

Influence of demographic factors on knowledge sharing among researchers in selected research institutes in Ibadan, Nigeria**Folashade Munirat Lawal***Afe Babalola University, Ado-Ekiti, Nigeria***Chuks Daniel Oriogu***Afe Babalola University, Ado-Ekiti, Nigeria***Sussan Udoaku Ogbuiyi***Babcock University, Illisan-Remeo, Nigeria***Information Impact:**Journal of Information and
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www.informationimpact.org**Abstract**

Knowledge sharing is an effective means to provide information for organizational growth. The study investigated the influence of demographic factors on knowledge sharing among researchers in selected research institutes in Oyo state, Nigeria. The study adopted survey research method. Total enumeration technique was used to cover all the 440 researchers in the four selected research institutes in Ibadan, Oyo State in Nigeria. Five (5) research questions guided the study and three hypotheses were tested at 0.05 level of significance. Data were analysed using descriptive statistics. The findings of the study reveals that, there were significant relationship between knowledge sharing and gender ($r=0.1$; $p<0.5$) and rank of researcher ($r=0.1$; $p<0.5$). Knowledge sharing correlated with each of researcher demographic factors: age, gender, marital status, religion, and educational level. The study recommends that necessary encouragement by institutions should be given to the researchers to improve their knowledge sharing behavior. In addition, adequate training and re-training should be provided as well as stable Internet connectivity.

Keywords: knowledge sharing, demographic factors, research institutes, researchers**Introduction**

The role of research institutes cannot be underestimated in the development of a nation. Research institutes are established and empowered to undertake various developmental researches in all sphere of human endeavor. For any nation to function effectively, knowledge is the bedrock for growth. It is the pivotal engine that aids effective growth in an organization. It is today one of the key drivers of modern organizations and has the same importance as effectiveness and competitiveness (Wiig, 2004).

Knowledge has been identified as the most strategically significant resource for organizations to gain competitive advantage and superior performance (Spender, 1996; Grant, 1996, Gold, Malhotra & Segars, 2001). Knowledge is an essential commodity that promotes organizational effectiveness and growth. According to Grubić-Nešić, Matić and Mitrović (2014) knowledge can be defined as a combination of experience, contextual information that provides a framework for the evaluation and application of new information and newly acquired experiences. One of the key factor of knowledge management is knowledge sharing. It helps to facilitate the access and use of knowledge in any organizations. It is a means by which, organizational member can contribute to knowledge application, innovation, and ultimately the competitive advantage of the organization (Jackson, 2006). Knowledge sharing is becoming increasingly a vital source of growth in any organization whose goal is to achieve high production and contribute meaningfully to the national development. This is why the study investigates the influence of demographic factors on knowledge sharing among researchers in selected research institutes in Ibadan, Nigeria.

Literature review

Knowledge sharing refers to the willingness of individuals in an organization to share whatever they have or create (Gibbert & Krause, 2002). Knowledge sharing is the provision of task information and know-how to help others and to collaborate with others to solve problems, develop new ideas, or implement policies or procedures (Cummings, 2004; Pulakos, Dorsey, & Borman, 2003). It is the process by which a person or an organization collaborate together to share information that will be beneficial to them. Some organizations attain competitive advantages by encouraging and promoting knowledge sharing (Liebowitz, 2001). Thus, knowledge sharing is important to organisational success. The essence of knowledge sharing is even more desired in knowledge-intensive organisations (like universities and research institutes). Such institutions need to share knowledge held by employees if they want to benefit from their intellectual capital and compete effectively in the global marketplace (Swart & Kinnie, 2003). In the same vein, Steyn (2004) advanced that, to harness the power of knowledge in higher education; management should give an equal emphasis on people, technology, and structures. Hence, there is a need for the careful transmission and absorption by the sender and potential receiver respectively for such knowledge sharing to be effective (Hawamdeh, 2003). Therein, for effective knowledge sharing process, there need to understand the role of demographic factors in knowledge sharing.

