

PEEPING THROUGH THE ODDS: 5TH INDUSTRIAL REVOLUTION AND LIBRARY SERVICES DELIVERY

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Abstract

This publication emanated from a Lead Paper presented at the 11th Annual Conference of the Academic and Research Libraries Section of the Nigerian Library Section. It is a position paper based on decades of years of experience on the job; therefore, it has deviated slightly from the form and norm of an article for journal publication. The profile of a researched published article should be ignored. In the paper, I did a preview of the issues at the said conference and against this hindsight, I stimulated the thoughts of the presenters and participants in this way:

- i. *Introduced the concept of Industrial Revolution*
- ii. *Introduced the outlook of pre- IR era*
- iii. *Set up discussion on stages 1- 4 of IR*
- iv. *Triggered discussion on stages of library development*
- v. *Introduced discussion on 4th IR and the library*
- vi. *Did a peep into the future of 5th IR and the library*

The paper came out with a conclusion that the 5th IR has in stock an atmosphere of the Good, the Bad and the Ugly. The author also opined that some of the familiar units and departments we are used to, may give way, and new trends may emerge.

The Concept of Industrial Revolution

Industrial Revolution is an historical process that began in Britain in the late 18th century. This revolution transformed an agrarian and handicraft-based economy into one dominated by industry and machine manufacturing. These agrarian societies with subsistence economies showed small-scale cottage industries, characterized by manual production of goods for personal/family consumption and local trade. There were no mechanization, no factories, no industries and there were limited or unnoticeable innovation.

The Hallmark of Industrial Revolution

Industrial Revolution is characterized by a number of milestones as discussed below:

Economy mode: this was when there was a shift from handicraft form of activities when aids and devices, especially, machines were adopted. This was when there was an Innovation with steam and other power engines which replaced manual labour in manufacturing. With the advent of machines, an adopting a factory system which housed machines, for mass production which led to manifested and this led to significant social changes causing a geographic spread through Britain to every part of the world. This spread resulted into a massive socio-economic transformation signaling an urban drift to cities in search of factory work. This caused a shift in transportation mode



Stages of Industrial Revolution

3.1. Stage 1, (IR 1.0) 1765-1870s (18th - 19th c)

The major characteristics of this stage was that industries shifted from manual (handicraft) to mechanical production. The technologies were the steam engines and ancient other forms of machineries. The ensuing developments gave a rise to the factory system, mechanization of production and shift from home to industrial settings.

3.2. Stage 2 (2 IR 2.0) 1870s-1960s (19TH - 20TH C)

This stage was a step higher than the first in that the Industries did mass production of Materials and other goods. Technologies, used then were electricity/gas/oil and Introduction of assembly lines with developments leading to introduction of electric energy for large- scale production.

3.3 Stage 3 (3 IR 3.0) 1970s- Early 2000s (20TH-21ST C)

This stage witnessed a period of massive industrial and digital automation. The Technologies that were employed then were the computers with other electronic operations. And the internet. The developments resulted in the implementation of computer aided mode of manufacturing, robotics, automated machinery, use of it in industrial processes.

3.4 Stage 4 (4 IR 4.0) Early 2000s Till date

We are currently at the stage of the 4th Industrial Revolution when industries worked on Smart factories. Technologies employed then were robotics, cyber-physical system, AI, Big Data, Internet of Things and Cloud Computing. Developments led to where machines do Communicate and make decisions for humans, AI became fully integrated into management and decision-making processes.

Stages in Library Transformation

The very ancient libraries in record was the Alexandria library Egypt. Resources in that library were made from clays, scrolls made from leathers and papyrus, then and materials were chained and immovable, Around that period were the religious institutions and their libraries, also, with immovable resources. Libraries in institutions such as universities in Mali (Timbuctu) and Egypt were visible. They were loanable resources because some were privately owned for scholarly endeavour. After this was the advent of the government, national libraries and other modern libraries in that were established in various locations. At present, there are digital resources which are useable and assessable beyond physical spaces.





4th Industrial Revolution and Libraries

As earlier observed, the era in which are now is the 4th Industrial Revolution. This period has witnessed the expansion of access, technological integration enabling automated systems as well as AI enabled system which enhanced smart environments for users



Peeping into the World of 5.0 IR and Library Service Delivery:
 We can assess this in a tripartite manner of The Good, The Bad, The Ugly.

The Good

The 5IR has a lot of what we can term as the goodies, several things are coming out well for the library during this era as listed below. Library resources are being accessed beyond borders and this will continue to improve. Another feature of this era is that a lot of library users will do a number of things by themselves without looking up for support from either the library users or their colleagues.

