

The research paper accepted for presentation at the 17th European Conference on Knowledge Management - ECKM 2016 in Belfast

The impact of culture on information behaviour: A case study of the polio eradication campaigns in Nigeria

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Abstract

Human beings actively seek information to utilise it for various reasons, especially to increase their knowledge and understanding for effective decision making and during problem-solving. However, individuals and societies are likely to have their specific patterns of information behaviours (IB), which is widely determined by their specific values and cultures. Although, various studies have generated extensive literature differentiating IB based on individuals, professional group or culture group, most of the literature simply report the differences without pointing out the underlying factors causing these differences. By considering IB evolutionarily, and linking it to all the factors of culture, such as language, tradition and religion, this study focused on the way people in Nigeria relates with the polio eradication campaign. It was found that cultural orientation greatly impacted on the way people across Nigeria relates with the polio campaign as a consequence of IB of the people within the north and south of Nigeria. The findings revealed that information interpretations, as well as the understanding derived from information, are not completely based on cognition but in the current socio-cultural interpretation of that information.

Keywords: Campaign; Christian; culture; information; information behaviour; language; Muslim; northern Nigeria; polio (poliomyelitis); southern Nigeria; vaccine.

Introduction and background

Polio campaign was launched globally by the World Health Organisation (WHO) as the Global Polio Eradication Initiative (GPEI) in 1988 and started in Nigeria in the year 1997 with the support of the UNICEF and the Rotary Foundation. The entire three tiers of government in Nigeria were actively involved in the planning and execution of the campaign. Local people were trained to go from house to house to administer the oral polio vaccine (OPV) to children of age 0-5. The reason for using local people for the campaign was to reduce the risk of language and other socio-cultural barriers that may hinder the success of the campaign, and also enhance the trust and acceptability of the campaign by the people. Despite these precautionary measures, the results of the campaign vary across Nigeria, while the campaign succeeds in the south of Nigeria; it was failing in the north of Nigeria until July 2015 when Nigeria eventually celebrated the first time without a case of polio. Yahya (2007) and Kaufman & Feldbaum (2009) adduced the failing outcome of the polio campaign in the

northern Nigeria to the fear among societies that the polio vaccine was contaminated with antifertility drugs that were intended to sterilise young Muslim girls. However, this reason is contestable because there are Muslim groups within the southern part of Nigeria and the same vaccine was administered all over Nigeria. With a cursory look at the historical utilisation rates of orthodox health care services across Nigeria, it shows a decreasing trend in the north but increasing trend in the south. The comparative utilisation rates of southern Nigeria versus northern Nigeria were 50% vs 18% in 1990; 60% vs 11% in 1999; and 64% vs 8% in 2003 (Jegede, 2007, p.418). Thus pointing out to how the information, as well as the vaccine (through the Polio campaign), was interpreted across the north and south of Nigeria.

Information Behaviour

To fully conceptualise IB, there is a need first to conceptualise the term 'information'. Information could be facts or details that produce or increase individuals' knowledge about a phenomenon. Due to the general ambiguity of its definition, Buckland (1991) distinguished information from three different perspectives: (1) information-as-process; (2) information-as-knowledge; and (3) information-as-thing. Irrespective of how information is viewed, it remains as a means to an end and not an end on its own. Therefore, 'information' as a term is the means whereby an individual becomes 'informed' for a perfect understanding about 'something' to gain the knowledge needed for effective decision making. With the ambiguity surrounding the term 'information' and the complexity surrounding the understanding of human behaviour, a combination of the terms 'information' and 'behaviour' becomes more complex for correct understanding and interpretation.

IB is very broad and comprises of all activities embarked upon to satisfy information need(s). As a term, IB includes the following: information need; information seeking; information collection/gathering; information receiving; information sharing; and information communication. Therefore, to adequately understand human IB, it is necessary to consider all the actions embarked upon by individuals during the process of information seeking, and these actions can be grouped into three equally important categories, namely: (1) Pre-information seeking - these include all the measures embarked upon by any individual or a group in order to satisfy the act of seeking information, such as the mental and physical processes undertaken with a view to arrive at the exact information needed and the source(s) to consult for it; (2) Information seeking - these include all actions embarked upon during the act of seeking and accessing information, e.g. asking questions, browsing, and consulting various channels of information, and (3) Post-information seeking - these include all actions embarked upon after accessing the information, e.g. applying the information to solve a problem or ignoring the information all-together.

