

UTILIZATION OF INFORMATION RESOURCES AND SERVICES BY ENGINEERS IN SELECTED STEEL COMPANIES IN NIGERIA

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Abstract

This article examined the information needs of steel engineers in Nigeria which is a necessity to solve the basic and complex problems that characterize steel production. However, it was observed that before the privatization of the government owned steel companies, their output did not make any significant impact in all aspects of Nigeria's economic, industrial, scientific and technological development. To identify the problems associated with this lack of productivity, the survey research method was used while purposeful sampling was used to arrive at the three out of the six companies covered by the study. The questionnaire, personal observation and interview were instruments combined to gather adequate and reliable data for the study. The data gathered was analyzed using frequency approach and descriptive statistics where responses and their percentages were tabulated. Below each table, is its interpretation and discussion. The study discovered that information resources and services provided are based on traditional or conventional practices and are only minimally utilized. Lack of funds was discovered to be the major militating factor against the provision of information resources. It was recommended among others that adequate funds be provided to acquire current and relevant information resources in addition to automating the libraries to meet with the current trends in information provision and utilization.

Key words: Utilization, information, resources, services.

Introduction

Information creation, provision and utilization in all ramifications of human activity have been of utmost importance in the attainment of desired goals and objectives since the creation of mankind. The definition of information is as varied as the number of

professionals or authorities who have attempted to define it. For example, Uche (1999) quoted the Webster Reference Dictionary of the English Language (1983) defining information as news or intelligence communicated by word or writing; facts or data; knowledge derived from reading or

instruction or gathered in any way. In the same vein, Mohammed (2008) quoted Olsen in Mamman (2000) as having opined that information is a usually powerful commodity, it provides the heart for the development of knowledge, the basis for innovations, the resources for an informed citizenry and thereby it becomes the key commodity for the progress of society. In another dimension, Mohammed (2003) in an attempt to operationally define information as it is related to the activities of Steel Engineers stated that information is an idea or data which makes it possible for an Engineer to either maintain, change or improve upon his present method of steel production.

Information need of steel Engineers in Nigeria and indeed, the world over at whatever level, irrespective of status and qualification is a necessity to solve the basic and complex problems that characterizes steel production. Yet, it is observable that information need varies from one engineer to the other. The information need of steel engineers for example, is entirely different from other engineers in agriculture, mechanics, electronics etc. There are however, times when information needs of engineers, irrespective of areas of specialization, may be related or overlap.

In an attempt to satisfy the information needs of Steel Engineers in Nigeria, steel companies including the Inland Rolling Companies established libraries to provide the needed or required information sources. When such information resources gathered are however sieved, one discovers that there are relevant, related and unrelated materials. It is therefore reasonable to argue that a lot of information and information resources are available. Some are good others are not. It is therefore the responsibility of the library to choose those that it wants and rejects those that it does not want in line with the functions and philosophy of the library. In view of this analysis, steel company libraries are expected to select those materials that are relevant and related to steel production fields in Nigeria.

The extent to which these libraries have carried out their expected functions of information resources provision and how the engineers utilized the available resources to meet with their information needs are the variables that this researcher is wishing to determine.

Statement of the Problem

Before the Federal Government of Nigeria took a decision to privatize all the government owned steel companies at Ajaokuta, Warri and Itakpe and Inland Rolling Steel Companies at Oshogbo, Jos and Katsina, their combined output did not make any significant impact in all aspects of Nigeria's economic, industrial, scientific and technological development. In fact, the steel sector, in the words of Mohammed (2008) was highly underdeveloped. This underdevelopment could be attributed to lack of adequate, reliable, current, relevant and related information resources to form the basis of research for the engineers coupled with the possibility of underutilization of the available resources. For example, Gessesse (1994) observed that no engineer can afford to be unaware of various types of information and data used in the practice of engineering (such as) handbooks, tables, standards and specifications, technical reports... or conversely to waste expensive time struggling to locate those resource data when required or badly needed for instantaneous consultation. In addition to this, Shoobred and Miller (1988), in a related study opined that participants in the building process utilize information in order to be able to do their jobs effectively.

