was introduced and this development ushered-in the total quality control of book production.

The pioneer publishers, Waddell and Townsend, who were foreigners, faced many constraints such as non-availability of competent and trained printers, scarcity of printing materials and machines, and scarcity of adequate manpower. All these factors affected the development of publishing industry in the 19th century, but by early part of 20th century when indigenous publishers took over the business, book and newspaper production became a little better as new and more advanced machine technologies were introduced.

Publishing tasks were accomplished crudely during the early periods. Duyile (1987:4) described the production processes of the time. He said:

…Letters of type were picked one by one to form

words, phrases and sentences and then fixed into

a galley. A printing paper was then placed on the

inked galley and a proof obtained. The machines

with which works (emphasis-mine) were printed,

were flat-bed that were operated manually by four

winders who rolled the machine in turns.

Nnamdi Azikiwe, a great contributor to the early and later development of publishing in Nigeria also described the qualities of publishers of the old period in a lecture he delivered in the early part of 1940s and was recorded by Duyile (1987:5) as follows:

Any person who was sufficiently educated to

express himself in fairly tolerable English, and

who had the initiative and drive, could become

a publisher… the pioneers of publishing in the

contemporary Nigerian society had held on their

own in establishing a virile press at a time when

in a colonial territory, freedom of expression was

not respected as a right but as a privilege.

By the middle of 20th century, publishing industry had started to witness some dramatic changes though the stakeholders still lacked the technical know-how. The business received a boom towards 1960, the year of Nigerian independence when notable publishing houses such as *Macmillan, Longmans, Spectrum, Evans* and *Oxford University Press* (OUP) were established.

The manual method developed at this latter period was a lot better than the crude techniques used in the beginning. During this time, scripts, manuscripts or texts were prepared manually; this depends on what was to be published. The manuscripts that were edited and approved for publication were typed on text composers. Manual typewriter and electronic typewriter were later introduced to accomplish such tasks. The typed materials were at this period passed through final stages of copy preparation.

These stages have been discussed by Enemaku (2006) in this order:

- **Text Composition/Compu-Graphics:** "at this stage, the material to be published would be processed on the compu-graphic system so that the galley can be produced. The galley is a continuous sheet on which the text has been typed in long columns. The galley proofs are proofread at this point for correctness and as a preparatory document for further processing".

- **Page Lay-Out:** "after galley proofs have been certified okay each story, article, picture, cartoon…will be cut and pasted element by element into spaces allocated for it on a cardboard to make-up the pages on the basis of the original plan. The end result is the camera-ready artwork"

- **Linotronics***:* "this is the stage when negative films are produced from camera-ready artwork. This process is time consuming and costly hence great care must be taken before then to eliminate human errors

- **Printing***:* "this is time when the publication is *put to bed-* required numbers of copies are mass produced"

- **Sorting, Stitching and Binding:** "this is the time when the impressions ran through the machine are sorted and collated for either sewing or stitching and subsequent guillotining and binding".

The greatest set back in this approach is observed in the number of time and energy expended to achieve an end: the process is laborious and it is broken down into myriads of small-sized tasks performed by different class of people in the work-force. This has, however, culminated into a very high overhead cost.

More stressful is the long chain in the production line, where individual is mandated to complete a task before passing it to the next person. Any major delay within the production chain may have adverse effect on the publishing house most especially if the production deadline is not met.

It is also observed in our study that most jobs produced through this method never came out as tidy as those done using desktop publishing: a method invented in the later part of the 20th century. In this latter process, the computer systems assist the publisher to achieve accuracy, neatness and sharpness. It is worthy of mention here that many pedestrian publishers in contemporary Nigeria are finding it difficulty to adapt to the nitty-gritty of this modern technology and this is one of the reasons why most books produced by them are lacking the required professional standards.

Development of Web and Desktop Publishing Techniques in Contemporary Nigeria

Automation technologies are now used for virtually all everyday information processing task in publishing industry. They enable publishers to perform their duties, such as storing and processing data through databases and to communication through e-mail. The automation technologies include a wide array of software application tools such as excel, word processor, desktop publishing tools and database systems

The introduction of automation systems such as web and desktop publishing techniques in the later part of 20th century has become the catalyst for a world-wide re-thinking of how texts and images should look in the process of book publishing in contemporary Nigeria. This development has, however, expanded the scope as well as changed the landscape of Nigeria's publishing industry. In web and desktop processing, machines only respond to what the operator commands them to do.