Information behaviour - Nature vs. Nurture

Scholars such as Belkin *et al.*, (1982), Pisula (2009) and Spink (2010) view IB from the perspective of cognitive psychology, thus arguing that IB is more nature inclined than nurture. They argue in favour of the role of instinct as the core of IB and not cultural or personal values. Other scholars such as Yeh (2007), Meyer (2009), Komlodi and Hercegfi (2010) and Peel (2011) argue that information behaviour is shaped more by language, culture and political processes and not completely by instincts. However, both culture and IB are also influenced by mass media. Scholars such as Lull (2000), Crane *et al.* (2002), and Sternheimer (2003) claim that mass media have a significant impact on societal culture. Salmon (2011, p.47) refers to mass media as "mediated culture" where media reflects and creates the culture of the society. Thus societies construct their social realities from the information that surrounds them. Therefore, IB is a result of human interaction with the environment and not completely due to basic instincts or nature. Consequently, this is the cause for the differences in the interpretations as well as behaviour towards the same information by different cultural groups, such as the case of the polio campaign in Nigeria.

Whatever perspective adopted in viewing IB (nature or nurture) in relation to individuals and groups, the focus must be on these three components – information needs, information seeking, and information use. No

matter how IB is categorised, it is subjected to various 'intervening variables' which play a vital role from the point of the context of the information need to the point of information processing and application. In Figure 1, these intervening variables, known as 'factors affecting IB' are classified into three broad categories, namely psychological, physiological and environmental.

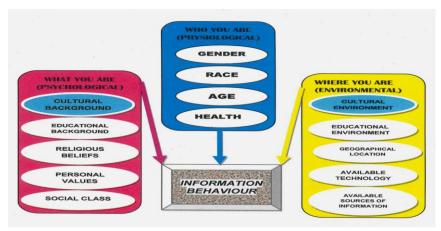


Figure 1 – Factors affecting Information Behaviour (IB)

Culture as a factor is considered both psychologically and environmentally because it comprises of both tangible and intangible aspects of human life. However, none of the entire factors acts alone, they are interwoven and embedded in the core cultural values of the individuals, and often come to play in the life of individuals during information seeking. Therefore, to understand the IB of any individual or a group of individual, it is necessary first to understand their cultural background.

Culture

All humans are born without any culture but transformed into the culture of the society of their birth through nurturing by their parents, teachers, and other members of the society. The culture of any group is not limited to those visible aspects of culture such as dressing, food, and architectural designs, that distinguish one group of people from another, but includes all the full range of learned human behaviour patterns. Culture, according to Sir Edward Burnett Tylor (1832 – 1917), represents the totality of the humanly created world comprising of both tangible and intangible things. Geertz (1973) defines it "as a historically transmitted pattern of meanings embodied in symbols, a system of inherited conceptions expressed in symbolic forms by means of which people communicate, perpetuate, and develop their knowledge about and attitudes toward life" (Geertz, 1973, p.89). The thought pattern that dictates every aspect of culture which differentiates one culture from another is based on the underlying beliefs and values which are the hidden part of every culture. Hall (1976) compared the culture of society to an iceberg with a small visible section above the waterline and a larger portion hidden beneath the surface. Irrespective of how culture is viewed – nature or nurture, cultural values affects every aspect of human behaviour right from the cradle, and even to the grave. Thus, information seeking processes are influenced by various cultural characteristics which determine individual's choice as well as the source(s) of information.

