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## RESEARCH ARTICLE

INFORMATION NEEDS AND UTILIZATION BY SCIENCE AND TECHNOLOGY RESEARCHERS IN  
EDO AND DELTA STATE NIGERIA

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**Abstract:**

This work investigated the information needs and utilization by science and technology researchers in Edo and Delta state Nigeria .Data were collected through through the use of questionnaire and were analyzed using percentage method. The findings revealed that science and technology researcher needs information for their research work, for general knowledge and so on. It was also revealed that text books , professional journals, internet reference materials, abstract and index are sources of information for these set of people. It was also discovered that lack of time, unavailability of relevant information materials, lack of time and fund to source for information are the problems thjat science and technology faces in their search for information. Based on these findings, recommendations and conclusion were made.

**Key Words:** Information, Information Need and Use, Researchers, Science and Technology Researchers, Edo and Delta State, Nigeria.

**Introduction**

The survival of science and technology depends on research. In other words, research is the live wire of science and technology. The way to deepen and widen one's existing knowledge is through scientific research. Science is that branch of knowledge that requires systematic study which is known as scientific method and knowledge of the natural or physical phenomenon. In the field of science, the major activity is experimentation.

According to Ogunrombi and Marama (1998), information need is absolutely necessary to the management of information centres/libraries. Information becomes useful only when it is packaged in the right format; delivered to the right user at the right time.

Adewumi (2003) submits that information needs vary with users, time, purpose, location, alternatives available and so on.

Laloo (2002) submits that since scientists are involved in research and development, their information needs also revolve around these activities.

Scientist needs information at every stage of his research work; for the time that the generation of an idea sprouts in his mind to the time of its taking shape.

Kaniki (2003) argues that in order to provide relevant information, there is the need to understand the various needs of the different stakeholders in research and the context within which they operate. He also stressed that information needs even among people, organization and countries of the "same" group or class will vary due to different factors such as education, economic status, geographical location, availability of information systems and services, (Kaniki, 2003).

**Statement of the Problem**

The role that science and technology plays in socio-economic life of developing nations makes it necessary to find out the actual information needs of scientists and technologists. In Nigeria. As cited by Adimorah (1993), there have been lamentations by different researchers that there is need for empirical research into the information needs of scientists and technologists. researchers in Edo and Delta states, Nigeria.

### Objectives of the Study

1. To explain the types of information that science and technology researchers need.
2. To identify the sources of information that science and technology researchers utilizes.
3. to identify the problems militating against access to information by science and technology researchers.

### Literature Review

The term “information” is used differently by individuals in different walks of life. From specialists in information based professions such as communication media and information management, to those in the computing and cognitive sciences, as well as by people involved in less scholarly pursuits, many have developed interesting and useful definitions of information for specific disciplines and classes of problems.

According to Garuba (2000), information is as old as man. He further states that the early man acquired knowledge through experience gained by trial and error and that such perceived information from experience was passed on by whatever means of communication that available to him.

Odusanya and Amusa (2003) cited by Dewin (1992) explain that information is what an individual finds informing.

Kaniki (1992), combining the ideas of different scholars, defined information as ideas, facts, imaginative work of mind and data of value potentially useful in decision making questions and answers problem solving etc, which can reduced uncertainties.

### Information Needs

Crawford (1978) as cited by Laloo (2002) states that information need is a difficult concept to define, to isolate and especially to measure. He stated that

Information need is what an individual ought to have for his work, his research, his edification, his recreation etc.

Uhegbu (2001) cited by Adetoro, (2004), Ogunrombi and Marama (1998) cited by Coover (1969) are all of the opinion that user’s information needs are absolutely necessary to the management of information centres/libraries. Informant becomes useful when it is packaged in the right format, delivered to the right user at the right time.

Odusanyan and Amusa (2003) cited Adimorah (1993) that some factors which adversely affect the information need of scientists and technologists in Nigeria are:

- Non-availability of current journals in their various field
- Lack of literature search facilities such as database on science and technology
- Lack of adequate inter-library loan facilities
- Poor information strong and retrieval systems

According to Igbeka (2001) citing Mann and Saunder (1976), she stresses that the reasons why scientists need information are:

- 1) Wanting to know what other scientists have recently done or are currently doing. This is called the “current approach or current need.”.
- 2) Desiring to meet urgent need or solve pressing problem which comes to the scientists in the cours of their work, this is known as “everyday approach”.
- 3) The need to publish the results of new investigation in journal publication, lecture or patent application; this is known as “exhaustive approach”.

### Information Sources

The information generated cannot just float about in the air. Just as water is contained in a vessel, so is information contained in different source.