Putting into consideration, the level attained in steel production, compared with installed capacity, the Steel Companies performed below expectations. That is to assume that the engineers in the sector did not either receive the right type of information resources to provide basic foundation for their research and other practical duties or they completely failed to utilize the available

ones for the benefit of their expected functions. The questions that arises are: were the engineers provided with needed information resources to function effectively?, and did they utilize these resources to the extent of meeting the objectives of performing their duties effectively?. It is the determination of these variables that constitute the problems why this study is undertaken.

Objectives of the Study

1. To identify the type of information resources that are provided by the libraries of the steel companies in Nigeria.
 2. To determine whether the information resources provided by the libraries are adequate.
 3. To determine the currency of the information resources provided.
 4. To identify the type of information services that are provided to the engineers from the available information resources.
 5. To identify the extent to which the engineers utilized the information resources and services provided by the libraries.
 6. To determine the extent to which the information needs of engineers are satisfied by the available resources and services.
 7. To determine the problems militating against the utilization of information resources and services.
 8. To identify strategies that could be developed to overcome these problems.
2. Are the information resources provided by the libraries adequate?
 3. How current are the information resources provided?
 4. What type of information services are provided to the engineers from the available information resources?
 5. To what extent have the engineers utilize the information resources and services provided by the libraries?
 6. To what extent are the information needs of engineers satisfied by the available resources and services?
 7. What are the problems militating against the utilization of information resources and services?
 8. What strategies could be developed to overcome these problems?

Research Questions

This research will seek answers to the following questions:

1. What type of information resources are provided by the libraries of the steel companies in Nigeria?

Review of Literature

The information resources that are required to satisfy the information needs of engineers in order to be able to perform effectively are varied. They range from printed to non-printed materials. Generally however, users of scientific and technical literature, such as steel engineers demand currency. Mohammed (2003) opined that engineers are always looking for the latest information in their areas of specialization. This, according to him is because unlike in the social sciences, achievement in science and technology adds, refines or completely replaces the old knowledge. It therefore becomes necessary to gather such materials as identified by Gessesse (1994). These include handbooks, tables, standards and specifications, technical reports etc. In addition to these, Aina (1983) extended the list of information resources for engineers' consultation in the course of discharging their respective duties. Ainas recommended resources include: results of technological application, expert, evaluation, practical experience, miscellaneous facts, such as addresses, names, prices, products and material description, statistical data, books, journals, research and technical

reports, notes and memoranda, annual reports, conference reports and theses etc. Madu (2008) noted that some basic printed reference information resources such as encyclopedias, maps, serials, bibliographies, dictionaries, almanacs, year books and gazettes form an important part of any library's collection. Madu further documented on the need to provide information and communication technologies in libraries to meet with the most current information.

In an ideal situation, therefore steel industry libraries are expected to provide information resources that reflect the recommendations of the authors cited above.

Utilization of printed information resources and services is usually determined by the library statistics which reveals the number of materials consulted and those borrowed for home use. In libraries, it is easy to count all the books that are removed from the shelves before reshelving them. That will make up the statistics of consulted materials. On the other hand, the number of charges, that is, record of borrowed materials per day shows the number of books borrowed. The two, amount to the actual utilization of the printed resources and services put in place by the library.

When Selth, Keller and Brice (1992) studied the use of resources, within a scientific library, they discovered that in a collection of about one million:

- (i) 11.2% of monographs and 13% of serial volumes did not circulate but had some recorded in-library use, and 19.5% of the monographs and 12.5% of the serial volumes had no recorded in library use but circulated. Consequently, a total of 30.7% of the monographs and 25.5% of the serial volumes had one kind of use but not the other relative to each other.
- (ii) Relative to each other, monographs received much more external circulation (while) serials more in-house use.

- (iii) In some cases, the number of recorded in-house use was quite high, even when there was little or no external use.
- (iv) There are striking differences by subject (in the utilization of resources)

The above findings suggest that serials or periodicals are more often used within the library while monographs are more used externally. The reason for this could be that serials are consulted for specific information which facilitates execution of the job at hand while monographs are read in preparation for anticipated tasks. This finding assumes the same pattern by which library resources in the steel companies in Nigeria are used. This is because in the process of producing iron and steel, engineers would want to know how particular tasks are currently performed elsewhere in the world. This sort of information could only be contained in serials. In a similar dimension, engineers in the steel industry in Nigeria are expected to use information resources in a way that permit bridging the gap between the old and current methods in steel production and other related operations.