Factors affecting information seeking among culture groups in Nigeria

Although the north and south of Nigeria were amalgamated in 1914, however, the histories of the people in northern and southern Nigeria are completely different. While the north is oriented towards Sudan (northward of Africa) culturally and economically, the South oriented towards the sea due to transatlantic trades before the colonisation of Nigeria (Johnson, 2010). Socio-politically, unlike the north of Nigeria that is

dominated by the Hausa-Fulani culture and Islamic religion, the south of Nigeria is not dominated by one particular culture or one particular religion. The Igbos form the majority of the population in the South East and mainly of Christian religion, while the Yorubas who are the majority in the South West are predominantly of both Christianity and Islamic religions. Environmentally, Nigeria has three main environmental regions: savannah, tropical forests, and coastal wetlands (Akinwale, 2010). Each of these environmental regions influences the cultures of the people who live in these regions regarding food, occupation, and dressing.

Research design and analysis

The methodology for this study is explained with the pictorial representation in Figure 2 which is adapted from Saunders *et al.*, (2009). Since the objective of this research is to explore the impact of culture on IB, the adopted interpretivist approach provides the opportunity to address both the tangible and the intangible aspects of culture in relation to information and contextually conceptualise social phenomena. An inductive approach was used for the understanding and interpreting of cultural variables, and deductive approach was adopted to know the extent of the impact of each identified cultural variable on IB and for the comparison of these cultural variables amongst and across the chosen cultural groups.

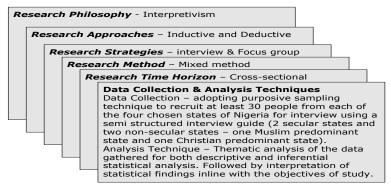


Figure 2 – Research Design and Methodology adapted from Saunders et al., (2009)

Data Analysis

122 people were interviewed and comprised of 25 each in Awka (Anambra state) and Minna (Niger state), 33 in Abuja (FCT) and 39 in Ikeja and Festac town (Lagos state). The approach adopted for the data analyses is described in Figure 3.

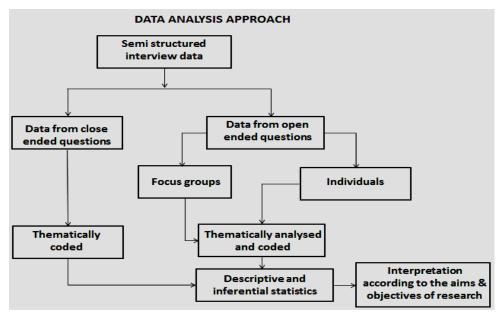


Figure 3 - Data analysis approach

Table 1 shows the breakdown of some of the demographic characteristics of the people that were interviewed during the data collection in line with the research objectives.

Table 1 – Breakdown of some of the Demographic Characteristics of Participants

Age Groups (years)	Northern Nigeria (N)				Southern Nigeria (S)				
	Federal Capital		Niger State – Minna		Anambra State – Awka		Lagos State – Ikeja		
	Territory (FCT) – Abuja						and Festac Town		
	No Predominant		Predominant Muslim		Predominant Christian		No predominant		
	Religion (Secular)		Religion		Religion		Religion (Secular)		
	Male	Female	Male	Female	Male	Female	Male	Female	Total
16 – 19	0	1	0	0	0	0	2	1	4
20 – 29	4	4	2	1	2	5	4	6	28
30 – 39	6	6	6	5	4	4	5	4	40
40 – 49	5	4	6	4	5	3	4	4	35
50 – 59	3	0	0	1	2	0	4	2	12
60 or over	0	0	0	0	0	0	2	1	3
Total -Gender	18	15	14	11	13	12	21	18	
Total – States	33		25		25		39		122
N&S Total		58	3		64				1

58 people were interviewed in the north and 64 in the south of Nigeria; Gender: 56 female and 66 male. People of age less than 16 were not included as they are considered to be within the age of compulsory education in Nigeria, and the number of individuals within each of the age group categories are: 4 people from age 16 - 19; 28 from age 20 - 29; 40 from age 30 - 39; 35 from age 40 - 49; 12 from age 50 - 59; and 3 people from age 60 and above.

Findings – Quantitative Analysis (Descriptive Statistics)

Based on the six objectives of this research, the findings are as follows:

Objective one

The first objective of this research is to identify if there are any relationship between any particular cultural characteristics of a group (such as language; religion; and ancestral descent) and their information seeking behaviour.