According to Laloo (2002) citing Taylor (1984) said that the structure of the literature available in a given field is divided into three basic parts, primary sources, secondary sources and tertiary sources.

### Data analysis and interpretation

In this study, thirty (30) questionnaires were administered in each of the university making a total of ninety (90) questionnaires that were administered in the three Universities under study. In University of Benin, out of the thirty (30) questionnaires administered, twenty eight (28) were returned. This represents 93.3 percent. In Delta State University, thirty (30) questionnaires were administered and twenty-three (23) were returned and that represent 77

percent. Thirty (30) were also administered in Ambrose Alli University and twenty-eight (28) were returned which also represents 93.3 percent.

In all the three university, out of the ninety (90) questionnaires, seventy-nine (79) were returned and that represent 87.7 percent.

Table 1: Distribution of Respondents by their Universities

University	Frequency	Percent	Valid Percent	Cumulative Percent
Univ. Of Benin	28	35.4	35.4	35.4
Delta State University.				
Ambrose Alli University	23	29.1	29.1	64.6
	28	35.4	35.4	100.00
Total	79	100.0	100.0	100.0

From the above, out of the seventy-nine (79) questionnaires returned from the three universities, 28 were returned from the University of Benin representing 35.4 percent, 23 were returned from Delta State University which represents 29.1 percent and 28 were returned from Ambrose Ali University, Ekpoma and that represent 35.4 percent.

Table 2: Distribution of Respondent by Status

	Frequency	Percent	Valid	Cumulative percent
LECTURERS	29	36.7	36.7	36.7
PG STUDENT	50	63.3	63.3	63.3
Total	79	100.0	100.0	100.0

Table two sought information on the status of the respondent. It was discovered that 29 respondents which represent 36.7 percent were lecturers while 50 respondent representing 63.3 percent were postgraduate students.

Table 3: Information Need on Research Work

	Frequency	Percent	Valid percent	Cumulative percent
Do not	6	7.6	7.6	7.6
Some time	15	19.0	19.0	26.6
Often	32	40.5	40.5	67.1
Very Often	26	32.9	32.9	100.0
Total	79	100.0	100.0	100.0

From the table above, 32 respondents with the percentage of 40.5 revealed that they often need information on their research work. In the same way, 26 respondents with the percentage of 32.9 agreed that they need information on their research work very often. 15 respondents with 19.0 percent said they sometimes need information on their research work and 6 respondents with 7.6 percent revealed that they do not need information on their research work.

Table 4: Textbooks as Information Sources

	Frequency	Percent	Valid percent	Cumulative percent
No	6	7.6	7.6	7.6
Yes	73	92.4	92.4	100.0
Total	79	100.0	100.0	100.0

From the table above, 73 (92.4%) respondents revealed that textbooks were very useful in meeting their information needs; whereas 6 (7.6%) respondents reacted that they do not utilize textbooks to meet their information needs.

Table 5: Professional Journals as Information Sources

	Frequency	Percent	Valid percent	Cumulative percent
No	10	12.7	12.7	12.7
Yes	69	87.3	87.3	100.0
Total	79	100.0	100.0	100.0



Sixty-nine (87.3%) respondents agreed that professional journals are vital source of information that the science and technology researchers utilize to meet their information needs; on the other hand, 10 (12.7%) respondents indicated that journals are not essential to their information needs.

Table 6: Abstracts and Indexes as Sources of Information

	Frequency	Percent	Valid percent	Cumulative percent
No	39	49.4	49.4	49.3
Yes	40	50.6	50.6	100.0
Total	79	100.0	100.0	100.0

From the table above, 40 (50.6%) respondents stated that abstracts and indexes are useful sources of information that they utilize in meeting their needs, also 39 (49.4%) respondents indicated that they do not utilize abstract and indexes in meeting their information needs.

Table 7: Internet as Information Source

	Frequency	Percent	Valid percent	Cumulative percent
No	16	20.3	20.3	20.3
Yes	63	79.7	79.7	100.0
Total	79	100.0	100.0	100.0

From the above table, 63 (79.7%) respondents indicated that they utilize as source of information to meet their needs, on the other hand, 16 (20.3%) respondents indicated that they do not utilize the Internet source in meeting their information needs.

Table 8: Lack of Knowledge of Existence of Relevant Information Sources

	Frequency	Percent	Valid percent	Cumulative percent
No	62	78.5	78.5	78.5
Yes	17	21.5	21.5	100.0
Total	79	100.0	100.0	100.0

From the above table, 17 (21.5%) respondents agreed that they do not have knowledge of existence of relevant information and as result they might not be able to access and utilize such information. On the other hand, 62 (78.5%) respondents disagreed that they have knowledge of existence of relevant information.