Demographic factors are studies of a population based on factors such as age, race, sex, economic, status, level of education, income level. They are personal characteristics used to collect and evaluate data on people in a given population. Gender differences have been an issue in the forefront of public discussion in all spheres of life. In the educational parlance, gender difference has been recorded in terms of skills acquisition, information literacy, classroom

interaction, reading habits, professional development. Mogotsi, and Fletcher (2011) investigated the relationships between knowledge sharing behaviour and the demographic variables such as gender, age, organizational tenure and professional tenure. The study revealed that there is no statistically significant relationship between knowledge sharing behaviour and gender, age, or professional tenure. Only organisational tenure observed to be weakly negatively correlated with knowledge sharing behaviour. According to Shi-Jer Lou et al., (2007) socio demographic factors such as the age, educational background, seniority in teaching, job title, marital status, number of children and location have showed significant difference regarding the knowledge sharing behaviour of management instructors of Technological Universities at Southern Taiwan. The aspects of knowledge sharing between instructors were correlated with their demographic information

The characteristics of individual influence their willingness to share knowledge. Subjective norms were incorporated in many models as a factor that influences knowledge sharing. Bock et al (2005) and Lee and Hong (2014) found strong association between the subjective norm of individuals and their willingness to share knowledge. Further, researchers focused on the ability of individual to share the knowledge. Self-efficacy was found by many researchers to influence employees' willingness to share knowledge (Lin, 2007, Van Acker et al, 2014 & Chou et al, 2014).

An organization seeking to establish knowledge sharing culture must ensure that the top management supports the initiatives and pays efforts and attentions for the practices of knowledge sharing. Management must support and enforce the positive behaviour of knowledge sharing (Lin, 2007, Mueller, 2012, Kathiravelu et al 2014). Furthermore, trust has emerged as an important factor inside and outside the organization for knowledge sharing (Mohamed, Ann & Yee, 2014). The importance of trust is supported by many other studies (Connelly & Kelloway, 2000; Ardichvili et al., 2003; Politis, 2003). In Connelly and Kelloway's (2000) study, respondents said that they would only be willing to share knowledge in contexts where they trusted the recipients of the knowledge. Ardichvili et al (2003) pointed out the importance of both knowledge-based trust and institution-based trust in knowledge sharing. In terms of care or empathy, Von Krogh (1998) proposed a framework to show how empathy among organization members promotes effective knowledge sharing. The organization should create a culture of sharing that facilitates knowledge sharing and the structure of the company must be in shape that can speed the knowledge sharing (Kathiravelu et al 2014). Knowledge sharing is becoming increasingly important to ensure that practice and policy are based on sound evidence. For this to happen, the gaps among research, practice, and policy must be bridged. Knowledge sharing is a tool that can be used to promote evidence-based practice and decision making, and also to promote exchange and dialogue among researchers, policymakers, and service providers. However, little is known about knowledge-sharing strategies and their effectiveness and the interplay of demographic factors in Nigeria. This is why the study investigates the influence of

demographic factors on knowledge sharing among researchers in selected research institutes in Ibadan, Nigeria. This study investigated the influence of demographic factors on knowledge sharing among researchers in four research institutes. The study covers some research institutes in Ibadan, Oyo State which include Institute of Agricultural Research and Training (IAR&T), Forestry Research Institute of Nigeria (FRIN), Cocoa Research Institutes in Nigeria (CRIN) and National Horticultural Research Institute (NIHORT). It focuses specifically on the researchers in the selected research institutes.

Objectives of the study

The main objective of the study is to investigate the influence of demographic factors on knowledge sharing among researchers in four research institutes in Ibadan. The specific objectives are to:

- I. Examine the methods of knowledge sharing among researchers in the selected Research Institutes in Ibadan.
- II. Determine the effects of demographic factors on knowledge sharing among researchers in the selected research Institutes in Ibadan.
- III. Identify the challenges to knowledge sharing among researchers in the selected Research Institutes in Oyo State.

Hypotheses

The following hypotheses will be tested at 0.05 level of significance:

Ho1: There will be no significant difference in the gender of researchers and knowledge sharing in the selected research Institutes.

Ho2: There will be no significant difference in the rank of researchers and knowledge sharing in selected research Institutes.

Ho3: There will be no significant difference between demographic factors and knowledge sharing among researchers in the selected research Institutes.

Methodology

Survey research method was adopted for the study and structured questionnaire was used to collect data. Five (5) research questions guided the study and three hypotheses were tested at 0.05 level of significance. The total numbers of the questionnaire administered to the respondents was four hundred and fourth (440) while only four hundred and one (401) were correctly filled and returned. Data were analysed using descriptive statistics, multiple regression, pearson product moment correlation and content analysis. Thus, Total enumeration technique was used to cover all the researchers in the four selected research institutes in Ibadan, Oyo state in Nigeria.