Findings show that the preferred language for the communication of government policy was not identical across the two main religious practices in Nigeria, 91.2% of those practising Christianity compared to 59.3% of those practising Muslim religion prefer to hear government policies in the English language. With regards to participants' native language and the language usually preferred for receiving information, it was found that 50.0% of those of Hausa language; 5.9% of those of Igbo language; 25.0% of those of Yoruba language; and 27.8% of those who speak other languages (apart from Hausa, Igbo and Yoruba), preferred to receive information in their local languages. The type of information considered extremely important to participants based on north-south ancestral descent was found to be similar in choice pattern of three kinds of information: food - 36.4% vs 63.6%; health - 40.0% vs 60.0%; and economy - 20.4% vs 79.6%, except for religion with 61.9% vs 38.1%. Figure 4 is the graph showing the types of information considered extremely important to participants according to their ancestral descent.

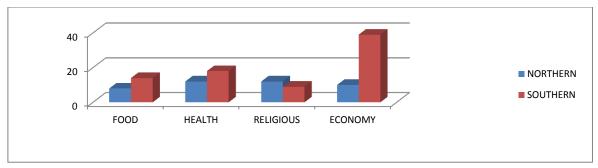


Figure 4 - Types of information considered extremely important to participants based on ancestral descent

Objective two

This is to identify whether culture influences the acceptance or rejection of source(s) of information, and perception of the correctness or validity of information (i.e. how individuals relate to the source of information).

On the basis of place(s) lived before age 16 and 'how', 'where' and 'whom' participants consult when in need of important information, 58.3% of those who lived mainly in the north consults family members or friends for important information; 27.8% consults the internet, professionals or organisations; and 13.9% consults traditional/religious leaders; and those who lived mainly in the south, 37.3% consults family members or friends; 54.7% consults the internet, professionals or organisations; and 8.0% consults traditional/religious leaders. By ancestral descent, the majority (57.1%) of those of northern ancestry consult family members and friends, while the majority (52.5%) of those of southern ancestry internet/professionals/organisations when in need of important information. Regarding participants' native language and the source they prefer to approach first when in need of important information, Figure 5 is the graph showing the types of sources of information that participants prefer to approach first according to their native language.

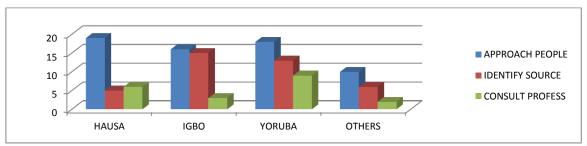


Figure 5 – Types of sources participants prefer to approach first according to their native language

How participants authenticate information based on their practised religion, revealed that majority (57.4%) of those practising Muslim faith usually approach family members and friends, while the majority (54.4%) of those of Christian faith usually go online or approach professionals.

Objective three

The third objective explores whether cultural factors, such as religion, language, and tradition, affect the level of significance placed on information in daily life activities of individuals and groups within Nigeria.

Based on the ancestral descent, the national vs. local language preference for the communication of government policy was found to be as follows: 64.3% vs. 35.7% for those from the north of Nigeria compared to 83.8% vs. 16.2% for those from the south of Nigeria. The source of information was found to be the most significant factor during information seeking across all the culture groups in Nigeria with 58.2% of the entire participants; the next significant factor was the quality of the information with 32.8% and language at 9.0% of all the participants. The choice of the type of information considered extremely important also vary across

practised religion with Christian vs. Muslim comparison for (a) food production and cost of food at 17.6% vs. 18.5%; (b) health improvement issues was 23.5% vs. 25.9%; (c) religion was 11.8% vs. 24.1%; and (d) Economy was 47.1% vs. 31.5% respectively.

Objective four

The fourth objective is to explore if culture plays a role in information sharing among individual/groups within Nigeria.