Information resources utilization in Nigerian libraries and those in steel companies in particular, leaves much to be desired. According to Diso (1992), except in academic institutions, information resources utilization in Nigeria is at its low ebb. Diso further discovered in his research that:

Even in industries (such as steel companies) where productions are expected to compete with those from other parts of the world, workers resorts to the use of 'experience' by which way, things or production is done today and always as it was done yesterday and before.

The effect of the above discovery on the engineers in the steel companies has led to lack of physical development in Nigeria. Consequently, there is general stagnation in steel production.

Meanwhile, contrary to Diso's finding, Nwoka (1992) in a study of 45 special libraries revealed that the libraries put together have 45,286 registered members. That is an average of 1006 registered members per each special library. As far as special libraries are concerned, this figure is encouraging. However, it must be pointed out that there is a difference from being a registered member of a library and actual utilization of the facilities of the library.

From the above analysis, it could be concluded that Diso's finding is a reflection of what obtains in the steel industries as regards the utilization of printed information resource.

It has also become necessary that non-printed information resources such as information and communication technologies (ICT) be provided for libraries in the steel industry to facilitate easy provision of information services and access literature throughout the world. Mohamed (2000) argued that employment of modern technologies to operations in the library is necessary to avoid difficulties and repetitions involved in using conventional practices, save the time of the librarian and user and accurate provision of information. Daniel et. al, (2003) have argued that information and communication technologies is a combination of computers, storage media and telecommunications. It must be emphasized however, that as at the time this research was conducted none of the libraries in the steel sector had a collection of any form of ICT not to talk of their being utilized by the engineers.

Some basic problems have been identified as militating against adequate, appropriate and timely provision and utilization of information by various libraries. Mohamed

(2003) further argued that in the fore front of these problems is the traditional base on which information resources and services provision in the steel industry is built. He added that lack of qualified and experienced librarians, inadequate training of librarians, and particularly lack of adequate financial support from parent organizations, which Miachi (2000) argued is a reflection of the financial problems faced by the steel companies themselves resulting into lack of performance of core objectives and work stoppages are additional problems.

Despite all the problems faced in providing information resources and services to the engineers in the steel companies hope is not be lost. Mohammed (2008) was of the view that the Federal Government, as a matter of priority should provide the needed funds, the father of all problems so that the steel companies could not only perform effectively but also support the establishment of a viable information system through the libraries.

Methodology

This researcher employed the survey research method to conduct this research since Aina and Ajiferuke (2002) argued that it could be conveniently used in the study of large and small populations without sacrificing efficiency in addition to time and money saving, accuracy and information adequacy in the research process. Purposeful sampling was used in arriving at the three (3) out of the six (6) companies covered by the study. These are those at Itakpe, Ajaokuta and Jos.

A total of fifty (50) out of seventy five (75) engineers were random sampled for the study. This represents 66.66% of the entire population studied.

Three instruments, the questionnaire, personal observation and interview were used to gather adequate and reliable data for this study.

The data gathered was analyzed using frequency approach. The result of each

response was reflected in tables. Descriptive statistics was used in analyzing the numerous data gathered. In that respect, frequencies of occurrence and their respective percentages were conspicuously shown in each table. Below each table, an explanation or interpretation and discussion of its contents are provided.

Analysis of Data

Table 1: Response Rate

Respondents	No. of Questionnaires Administered	No. of Usable returns	Percentage (%)
Engineers	50	43	86

Table one reveals that 50 questionnaires were administered to the engineers in the steel companies. 43 representing 86% were returned and found usable. The high rate of response was achieved as a result of constant visit to the steel companies to follow up for the collection of administered questionnaires.