Findings and discussion

Table 1: Distribution of respondents by research institutes.

Institutes	Total number of questionnaire administered	Total number of questionnaire collected	Percentage
Forestry Research Institute of Nigeria (FRIN)	200	199	49.6
Institute of Agricultural Research and Training (IART)	63	51	12.7
Cocoa Research Institute of Nigeria (CRIN)	75	64	16.0
National Horticultural Research Institute (NIHORT)	102	62	20.4
No Response		5	1.2
Total	440	401	100.0

Table 1 shows the administration of questionnaires to the selected four (4) research institutes and the total number of questionnaire gathered together from the field. In a nut shell, four hundred and forty (440) questionnaires were structurally designed and administered while only four hundred and one (401) questionnaires were correctly filled and collected for the analysis.

Table 2: Age Distribution of Respondents

Variables	Frequency	Percentage
21-30	130	32.4
31-40	192	47.9
41-50	29	7.2
51-60	19	4.7
NO RESPONSE	31	7.7
Total	401	100.0

Table 2 reveals that majority of the respondents were 192 (47.9%) are within the age range of 31-40 years old. and 130 (32.4%) were of the age range of 21-30 years old.

Table 3: Gender distribution of respondents

Gender	Frequency	Percentage
MALE	280	69.8
FEMALE	81	20.2
NO RESPONSE	40	10.0
Total	401	100.0

Table 3 reveals that majority of the respondents were male 280 (69.8%) and their female counterpart were 81 (20.2%). While 40(10.0%) of the respondents did not respond.

Table 4 Distribution of respondents according to rank/status

Rank/Status	Frequency	Percentage
Research Officer I	88	21.9
Research Officer II	81	20.2
Senior Research Officer	35	8.7
Assist Agric. Superintendent	38	9.5
Agric Superintendent	54	13.5
Senior Agric. Superintendent	64	16.0
No Response	41	10.2
Total	401	100.0

Table 4 indicated that Research Officer I rank/status has the highest frequency of 88 (21.9%), Research Officer II 81 (20.2%), Senior Agric Superintendent 64 (16.0%), Agric Superintendent 54 (13.5%), while no response rank/status is 41 (10.2%), Assist. Agric Superintendent 38 (9.5%) and Senior Research Officer have the least frequency of 35 (8.7%).

Table 5: Methods of knowledge sharing among researchers in research institutes

Methods	SD		D		A		SA		MEAN	Std. D
	F	%	F	%	F	%	F	%		
Through face to face.	17	4.2	73	18.2	81	20.2	152	37.9	20.76	38.508
By attending seminars.	28	7.0	75	18.7	54	13.5	244	60.8	1.72	.999
Through trainings.	19	4.7	99	24.7	40	10.0	220	54.9	7.36	22.655
Through workshops.	50	12.5	49	12.2	99	22.7	144	35.9	18.22	36.239
Through conferences.	86	21.4	53	13.0	103	25.7	121	30.2	11.82	28.673
Through mobile phones.	161	40.1	208	51.9	12	2	1	2	10.58	25.181
Through social medias.	30	7.5	46	11.5	74	18.5	239	59.5	14.06	30.619
Through e-mails.	46	11.5	56	14.0	73	18.5	198	49.4	9.49	24.571
Through notice boards.	-	-	22	5.5	125	31.2	212	52.9	13.31	29.350
Through journals publications.	53	13.2	105	26.2	108	26.9	121	30.2	6.09	17.721
Through online search engines.	1	2	1	2	107	26.7	293	73.1	1.27	.463
Through the use of library services.	46	11.5	59	14.7	87	21.7	163	40.6	13.53	30.619
Through electronics databases.	52	13.0	65	16.2	89	22.2	145	36.2	23.85	40.198

KEY: SA= Strongly Agree; A=Agree; D=Disagree; SD=Strongly Disagree.

Table 5 shows the rating of the items on methods of knowledge sharing among researchers in research institutes. It revealed that through electronics databases (Mean =23.85). ranked highest in the mean score rating and was followed by face to face (Mean =20.76), workshops (Mean =18.22), social medias (Mean =14.06), use of library services (Mean =13.53), notice boards(Mean =13.31), conferences (Mean =11.82), mobile phones (Mean =10.58), e-mails

(Mean =9.49), trainings (Mean =7.36), journals publications (Mean =6.09), attending seminars (Mean =1.72) and lastly followed by online search engines (Mean =1.27).

