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The Effect of Personal Characteristics on the Use of Information Sources by Social Science Researchers at the University of Nigeria, Nsukka

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Introduction

Current research on information retrieval suggests the study of the needs and habits of users. Research into information seeking and use is growing in significance in a wide range of disciplines. The research has also suggested that the user exists within interacting cognitive, emotional, and social systems. This view has generated research on various categories of users of information systems (Laloo, 2002). The need to understand information-seeking and use has helped bridge the gap between the human information behaviour community and the information systems community. The problems of transmission, storage, and display of information have been combined with the problem of getting information to users quickly. Online searching and electronic bibliographic databases are now available in almost every field. As information expands, the ability of the user to process it remains fixed. Menzel (1966) observes that planning information system and policies requires understanding the way communities such as scientists and engineers use information. Information is important in decision-making and in achieving goals, which can be seen as a valuable commodity or product (Igbeka, 2002). According to Marchionini (1995), information seeking is a fundamental human process that is closely related to learning and problem-solving.

Factors which influence information needs, seeking, and use have been very central in studies involving the users of information. The reason for this is that it has been found that differences in the use of information sources and types exist among professionals (Robinson 1995). These differences can be seen from the factors that influence information seeking. According to Burkett (1972), information seeking can be influenced by the user's place of employment, occupation, education, and so on.

The present study focuses on social science researchers at the University of Nigeria , Nsukka. The emphasis is on understanding the motivating influences that drive information-seeking behaviour rather than on the use of particular systems. This paper describes the personal characteristics of social science researchers and relates them to the frequency with which they use information sources. The personal characteristics studied include education, position, and experience, which are measured by qualification, rank, and years of work experience or length of service respectively.

Hypotheses

Three hypotheses were formulated to guide the study:

- There is no significant relationship between the educational levels of social science researchers at the University of Nigeria, Nsukka and the frequency with which they use information sources.
- There is no significant relationship between the position of social science researchers at the University of Nigeria, Nsukka and the frequency with which they use information sources.
- There is no significant relationship between the years of professional experience of social science researchers at the University of Nigeria, Nsukka and the frequency with which they use information sources.

Methodology

The study population consisted of 40 lecturers in the Social Science Faculty who are engaged in social science research. The instrument for data collection was a questionnaire with two sections. The questionnaire was personally administered and collected. The hypotheses were tested for significance using F-ratio and Scheffé's test of pairwise comparison.

Results

Information Source Use

Table 1: Information Sources: Mean and Rank Order

Sources	Mean	Rank
Conversation with colleagues	3.45	1
Books and textbooks	3.21	2
Professional journals	2.79	3
Conference papers	2.65	4
Research publications	2.64	5
Workshops and seminars	2.45	6
Internet	2.35	7
Experts from outside	2.30	8
CD-ROM literature search	2.24	9
Abstracts and indexes	2.23	10
Public or university libraries	2.00	11
Dissertations and theses	1.80	12
Reference sources	1.30	13

The subjects were asked to indicate their frequency of use for all the sources of information on a four-point scale (never, rarely, sometimes, or frequently). Table 1 presents the mean for the sources. The ranking of the sources fall into low, moderate, and high. Five sources were ranked "high": conversation with colleagues; books and textbooks; professional journals; conference papers; and research publications. The sources that were ranked "moderate" include: convention or meetings; Internet; experts from outside; CD-ROM literature search; abstracts; and public or university libraries. Two sources were ranked "low": dissertations/theses and reference sources.

The Effect of Levels of Education on Information Source Use

Ho 1: There is no significant relationship between the educational levels of social science researchers at the University of Nigeria, Nsukka and the frequency with which they use information sources.

Table 2: Effect of education on sources: means, F-ratio, and significance comparisons

Source	Education *			F	Scheffé Comparison **
	1	2	3		
Conference papers	2.93	2.71	2.44	13.75	(3-2, 1)
Professional journals	2.57	2.51	2.89	20.24	(2, 1-3)
Experts from outside	2.19	2.20	2.41	6.21	-
Research publications	2.27	2.39	2.55	6.57	(1, 3-2)
University libraries	1.84	1.93	2.11	5.65	(1, 3-2)
CD-ROM literature search	1.12	1.21	1.49	25.75	(1, 3-2)
Abstracts and indexes	1.64	1.68	2.03	21.47	(1, 3-2)
Internet	3.00	2.78	2.64	7.55	(3, 2-1)

* Educational levels are: 1, Bachelor's Degree; 2, Masters; 3, Doctorate, $P < 0.05$.

** within each set of parentheses, each position on the left side of the hyphen is significantly different from each position on the right side of the hyphen. All comparisons are ordered from lower mean to higher mean.

Hypothesis 1 was evaluated through the analysis of variance with levels of education as the independent variable. The level of education was organized into three categories: Bachelor's, Master's, and Doctorate. Table 2 shows that only eight of thirteen F-ratios were significant ($P < 0.05$). There were significant pairwise comparisons for seven out of eight sources using Scheffé's test. Researchers with a doctoral degree differed significantly from the other two groups for seven sources, and for five of seven sources they are the most frequent users: conference papers, research publications, university libraries, CD-ROM literature search, and abstracts/indexes. The significance comparisons also reveal that researchers with a bachelor's degree are the most frequent users of professional journals, while those with master's degree are the most frequent users of the Internet. These variations in the use of sources, as indicated by the pairwise significance comparisons, imply that there is a relationship between levels of education and information source use. The use of the sources increases with levels of education of the social science researchers.

The Effect of Position on Information Source Use

Ho 2: There is no significant relationship between the positions of social science researchers at the University of Nigeria, Nsukka and the frequency with which they use the information sources.