Table 2: Type of Information Resources Provided

Type of Resources	No. of Responses	Percentage (%)
Text & reference books	33	77
Technical Journals & related periodicals	21	49
Newspapers & magazines	19	44
Computers & related electronic gadgets	0	0
Others (specify)	0	0

When the engineers were asked of the type of information resources that are provided for their use, table 2 above shows that text and reference books constitutes the majority 77% of the information resources provided. This is followed by technical journals and related periodicals (49%) and newspapers and magazines ranking 3rd with 44%. The engineers also revealed in the

responses that no (0%) of computers and electronic gadgets are provided for their use.

The findings above conforms with the observation of this researcher when he observed that as at the time this research was conducted, none of the libraries in the steel sector had a collection of any form of ICT not to talk of their being utilized by the engineers. This therefore agrees with the assertion by Mohammed (2003) that in the forefront of the problems militating against the provision and utilization of information resources and service in the steel sector is the traditional base on which the resources and services are built.

Table 3: Adequacy of Information Resources Provided

Responses	No. of Responses	Percentages (%)
Yes	13	30
No	30	70
Others (specify)	0	0
Total	43	100

Table 3 above shows that when the respondents were asked about the adequacy of information resources provided for them, majority, 70% said no while 30% said the information resources are adequate for the effective performance of their duties.

The responses by the minority does not satisfy this researcher because without the provision of Information and Communication Technologies (ICT) as revealed on table 2 above there can never be an adequacy in the provision of modern day library information resources since they form the basis by which the most current and related information on steel production could be accessed from those countries in other parts of the world where iron and steel production has not only been perfected but also has contributed immensely to the economic and industrial development of such nations. For example, Efobi (1998) averred that there is no record of a viable industrial nation without a viable steel sector and we must not delude ourselves that Nigeria is even at the threshold of

industrialization. Nigeria may not have learnt from the current experiences of other countries which the ICT facilities could have aided.

Table 4: Currency of Information Resources Provided

Currency	No. of Responses	Percentage (%)
Very current	1	3
Moderately current	10	23
Fairly current	22	51
Not current at all	10	23
Others (specify)	0	0
Total	43	100

Table 4 above show the responses of the engineers when asked about how current the information resources provided for their use are. Majority of them 51% answered that the resources are fairly current. This followed by 23% of those who agreed that the resources are moderately current and not current at all respectively. Only one engineer (3%) agreed that the resources are very current.

The findings above is an indication that when those who said the resources are fairly current (51%) and not current all (23%) are put together giving a total of 74%, it could be assumed that the information resources provided for the engineers are almost out-of date. There is no wonder therefore that the performance of engineers of their respective functions was lackadaisical. This may be one of the basic reasons why the Federal Government finally decided to privatize the companies so as to realize the objectives for which they were established.

Table 5: Type of Services Provided by the Libraries

Type of Services	No. of Responses	Percentage (%)
Selective Dissemination of information	12	28
Current Awareness service	10	23
Compilation of bibliographies, index and Abstract	8	19
Reference service	17	40
Reprographic services	5	12
Current Content Analysis	2	5
Subscription to online database	0	0
Translation services	3	7
Others (specify)	0	0

From table 5 above, the reference service and Selective Dissemination Information are the major information services provided by the libraries with 40% and 28% responses respectively. These are followed by current awareness service (23%), compilation of bibliographies, indexes and abstract (19%), reprographic services (12%), translation services (7%) current content analysis with 5% rating and lastly subscription to on line database with 0% rating. This is because computers are not in the libraries as indicated on table 2.

Despite the fact that the engineers responded positively to having received these services, except one, it is this researchers observation, through interviews that some respondents were not familiar with the terms used to describe the type of services and reluctantly agreed where such services as translation of mainly documents in English language were said to be offered. Even those services that are provided are on skeletal basis and also not on continuous basis.

Table 6: Utilization of Information Resources

Frequency	No. of Responses	Percentage (%)
As need arises	33	77
Weekly	3	7
Daily	5	12
Never	2	4
Others (specify)	0	0
Total	43	100

Table 6 above contains responses of the engineers when they were asked of how often they visited the libraries to utilize facilities there in. Majority of the engineers 33(77%) said they use the library only as the need arises. 5(12%) and 3(7%) of the engineers said they go to utilize the resources in the library on daily and weekly basis, 2(4%) of the engineers said they have never used the library to utilize its information resources.