Table 9: Unavailability of Relevant Information Sources

	Frequency	Percent	Valid percent	Cumulative percent
No	36	45.6	45.6	45.6
Yes	43	54.4	54	100.0
Total	79	100.0	100.0	100.0

Forty-three (54.4%) respondents indicated that this is the major problem that hindered them from access to information whereas, 36 (45.6%) respondents stated that they do not have such problem.

Table 10: Lack of Time to Seek for Relevant Information

	Frequency	Percent	Valid percent	Cumulative percent
No	48	60.8	60.8	60.8
Yes	31	39.2	39.2	100.0
Total	79	100.0	100.0	100.0

Fifty-eight (60.8%) respondent reacted that they do not have time problem in accessing relevant information and 31 (39.2%) respondents stated that time is another factor that militate them from accessing relevant information for their research work.

## Summary

Scientific and technological knowledge base is the bedrock of any developing country. Scientists and technologists are well-trained and are enough to revolutionaries the scientific and technological development of Nigeria, if only they can be provided with information and utilize the information provided in their own field, since

science and technology leads to national development. This study revealed that science and technology researchers need and utilize information in various ways and for various reasons and this corresponds with Odusanya and Amusa's (2003) study that information is an inevitable resource for use, that its generation and use for efficiency and effectiveness is a very demanding and stressful task because any information and use for efficiency and effectiveness is a very demanding and stressful task because any information that is not organized for future use may be needed by users which may be difficult to access; also the relevance attached to information make people to seek it in diverse ways and for diverse needs.

The study also revealed that the major problem that science and technology researchers encountered in the process of their information needs and utilization are mostly unavailability of relevant information sources, lack of time to seek for relevant information and fund problem.

Finally, this study revealed that unavailability of relevant information sources is the major hindrance to their research work; as a result, library/information centres should acquire relevant core information source to meet the need of science and technology researchers and thereby contribute their quota to national development since it is believed that science and technology contributes to national development.

### Conclusion

This study has confirmed the assumption that Science and technology researchers need and utilize information for their research work. The study also revealed that science and technology researchers have complex information needs because of their varying areas of specialization. They mostly needs information on research work, information on current issues, information on general knowledge and they utilize information relating to academic issues, information on research publications, and so on. The sources of information that science and technology researchers utilize are mostly textbooks, professional journals, abstracts and indexes, conference papers, reference materials, and the Internet. Moreso, this study revealed that the major problems militating against access to information by science and technology researchers are unavailability of relevant information sources, lack of time and fund problems, these are the major hindrances to their information needs and utilization.

### Recommendations

- Libraries and information centres should carry out user-studies to determine users groups and needs and then provide adequate information to meet their needs.
- Current awareness services should be carried out by libraries and information centres as a way of advertising their information materials and services they render to users.
- Libraries/information centres should acquire core information sources to meet the needs of their users. Where these exist exhibition should be carried out so that users should be aware of such sources.

### References

- Adetoro, Niran 2004. pattern of Information Provision and Needs among Commercial Motoreyele Operators in selected Ijebu Towns, Ogun State. *Owana Journal of Library and Information Science*, vol 1, 1, 109-119
- Adewumi, C.O.B.2003 Information Seeking Habits and Needs of Agricultural Research Scientists in Ibadan Metropolis Nigeria. *Gateway Library Journal*. Vol 6,1,34-43
- Adimorah E.N.O. 1993. information Needs of Scientists and Technologists in Nigeria leading libraries and information Centres vol 1,2,19-26
- Adimorah, E.N.O. 1977. Information Needs and Information Transfer of Nigerian Soil Scientists. Unpublished MLS thesis submitted to Faculty of Education. Ahmadu Bello University, Zaria.
- Aiyedogbon, C.C 1998. Information Needs of the Researchers and Technologists in the National Research Institute for Chemical Technology, Zaria. *Zaria Journal of Liberianship* vol. 12, ½