Comparison of participants' social media preference according to their ancestral descent revealed that Facebook was the most preferred social media across the north and south of Nigeria with 54.8% of those of northern ancestry and 61.3% of those of southern ancestry. 45.1% of all the participants claimed they use social media to seek and share information every day, and 18.2% of this group were of Hausa native language; 32.7% were of Igbo native language; 30.9% were of Yoruba native language, and the remaining 18.2% were of other native languages. Proportional comparison of daily usage of social media for seeking and sharing information based on the total number of participants according to their native language shows as follows: 52.9% of those of Igbo; 42.5% of those of Yoruba; 33.3% of those of Hausa; and 55.6% of those of other native languages. The north-south comparison of participants who used social media to seek and share information every day was 29.1% vs. 70.9%, and Christian vs. Muslim comparison for this group was 65.5% vs. 34.5%.

Objective five

The fifth objective is to explore the role played by culture in information dissemination in Nigeria, using the information on Polio Eradication (campaign) disseminated in Nigeria and check whether aspects of culture affects the spread of the polio campaign.

The most preferred medium for receiving of polio campaign across the north and south of Nigeria was door-to-door (house-to-house) with 75.4% (92) of all the total participants, and ancestral descent comparison shows 83.3% of those of northern ancestry compared to 71.3% of those of southern ancestry. However, a comparison based on religion at birth shows that 89.1% of those born into Islam (Muslim) compared to 64.2% of their Christian counterpart. Language preference for health campaigns based on participants' native language shows that 43.3% of those of Hausa native language; 73.5% of those of Igbo native language; 60.0% of those of Yoruba native language; and 72.2% of those of other local languages preferred health campaign(s) to be in English - the national language of Nigeria. Out of the 75 participants who preferred health campaign(s) in the English, 64 (85.3%) of them were in a formal profession, and 53 (70.7%) were from the south of Nigeria.

Objective six

The sixth (and the last) objective is to explore whether aspects of culture, such as religion, language, and gender orientation, affect the level of significance placed on information by people in their daily life activities, especially to check whether culture play an impact on the success or failure of the Polio Eradication (campaign) across Nigeria.

Comparison based on gender for the choice of the types of information considered extremely important to participants show that the proportion of women to men for the selection of information on health improvement issues was 2 to 1 (with 20 women and 10 men), and on the information about the state of Nigerian economy, it was 38.8% vs. 61.2%. Except for health information, participants' choice for the remaining types of information (food production and cost of food; religious information; and the state of Nigerian economy) cut across all levels of education, but the choice of health and economy information increased as the levels of attained education increased.

Findings – Qualitative Analysis (Inferential Statistics)

Mann-Whitney (M-W) U tests carried out for each of the culture factors – such as secularism, ancestral descent, place of birth, and practiced religion (as independent variables), and all the IB factors – such as what is most significant to individual when seeking information for their day-to-day needs, and how individual react to a piece of useful information received but not understood, (as dependent variables), shows that what is most important to individuals when seeking information for day-to-day needs is statistically significant among the non-secular group than the secular group. In terms of 'who', 'where' and 'whom' individual consults for important information, with the M-W U = 1225.000, p = .008 in the test statistics and mean ranks of 50.670 for the north group and 67.190 for the South group, indicates that 'who', 'where' and 'whom' individuals consult for important information is more statistically significant among the group of southern ancestral descent than their northern counterpart. The language usually preferred for receiving information is not only different across ancestral descent, but also across religious practices with M-W U = 1053.000, p < 0.001 and mean ranks of 73.010 for the Christian group and 47.000 for the Muslim group.

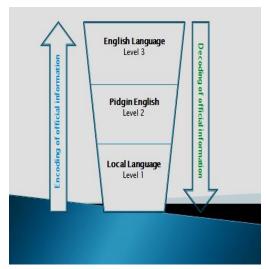
By place of birth, the understanding of English language, the language preferred for communication of government policy and language preference for health campaign were not identical within the groups. For example, language preference for communication of government policy with M-W U = 1386.500, p = 0.012 and mean ranks of 69.190 for the group born in the north and 57.010 for the group born in the south, indicates that language preference for communication of government policy is more statistically significant among those born in the north of Nigeria than those born in the south. Also, language usually preferred when receiving information with M-W U = 1171.500, p < 0.001 and mean ranks of 49.030 for the group born in the north and 68.790 for the group born in the south, indicating that the language usually preferred when receiving information is statistically more significant among the group born in the south than the group born in the north of Nigeria. Language preference for health campaign(s) with M-W U = 607.00, p < .001 was however found to be statistically significantly higher among the groups who claimed not using social media to share and receive information with a mean rank of 86.520 and 54.390 for the group that use social media.