The above finding is related to the finding of Mohammed (2008) where majority engineers were said to have agreed that what determines their search for information is the work at hand. Now that majority of the users only use the library to search for information only when the need arises, it suggests a situation whereby for a significant period of time, the libraries are virtually deserted since Miachi (2000) in his finding established that lack of funds has lead to frequent work stoppage and consequent delays in the pace of work in the steel companies in Nigeria.

Table 7: Level of Satisfaction Derived From Resources and Services

Level of Satisfaction	No. of Responses	Percentage (%)
High satisfactory	2	5
Moderately satisfactory	18	42
Fairly satisfactory	20	46
Not satisfactory	3	7
Others (specify)	0	0
Total	43	100

Table 7 above shows that majority of steel engineers 23(53%) (adding up fairly satisfactory and not satisfactory) have indicated that they are not satisfactory with the resources and services put in place by their libraries. 18(42%) and 2(5%) of the engineers indicated that they are moderately satisfied and not satisfied at all, respectively with the resources and services.

The finding from table 7 above corroborate those of table 3 and 5 where majority of engineers, 30 (70%) argued that information resources provided for their use are inadequate and a situation where no type of services was scored up to an average level of 50% respectively. The findings also relate to table 4 where the information resources provided were adjudged to be almost out of date.

Table 8: Problems militating against the Utilization of Information Resources and Services

Militating Factors	No. of Responses	Percentage (%)
There is lack of adequate and relevant materials	23	53
Library materials are outdated	30	69.8
Lack of adequate guide to the use of the library	3	7
There are no qualified staffs to provide information resources and services.	5	12
Lack of modern information communications technologies to access current information elsewhere nationally and internationally	35	81.4
The library is too far from my working place	12	28
Others (identify)	0	0

From table 8 above, the engineers ranked the factors militating against their effective utilization of library resources in the following order: lack of modern information and communication technologies to enable them access current information elsewhere nationally and internationally, 81.4%; library materials are outdated, 69.8%; there is lack of adequate and relevant materials; 53%; the library is too far from my working place, 28%; there are no qualified staff to provide information resources and service, 12% and lastly lack of adequate guide to the use of the library, 7%.

This finding, more than any other, reveals that the engineers in the steel companies attaches great importance to the role information and communication technologies will play in enhancing their productivity if they are to go by the current trends of development elsewhere in the production of modern iron and steel. The finding also confirms other inadequacies as pin-pointed out in other tables.

Table 9: Further Prospects: Suggestion for Improvement

Suggestions	No. of Responses	Percentage (%)
Employment of qualified and experienced library staff	20	47
Adequate funding of the library	36	84
Acquisition of current, relevant and related information resources	29	67
Networking of the libraries in the steel companies in Nigeria	34	79.10
Others (specify)	4	9.30

From table 9 above, 36(84%), 35(81.40%) and 34(79.10%) of the engineers are saying that if there should be future development in the information sector of the steel companies in Nigeria, there must be adequate funding of the libraries, automation

of the libraries, networking of the libraries to improve access to information resources and services nationally and internationally respectively. In addition to that, another 29(67%) and 20(47%) of the respondents argued in favour of acquisition of current, relevant and related information resources and employment of qualified and experienced library personnel to provide information resources and services to meet their information needs respectively.

In addition to the above, 4(9.30%) of the engineers made other suggestions as follows:-

1. Librarians (in the steel companies) must consult with the users via questionnaires like this to find out what the users need, not to make assumptions that make the library ineffective and worthless.
2. The libraries should be made more conducive for users by provision of good seats and better lighting.
3. Internet services should be provided to get access to current news in steel development.
4. The need to subscribe to current technical journals cannot be overemphasized.

Conclusions

Based on the findings of this research, the following conclusion could be drawn:-

The information resources provided are only those in printed form. Modern Information and Communication Technologies (ICT) are not provided.

Information resources and services provided are based on traditional or conventional practices and are inadequate. This could be due to the quality and experiences of the library personnel and unavailability of ICT.

The information resources and services put in place for the engineers are only minimally utilized.