Table 3: The means, F-ratios and the Scheffé's test for determining the influence of position on information source use.

Source	Position *					Scheffé Comparison **
	1	2	3	4	5	
Conference papers	2.63	2.46	2.75	2.69	8.40	(2-1, 4, 3)
Conversation with colleagues	2.50	3.35	3.50	3.47	2.64	-
Workshops and seminars	3.18	2.29	3.34	3.18	-	-
Abstracts and indexes	1.90	2.09	2.32	2.15	6.13	(1, 2-3, 4)
Experts from outside	3.02	2.53	2.55	2.41	23.89	(4, 2, 3-1)
Professional journals	2.47	2.40	2.92	2.74	23.12	(2, 1-4, 3)
Research publications	2.15	2.06	2.53	2.36	17.91	(2-4, 3)(1-3)
Textbooks or books	3.23	3.40	3.08	3.91	14.78	(4-1, 2)(3-2)
CD-ROM literature search	2.31	2.26	2.63	2.56	15.69	(2, 1-4, 3)
Internets	2.00	1.90	2.02	1.99	-	-
Public or University libraries	1.13	1.21	1.45	1.36	17.73	(1, 2-4, 3)
Dissertations or Theses	1.62	1.60	2.03	1.94	21.87	(2, 1-4, 3)
Reference sources	3.01	2.58	2.64	2.87	17.21	(1, 2-3, 4)

* Positions are: 1, below lecturer 1; 2, lecturer I; 3, senior lecturer; 4, reader/professor.

** within each set of parentheses, each position on the left side of the hyphen is significantly different from each position on the right side of the hyphen. All comparisons are ordered from lower mean to higher mean.

Hypothesis 2 was evaluated through the analysis of variance for each of the information sources, using position as the independent variable. For each source in which the F-value was statistically significant ($P < 0.05$), the Scheffé method of multiple comparisons was used to identify where significant differences occurred. Table 3 shows the means for the position groups, the F-ratios, and the significant Scheffé contrasts for each source. As shown in table 3, eleven out of thirteen F-ratios were significant. The readers/professors and the senior lecturers involved in social science research did not differ significantly in their source use; however, both readers/professors and senior lecturers differ significantly from the other two position groups. The significance of F-ratios for as many as eleven out of thirteen sources of information implies that there is a significant relationship between the positions of the social science researchers at the University of Nigeria, Nsukka and the frequency with which they use information sources. Information source use increases with the position of the lecturers in the Social Science Faculty of the University. In other words, position is a predictor of information use.

The Effect of Years of Experience on Information Source Use

Ho 3: There is no significant relationship between the years of professional experience of social science researchers at the University of Nigeria, Nsukka and the frequency with which they use information sources.

Table 4: The means, F-ratios and Scheffé's test for determining the effect of years of experience on information source use.

Source	Experience *					F	Scheffé Comparison **
	1	2	3	4	5		
Conference papers	2.51	2.63	2.59	2.61	2.78	2.99	-
Professional journals	2.09	2.46	2.54	2.71	3.02	22.62	(5-1, 3, 4)
Research publications	2.05	2.09	2.14	2.40	2.53	11.04	(1-5, 3, 4)
CD-ROM literature search	2.21	2.31	2.36	2.45	2.70	8.88	-

* Experience intervals are: 1, <10; 2, 10-9; 3, 20-29; 4, 30-39; 5, >30; P<0.05.

** within each set of parentheses, each position on the left side of the hyphen is significantly different from each position on the right side of the hyphen. All comparisons are ordered from lower mean to higher mean.

Hypothesis 3 was evaluated through the analysis of variance of the sources listed using years of professional experience as an independent variable. It was found that years of professional experience had very little power in explaining variations in the use of sources of information. The F-ratios for four sources were significant (P<0.05), but there were no significant pairwise comparisons for two of the four sources using Scheffé's test. The significant pairwise comparison was for the use of professional journals and research publications, and the significant contrast was between those with less than 10 years and those with more than 30 years of experience. Thus, researchers in the Social Science Faculty, University of Nigeria, Nsukka learn about their professional journals as well as publications in their research areas and increase their use of them as a function of increasing professional experience.

Summary and Discussion

Researchers in the Social Science Faculty at the University of Nigeria, Nsukka rated sources of information by frequency of use. Source use was ranked by mean responses and this revealed differential use of sources by social science researchers. The data reveals that the use of information sources is the result of a complex set of interactions among multiple variables, each with differing capacity to explain variations in information source use. Personal characteristics of researchers, such as educational levels, years of professional experience, and position, play varying roles in explaining such variations. Levels of education and position were significant in explaining the variance of nearly all the sources. The years of professional experience had very little power in explaining the variation in source use.

There are also other factors that may affect information source use, including psychological attributes, problems encountered in seeking information, accessibility, and cost. Garvey (1979) identifies other factors that the use of information sources, including "intellectual browsing," personal style, etc. Tiarniyu (1986) includes characteristics of the information sources themselves as one an important factor that can be used to explain variations in source use. This may explain why the F-values for some sources were not significant.

To meet the demands of information age, we must look at the many factors that affect information use. Information models could be built to address this issue objectively. The results of this study can help lend understanding to information source use university researchers, in Nigeria and elsewhere.

Recommendations

The following recommendations are based on the findings of the study:

- Nigerian libraries should plan and implement information services for social science researchers with an awareness of the broad spectrum of personal and professional characteristics capable of producing the variation in individual behaviour in information use.
- In-service training programmes on the use of professional information sources should be provided for both researchers and lecturers in the social science faculty
- Training programmes should be based on variables in information use, such as personal traits, work environment, and responsibilities.

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