Unless the operator has deep understanding of typography, the end product may be bad. A deep knowledge of desktop publishing eliminates waste and laborious process of writing in long hand and typing manually. In this age of web and desktop publishing, publishers have been empowered to access remote information, process it, and analyze it in order to understand the likely effects of the changing demands and to develop their responses rapidly.

With these modern publishing methods, the need to wait for *compugraphic* work has been eliminated. The data can be worked upon directly once they are downloaded into computer and saved. The page layout is done on computer

with maximum accuracy and precision. The computer is now a ready companion in direct printing and production of negatives through the *linotronics* system. The entire process of publishing can now be perfected at the desk without necessarily moving materials from one desk to another. With adequate skills on the job, few people can accomplish efficiently and effectively tasks handled by many people in the past.

The computers used in accomplishing publishing tasks are users' friendly. The computers prompt the users to play on the keyboard and their accurate responses guide the computers in providing further assistance. In short, the computers educate, enlighten and monitor the users. They provide an opportunity to store and retrieve a large volume of data such as stories, pictures, files and graphs for future use. They save time, cost and are generally more flexible.

Table 1: Below Shows a Graphical Illustration of a Typical Modern Information Processing System Adopted in Terms of Inputs, Processing and Outputs

Typical Input	Typical Processing	Typical Output
Data from external sources	Classify Code Interpret Store/Retrieve	Regular produced results on performance, sales, productivity and control
Data from internal sources	Compare Calculate Summarize Identify Trends/exceptional items	Forecasts, trends, comparison, analysis Routine decisions and instructions
Publisher's plans, assumptions estimates and instructions	Monitor Highlight Make routine Decisions etc	Enquiry responses, decision support information Modeling, simulation and interactive responses

Table 2: Below Shows System of Converting Data from Internal and External Sources into Information, and Turning the Information into Valuable Material Through Timely and Effective Decisions for Planning, Directing and Controlling the Publishing Activities for Final Public Consumption

Input of Data into	Storage of Data in	Retrieval of Data for	Publisher Processes Data as	Output for Public
Computer machine	Computer machine	Use	Information	consumption

How to Manage the Change brought about by Modern Technologies

The Nigerian publishers are faced with an apparent high rates of change encountered from the introduction of new technology like computer networks. One means, suggested by scholars such as Lucey (2005), for coping with this radical change is the adoption of what he called *Business Process Re-engineering* (BRP): an approach that he claimed "moves away from the conventional/traditional emphasis on tasks and structures in order to focus on business processes".

According to him, "Business Process Re-engineering is a systematic method of lateral thinking that forces people to think beyond normal boundaries and structures…it is the fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical contemporary measures of performance such as cost, quality, services and speed".

It is observed from myriads of studies that publishing industries that adopted this integrated and systematic approach brought about by new technologies had performed much better than those who adopted a more piecemeal and traditional method that Moss-Kanter (1985) called *segmentalist* approach. The state of inertia evident in the attitude of some of the old-fashioned publishers and which is engendered by the fear of modern technology could be eliminated if they support innovations and work interactively; eliminating unnecessary layers of hierarchy and red-tapism, and empowering their junior members of staff to work effectively and efficiently. An alternative way of tackling the resistance to change, which is called *force-field framework,* has, however, been advocated by Lewin (1997). He stressed that change or resistance to change is caused by interaction of two sets of forces: *driving forces,* which attempt to bring about change and *restraining forces*, which seeks to maintain the status quo. According to his theoretical analysis, "any attempt to bring about change requires conscious approach to overcome resistance to change otherwise change will not occur because the forces resisting it will be too strong".