Table 6: Demographic factors of the researchers

Statement	SD		D		A		SA		MEAN	Std. D
	F	%	F	%	F	%	F	%		
Age.	99	24.7	94	23.4	103	25.7	105	26.2	2.46	1.111
Sex.	94	23.4	94	23.4	99	24.7	99	24.7	6.08	18.372
Marital status.	80	20.0	79	19.7	95	23.7	81	20.2	18.36	35.852
Religion.	158	39.4	94	23.4	68	17.0	65	16.2	5.97	19.020
Educational Level	85	21.2	74	18.5	112	37.9	130	32.4	2.28	1.131
Cultural background	21	5.2	72	18.0	80	20.0	150	37.4	20.78	38.497
Language	240	59.9	74	18.5	57	14.2	30	7.5	1.74	1.007
Family income	24	6.0	102	25.4	41	10.2	211	52.6	7.41	22.642

KEY: SA= Strongly Agree; A=Agree; D=Disagree; SD=Strongly Disagree.

Table 6 shows the rating of the items on the demographic factors of the researchers. It revealed that cultural background (Mean =20.78) ranked highest in the mean score rating and was followed by marital status (Mean =18.36), Family income (Mean =7.41), Sex (Mean =6.08), Religion (Mean =5.97), Age (Mean =2.46), Educational level (Mean =2.28), and lastly followed by Language (Mean =1.74).

Table 7: Challenges to knowledge sharing.

Statement	SD		D		A		SA		Mean	Std. D
	NO	%	NO	%	NO	%	F	%		
Lack of training.	31	7.7	48	12.0	110	27.4	118	29.4	24.87	41.079
Poor knowledge of social media use.	121	30.2	97	24.2	23	5.7	93	23.2	18.82	35.973
Lack of institutional policy to support knowledge sharing.	87	21.7	142	35.4	65	16.2	46	11.5	17.43	34.606

Believe that one's knowledge would be taken away if shared with others.	28	7.0	43	10.7	57	14.2	232	57.9	11.59	29.551
Educational level of researchers would determine knowledge sharing.	59	14.7	33	8.2	131	32.7	178	44.4	1.93	1.055
The motivation to share knowledge with their colleagues.	102	25.4	128	31.9	44	11.0	112	27.9	5.71	17.180
Poor internet connectivity to access inter-based resources would affect researcher to share knowledge with his/her other colleagues.	88	21.9	59	14.7	108	26.9	146	36.4	2.22	1.159

KEY: SA= Strongly Agree; A=Agree; D=Disagree; SD=Strongly Disagree.

Table 7 shows the rating of the items on Challenge to knowledge sharing. It revealed that Lack of training (Mean =24.87) ranked highest in the mean score rating and was followed by Poor knowledge of social media use (Mean =18.82), Lack of institutional policy to support knowledge sharing (Mean =17.43), Believe that one's knowledge would be overshadowed/taken away if share with others (Mean =11.59), The motivation to share knowledge with their colleagues (Mean =5.71) , Poor internet connectivity to access inter-based resources would affect researcher to share knowledge with his/her other colleagues (Mean =2.22) and lastly followed by Educational level of researchers would determine knowledge sharing (Mean =1.93).

Table 8: Influence of gender on knowledge sharing

Variables	N	Mean	Standard Deviation	Pearson coefficient (r)	Sig	Remark
Knowledge sharing	401	152.0549	106.40102	.091	.070	Sig
Gender	401	10.98	29.339	1		

Table 8 shows the correlation table of gender and knowledge sharing with values (r=0.1;

p<0.05), Since P is less than 0.05; it shows that gender will significantly influence knowledge sharing.

Table 9: Influence of rank/status on knowledge sharing

Variables	N	Mean	Standard Deviation	Pearson coefficient (r)	Sig.	Remark
Knowledge sharing	401	152.0549	106.40102	-.121*	.016	Sig
Rank/status	401	13.02	29.107	1		

*correlation is significant at the 0.05 level (2-tailed).

Table 9 shows the correlation table of rank/status and knowledge sharing with values (r=0.1; p<0.05, since P is less than 0.05 it shows that rank/status will significantly influence knowledge sharing.