Lack of funds is the major factor militating against the provision of information

resources since the parent organizations were also discovered to be under-funded.

Recommendations

1. Adequate funds should be made available to the ailing steel companies in Nigeria to be able to realize the objectives for which they are established. It is only when this is done that each company could further provide financial support for the development of their libraries.
2. Current, relevant and related printed materials such as books and technical journals should be acquired on regular basis to meet the current information needs of engineers.
3. All libraries must be automated to meet with the current trends in information provision and utilization.
4. There should be an established network of libraries in the steel companies in Nigeria so as to facilitate easy exchange of ideas and resources between the engineers. It is a fact that no steel company can exist in isolation of others.
5. Library personnel, preferably those with subject background in engineering technology should be employed to provide the needed resources and services for the engineers.
6. Each library should maintain detailed user profile. This could be achieved through questionnaires sent to the engineers.
7. Since some steel companies are very large in size, libraries should be cited in central positions where they could be easily reached by users.
8. Finally library and information service should be accorded the priority attention it deserves from the parent steel companies to move the steel companies forward in a world of competitive information needs, generation and usage.

References

- Aina, L.O. (1983). Access to Scientific and Technological Information in Nigeria: Problems and Prospects. *Nigerian Libraries*. 19(1-3). p. 35.
- Aina, L.O. and Ajiferuke, I.S.Y. (2002). Research Methodology in Information Sciences. In Aina, L.O. (ed). *Research Information Sciences: An African Perspective*. Ibadan: Stirling Holden Publishers (Nig) Ltd. p. 32.
- Daniel, J. O. et. Al, (2003). Forty Years of Information and Communication Technology (ICT). In *Forty Years of Library Services in Nigeria*. Lagos: Ikofa Commercial Press Ltd. p. 84 – 90.
- Diso, L. I. (1992). The Preparation of Professionals for Rural Information Service. In Adedjoja, T.A., Ndabawa, S.A., Kolo, I.A. and Wise, M. (eds). *Issues in Nigerian Education 1*. Lagos: Texts and Leisure Publications. p. 65 – 81.
- Gesse, K. (1994). Scientific Communications, Electronic Access and Documentation Delivery: the New Challenge to Science / Engineering Reference Librarian. *International Information and Library Review*. 26(4)341-349.
- Madu, E.C. (2008). *Fundamentals of Modern Reference Services: Manual versus Electronic*. Ibadan: Evi-Coleman Publications.
- Mamman, E.S. (2000). Overview of Obstacles to Library Development and Factors Responsible for the Decline in Reading Habit in Nigeria. *Paper Presented at 3rd National Workshop for Public and Private Librarians and Information Service Managers held at Hill Station Hotel, Jos, Aug. 16 – 18. p. 1 – 14.*
- Miachi, T.A. (2000). Ajaokuta Problems: Solutions in Sight. *Sundry Vanguard*. Oct. 8 p. 19.
- Mohammed A.B. (2003). Information Needs and Resource Utilization by Engineers in selected Steel Companies in Nigeria. MLS Thesis submitted to the PGS, Bayero University, Kano. p. 13
- Mohammed, A.B. (2000). Special Library Services in Nigeria. Areas of Technological Application. *The Jos Journal of Education*. 5(1) 126-129.
- Mohammed, A.B. (2008). Information needs of Engineers in selected Steel Companies in Nigeria. *Journal of Information Resource Management (JIRM)* 1(1)22-23.

Nwoke, K.M.C. (1992). Resources and Services of Nigerian Special Libraries: a Study of Present Status. *Nigerian Library and Information Science Review*. 10(1) and (2) 23 – 38.

Selth, J. Keller, N. and Briscoe, P. (1992). The Use of Books within the Library. *College and Research Libraries*. 53(3)197- 205.

Shoolbred, M. and Miller, P. (1988). Information in the Construction Industry: Quantity Surveyors and Information Technology. *Journal of Librarianship*. 20(1)16-34.

Uche, G.A. (1999). The Role of Information Services in Government Libraries in a Democratic Culture. In *A Compendium of paper Presentations at the 1999 NLA Annual National Conference and AGM held at Port-Harcourt, May 8th – 14th p. 34.*