Table 3: Below Shows the Force-Field Framework by Lewin on Organizational Change

Driving forces for change
New Technology
Equilibrium
State of neutrality
Restraining forces maintaining status quo
Passion for outmoded method

Impact of Modern Technologies on Nigeria's Publishing Industry

Modern technologies influence Nigeria's publishing industry in myriads of ways. First, they alter the skills requirements for publishers. Secondly, they have changed the nature of publishing jobs and the way they are done. Thirdly, they have developed good rapport among workers in publishing industry as well as affected relationships of the workers with customers, suppliers and clients. Lastly, they have become major gate-keeping factor in determining the worthiness of data available and how the data can be effectively used and how the publishing industry can be efficiently operated. In addition, the modern technologies have a significant effect on the structure of most well established publishing outfits. For example, they have propelled most corporate publishing corporations to terminate the services of redundant workers, most especially the traditional book typesetters, but they have equally opened up job opportunities for fresh graduates who are versatile and more compliant to Information and Communication Technology (ICT). They have also influenced the location where tasks can be carried out as well as impacted on the number of home jobbers and those working on part-time basis. The modern technologies have simplified and reduced tasks that were accomplished manually in the past. Apart from increasing productivity, they have eliminated dirty or hazardous and repetitive tasks. They have enhanced problem-solving skills and the ability to interpret data, which had led to a widening gulf between skilled and unskilled labour. The availability of word processor, flexible printers and photocopiers has also eliminated the traditional copy typing.

The new inventions in modern age have equally increased the use of just-in time system (JIT) and advanced manufacturing technology (AMT) in publishing industry. "These are two total quality control mechanisms in which the only acceptable quality level is zero defects" (Lucey. 2005: 214). When this philosophy of total quality control is adopted by publishers, the incidence of defects will decrease. Also, total production cost as well as warranty and service costs will decrease; and if the principle of zero defects is adopted the trouble of reworking, amending and repairing jobs will be eliminated.

CONCLUSIONS

This paper has established the facts that modern technologies are valuable tools for re-engineering publishing industry in contemporary Nigeria. It argued that publishers of all categories should align their knowledge of publishing towards creating a new working system for the development of book production and contribute positively to the educational advancement of their immediate and remote milieus. It stressed that publishers should be at alert to the current changes which exist with the development of modern technologies and work assiduously towards adapting to them by their professional performances within and outside their workplace.

Finally, it recommended that publishers should imbibe a defined culture of quality awareness and quality improvement in every process and at every level of production: they should have a long-term commitment to quality and consider quality as a core value of Nigeria's publishing industry.

REFERENCES

1. Ate, A. A. (2008) *Media and Society* Lagos: Ojik Press for National Open University of Nigeria.

2. Baskette, F. K. and J. Z. Sissors (1977) *The Art of Editing* New York and London: Macmillan Publishing Co; Inc.

3. Berner, R. T. (1982) *Editing* New York: Holt, Rinehart and Winston.

4. Butcher J. (1996) *Copy Editing* Cambridge: Cambridge University Press.

5. Duyile, D. (1987) *Makers of Nigerian Press* Lagos: Gong Communications (Nigeria) Limited

6. Enemaku, O. S. (2006) *Publication Layout and Design* Lagos: Regent Publishing Limited for NOUN.

7. Evans, H. (1974) *Editing and Design Book Three News Headlines* London: Heinemann

8. Herbert, S. (1969) *Pioneers of Modern Typography* London: Lund and Humphries

9. Lewin, K. (1951) as recorded by Folarin B (2006) in *Advanced Theories in Mass Communication* Lagos: Alleluyah Printing Press For NOUN

10. Lewin, K. (1997) *Resolving Social Conflicts and Field Theory in Social Science* USA: American psychological Association

11. Lucey, T. (2005) *Management Information Systems* Power-book: Commonwealth Initiative on Resources for Learning

12. Moss-Kanter, R. (1985) *Change Masters-Innovation and Entrepreneurship* Simon and Schuster

13. Okoye, I. (2000) *Newspaper Editing and Production in the Computer Age* Lagos: Mbeyi and Associate

14. Sellers, L (1968) *The Simple Subs Book* Oxford: Pergamon

15. Tumbull, A. T. and R. N. Bard, (1967) *The Graphics of Commnication* New York: Holt, Rhinehart and Winston

16. Warford, H. S. (1971) *Design for Print Production* London: Focal Press