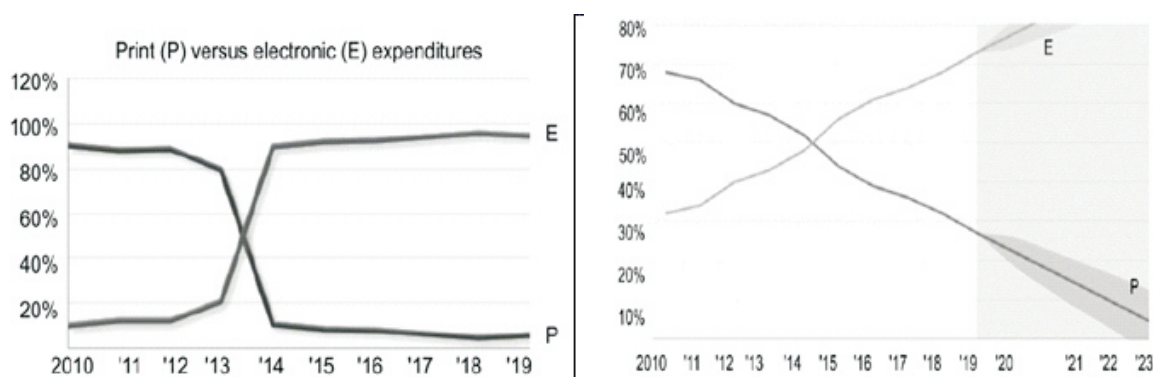
This will be a period of Big Data which have the potential to aid library users. Users will also operate under a very relaxed atmosphere as could be seen in the picture, as against what obtained in the past when users operated under strict laws and regulation that were characterized by 'Don'ts'. Internet of Things and the library will visibly support library activities during this period, these are various forms on electronic devices as aids. This will also be used in security architecture and there will be ample room for innovation and expression of ideas and minds. Materials will be hugely shared as it is being witnessed in some instances at the present, especially in the area of institutional repository. Intellectual works will be available at the available at the finger tips through several devices. Apart from this, there will be several alternate study devices as could be seen in the displays



The Bad

This era also has its other side, the bad, but which may also be viewed as the good because of the very thing line between them. During this era, there will be lots of distractions and little concentration because of the avalanche of resources and devices at users disposals. Choice will be extremely difficult because of similarities and attraction. The irony of this era is that there will be little or no contact, everybody will be on his own, there will be a less of Library of Things.

Another feature of the 5th IR when it comes to library services and provision is the CROSS OVER IN LIBRARY era in budgeting. At this period, it will be observed that expenditure on library resources will tilt towards electronic resources at the expense of prints. This trend is already manifesting in several libraries of study. This was first witnessed between 2013 and 2014 and the trend continues. By the time we fully comes into the era of the 5th IR, it will be very significant.



Expenditures on E-Resources and Print Crossover Point

The ugly or is it the beautiful?

The most down side of the 5th IR which I have termed as the ugly side in this paper is that there will be a conspicuous and a considerable decline in physical presence in the library. At present, libraries are being deserted since resources are now being accessed from every location. Users now find it more convenient to stay at their comfort zones to access the materials. At the LASU Library, enquiries received on the use of the library resources tilted towards the utilization of e-resources at the ratio of 51:49. Consultation and loans of print materials have nose-dived. Asides, even physical occupation of the library has decreased and this trend is bound to continue as could be observed in the table shown below. Eighteen (18) universities libraries were studied in six geographical zones of Nigeria, of federal, state and private ownership.

Students population and library seats in selected Nigerian universities

Zones	Population/Ownership	Library Seats	% Seats provided
SE	37,920/F	950	2.5
SE	23,845/S	600	2.5
SE	2,750/P	105	3.8
SS	17,925/F	650	3.6
SS	15,910/S	350	2.2
SS	3,200/P	85	2.7
SW	45,475/F	1320	2.9
SW	47,112/S	1005	2.1
SW	11,772/P	450	3.8
NC	19,900/F	710	3.6
NC	22,295/S	520	2.3
NC	2,440/P	105	4.3
NE	29,290/F	910	3.1
NE	15,775/S	955	6.1
NE	1,990/P	75	3.7
NW	30,375/F	290	0.9
NW	16,800/S	310	1.8
NW	5,010/P	410	8.2
Total	349,784	9800	2.8



Key: SW= South West, SE= South East, SS= South South, NW=North West, NE = North East, NC= North Central, F=Federal, S= State. P=Private

The data revealed that in these institutions, there were a total of 349, 748 students and the libraries were able to provide seats for just 9,800 students, representing a paltry 2.8%. It did not indicate that the remaining 97.8% students. Population did not read; they only did that outside the walls of the university. It was better at the Lagos State University where a ratio of 61:39 was posted, in favour of electronic usage of the library materials.

During the 5th IR, everyone will be on his own and no watchdogs on anyone, users can even sleep at the library, provided that the act did not inconvenience anyone. Apart from giving users the freedom to operate, libraries will even offer various kinds of inducements to attract users by offering snacks, light foods, drinks, games, health checks and all sorts as observed at the Fredericton public library in Canada, as witnessed by this researcher.

Information Explosion

This is going to be another feature of the 5IR, which is already here with us. Because of the development of the electronics resources, information at the users disposal will be huge and could run the users crazy. This is where the professionals will be needed to sieve it out and bring out the useful ones.

Conclusion, Stirring a Controversy

Concluding this paper, I want to stir a controversy, I want to note that during the 5th IR, some notable library units and departments may no longer be prominent. Because of the Do-it-yourself syndrome, the library will likely become one inseparable entity without any significant cut-out divisions. Circulation section may not be different from reference section, serials section as well as electronic library will also be part of them. In the table below, the units and departments marked by X may no longer stand alone.

Probable (visible/non-visible) library departments in 5th IR

1. Circulation	x
2. Reference	x
3. Stand-alone e-library	x
4. Serials	x
5. Reprography/restoratory	y
6. Book processing/metadata	y
7. Security	x
8. Administration	y
9. Acquisitions	y
10. Recreation/eatery	y

Reference

Adebayo, E. L. (2024): *Invisible users and the regulation: Library manager on a sticky wicket*. 101st Inaugural lecture of the Lagos State University