Discussion

Findings from this study show that despite the sufficient available information, most people still make uninformed decisions due to misinterpretation or misrepresentation of information. Some people will even completely ignore useful information which they considered to be at variance with their cultural values. From the point of evaluation to the point of application of information, the societal SIPM (social information processing model) which is based on cultural values plays a greater role than cognition. For example, 22.6% of those interviewed were of the opinion that rejecting genuine and useful information on the grounds of religious difference is the right thing to do, despite the need for such information. Christian-Muslim comparison shows that 16.2% of Christian vs. 38.9% of Muslim across Nigeria will reject useful information on the grounds of religion. According to Fulk *et al.*, (1987), SIPM is "the approach where attitudes and behaviours are partially determined by information embedded in the social context.... and where social environment creates requirements for sense making and also constrains the type of sense making that may be developed to meet those requirements" (Fulk *et al.*, 1987, p. 529).

Language – Decoding and Encoding - The role of language as a cultural factor was found to be significant. Based on the historical developments regarding languages in the societies within the north and south of Nigeria, the process of understanding/conceptualising information provided in English language for the people born and enculturated within societies in the south of Nigeria may pass through three stages of decoding, i.e. English » Pidgin English » Native language as shown in Figure 6. While the same information may pass through 7 stages within the societies in the north of Nigeria, i.e. English » Pidgin English » Arabic » Pidgin Arabic » Hausa » Pidgin Hausa » Native language as shown in Figure 7. This may explain the reason why the majority of those from the north of Nigeria prefer to receive information in their local languages, as this will prevent

misinterpretation or misrepresentation of the information due to the possible seven stages of decoding from English to their local language.



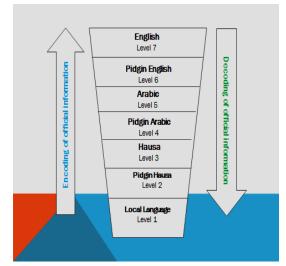


Figure 6 - For the people of the south of Nigeria

Figure 7 - For the people of the north of Nigeria

Language and Religion - The history of both Arabic and English as languages within the north and south of Nigeria are crucial when considering the IB of the people of Nigeria. The Arabic language remains exclusively for Islamic religious issues and predominant in the north of Nigeria, English language were not restricted to Christian religious issues, and cut across Nigeria but more predominant within the south of Nigeria. While the use of English language for the production of literature on various issues was encouraged in almost every socio-economic activities, the reverse was the case of Arabic language within the societies in the north of Nigeria (Nwachukwu-Agbara, 2015). This is akin to the knowledge hegemony of the medieval Church which created a situation where people were solely dependent on their Church (religious) leaders. A similar situation occurs in the case of information hegemony in the north of Nigeria. The present over-dependent on religious/traditional leaders for the day-to-day information needs in most of the societies in the north of Nigeria is evidenced in the eventual outcome of the polio campaign in the north of Nigeria, where the federal, state and local government health officials eventually had to go through the religious/traditional leaders before the people in most of the societies in the north of Nigeria could accept the polio vaccination (Yahya, 2007).

Conclusion

Nigeria is like other developing countries where religious institutions through their leaders play a crucial role in the shaping of the SIPM in societies. The findings show the importance of the religious leaders as one of the major trusted sources of information, especially in the north of Nigeria where campaigners had to pass through the religious cum traditional leaders before achieving the desired purpose of the campaign. Given the role played by the religious leaders, especially in the north of Nigeria with regards to the outcome of the polio campaign as well as in the shaping of the SIPM of the societies, an extension of this study, therefore, becomes logical and desirable. Further studies need to explore how traditional and religious leaders could be used for the propagation of orthodox medical care in order to effectively address the declining patronage of orthodox medicine in the north of Nigeria as highlighted from the results of the polio campaign as well as earlier studies such as Jegede (2007) and Yahya (2007).

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