Table 10: Influence of demographic factors on knowledge sharing

Variables	N	Mean	Standard Deviation	Pearson coefficient (r)	Sig (t)	Remark
Knowledge sharing	401	152.0549	106.40102	1		
Age	401	2.46	1.111	.038	.449	Not Sig.
Sex	401	6.08	18.372	-.231**	.000	Sig.
Marital Status	401	18.36	35.852	-.216	.000	Sig.
Religion	401	5.97	19.020	.225**	.000	Sig.
Educational level	401	2.28	1.131	.005	.926	Not Sig.
Cultural background	401	20.78	38.497	.417**	.000	Sig.
Language	401	1.74	1.007	.090	.072	Not Sig.
Family income	401	7.41	22.642	.241**	.000	Sig.

**correlation is significant at the 0.05 level (2-tailed).

*correlation is significant at the 0.05 level (2-tailed)

Table 10 shows that cultural background has the highest significant demographic factors

influence on knowledge sharing ($r=0.417^{**}$; $t=0.000$; $p >0.05$); followed by marital status ($r=0.216$; $t=0.000$; $p>0.05$), followed by religion ($r=0.255^{**}$; $t=0.000$; $p<0.05$), followed by sex ($r= 0.231^{**}$; $t= 0.000$; $p<0.05$), followed by language ($r=0.090$; $t=0.072$; $p>0.05$); followed by cultural background ($r=0.072$; $t=0.147$; $p>0.05$), age ($r=0.38$; $t=0.449$; $p>0.05$) and educational level ($r=0.005$; $t=0.926$; $p>0.05$).

The finding reveals that male respondents are the majority in the study. The study reveals that the major methods of knowledge sharing among the respondents are through seminars, training, workshop, conferences, social media and online search engines. Ma and Chan (2014) highlighted the role of social media in knowledge sharing. Their finding shows that elements of social media include altruism, perceived online attachment motivation, and perceived online relationship commitment influences knowledge sharing. The findings reveal that the researcher's demographic factors correlated significantly in this order with: age, gender, marital status, educational level, cultural background, language and family income. This is line with the study of Grubić-Nešić, Matić and Mitrović (2014) that shows that gender, level of education, organizational tenure and advance at work have significant impact on knowledge sharing. The study is against the Ismail and Yusof (2009) and Mogotsi, Boon and Fletcher (2011) in their irrespective findings, that demographic variables are not significant predictors of knowledge sharing behaviour. Finally, the challenges encounter by the respondents in knowledge sharing are lack of training, overshadow of one's knowledge, educational level of the researchers and poor Internet Connectivity. Top (2012) found empirically that the highest risk in knowledge sharing in house, is the lack of technical infrastructure and information system. Thus, technical infrastructure and IT provide employees with the ability to share, obtain feedback, and create ideas (Connelly & Kelloway, 2003). Szulanski (1996) specified some impediments that hamper knowledge sharing like, dependability of source, motivation to share their knowledge, and ability to learn. According to these impediments, Sai and Sheng (2006) stated that individuals are unwilling to share their knowledge except there are obvious benefits for them. It is important to explicate individual knowledge sharing behaviour, to break down these impediments. In general terms, research on knowledge sharing barriers tends to fall into several basic areas (a) cultural background (e.g. age, ethnicity, educational level) affects knowledge sharing (Ardichvili et al 2006 and Riege, 2005); (b) organizational culture affects knowledge sharing (Connelly and Kelloway, 2003; Bock and Kim, 2002); and (c) IT support affects willingness to share knowledge (Connelly and Kelloway, 2003).

Conclusion and recommendations

Researchers need to understand how to transfer and work with knowledge, share it and create conditions on how to use it. The understanding of knowledge will become a source of intellectual capital through its expression in goods and services. Knowledge sharing is “the process of

transferring knowledge from a person to another in an organization. However, it has been observed that researchers in the research institutes in Nigeria do not freely share knowledge with one another. In addition, institutional factors (managerial style, organisational culture, organisational structure, facilities, resources and policy) of most research institutes in Nigeria seem to be rigid and usually take a long process to change. The following recommendations were made based on the findings of the study:

- a. Research institutes in Nigeria should give all necessary encouragement to the researchers to improve their knowledge sharing behaviour and also acknowledge the personnel whose knowledge has led to an innovative process and growth of the organisation.
- b. Research institutes should also improve on their managerial style so that researchers will feel free to share knowledge with one another.
- c. The research institutes should do everything possible to provide ICT facilities and more especially, effective Internet connection to facilitate knowledge sharing process.
- d. Adequate funds should be allocated to the research institutes by the government so that researchers will undergo training and re-training so that they will be loaded with innovative ideas to share.

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