- Aiypeku, W.O(1992). the Human Resources Requirements of a National Health Management Information System. Paper Presented at the National Conference on Health Management Information systems Abuja.
- Arosanyi, J.F 1978. Information Needs and Information Gathering Behaviour of Scientists and Technologists in Selected Academic Research and Development Institutes in Zaria. BLS Thesis
- Bourne, C.P. 1963. Method of Information Handling. New York; John Wiley. 24P
- Bruch, J.& Grudaltski, G. 1986. Information System. Theory and Practice. New York: John Wiley
- Chen, C, & Hermon, P. 1982. Information Seeking: Assessing and Anticipating Users Needs, Neal- Schuman, New York
- Crawford, S. 1978. Information Needs and Uses. Annual Review of Information Science and Technology; Knowledge Industry Publications, Chicago.
- Drake, M.A. 1982. Information Management and Special Librarianhip. Special Libraries 73 4, 225-237
- Garvey, William. D. 1979. "The Dynamic Scientific Information User" in Communication the Essence of Science. Pergamon Press, New York.
- Huotari, Maija-Leena & Wilson T.D. 2001. Determining Organizational Information Needs: The Critical Success Factors Approach Information Research Vol. 63 Retrieved from <http://www.shef.ac.uk/is/publications/infres/paper> www.shef.ac.uk/is/publications/paper 180 on 26th June, 2009.
- Igbeka, Josephine U. 2001 Information Seeking Behaviour and Information Utilization as Correlates of Agricultural Engineer Productivity in Nigeria. Phd theses submitted to the Department of LARIS UL 196p.
- Ishaya, D.M. 2001 Information Needs of Community-Based Organization in Bauchi, Nigeria. Gateway Library Journals vol.4, 2
- Kaniki, A.M 1992 "Information Needs of Agricultural Researchers in Africa": The Role of Unpublished Report" Information Development vol 8, 2, 83-89.
- Kaniki A.M 2003, Information Needs for Basic Research: An Africa Perspective. Symposium on Open Access and the Public Domain in the Digital Data and Information Science. UNESCO Headquarters, Paris, France 10-11, 2003. Retrieve from [www.Codata.Org/archives/2003/03](http://www.Codata.Org/archives/2003/03) March/papers/Kaniki on 16th February, 2006
- Laloo B.T 2002, Information Needs, Information Seeking Behaviour and Users, Ess Publications, New Delhi
- Neelameghan. A. 1981 Some Issues in Information Transfer: A Third World Perspective. IFLA Journal.
- Noorlander, Willem 2005. What Does Information Really Mean? Information Outlook 9, 6, pp 21-24.
- Nwokedi, V.C & Ogundare, T. 2003, Studies on the Information Needs and Seeking Behaviour of Science based Postgraduate Students in a Nigeria University: A Case Study of University of Jos. Borno Library Archival and Information Science Journal vol 2, 1, 232,
- Nzotta, B.C, 1985. Providing Information for Researchers: Federal Research Institute Libraries in Nigeria. Information Development 1,4, 233-228.

- Odusanya, O.K. & Amusa, O.I 2003. Information Needs and Information Seeking Habits of Science Lectures at Olabisi Onalbanjo University, Ago-Iwoye Samaru Journal of Information Studies vol 30, 1, 42-48
- Oduwale, A.A. 1998, Information Seeking Habits and Needs of Medical Officers in Nigeria University Teaching Hospital. A Survey Gateway Library Journal Vol 1, 2
- Ogunrombi, S.A. & Marama 1998, Information Seeking Habit of Farm Managers in Nigeria. IAALD Quarterly Bulletin Xliii ¼ 41-45.
- Okiy, Rose Bini 2003. Availability and Utilisation of Occupational Information as Correlates of Occupational Income of Rural Women in the Southern Part of Delta State Nigeria. Phd Thesis submitted to the Department of LARIS UI 155P.
- Opeke, Rosaline 2001, The Literature Review, Nigerian Journal of Social Work Education, 5, 14-20.
- Popoola, S.O.(1996 The Information Seeking Patterns and Utilisation of Senior Civil Servants in the Office of the Governor, Ibadan, Oyo, State.
- Rasmussen, A.M 2001. Information and Development; The Information Effort Information Development 17 1, 12-18
- Shannon, C and Weaver, W. 1949. The Mathematical Theory of communication. University of Illinois Press, Urbana
- Taylor, R.S. 1991. Information Use Environment in Eskola, Eeva- Liisa University Students Information Seeking Behaviour in a Changing Learning Environment in How are Students Information Needs, Seeking and Use Affected by New Teaching Method Retrieved from HYPERLINK "http://www.google.com"
- Uhegbu, A.N. 2001. The Information Users: Issues and Themes. John Jacob's Classic, Enugu.
- UNESCO. 1977. Handbook for Information Systems and Services. Paris, UNESCO. 124.
- Ward, J.(1981, Who Need to Know? Identifying Information Needs in the Community: The Nationwide Provision and Use of Information Proceedings of ASLIB/115/LA Joint Conference 15-19 September 1980 London: The Library Association.
- Weisman, Herman 1972. Information System, Services and Centres. Becker and Hayes, New York
- Weights, W.W.&Tombow, P. 1993. Patterns, Information Seeking, Actions and Physicians Responses in Gynecological Consultations. Qualitative Health Research, 3: 398-429