

Utilization of Mobile Phones as a Communication Channel in Fish Marketing Enterprise among Fishmongers in Western Nigeria's Kainji Lake Basin

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Abstract

The study assessed mobile phone application as a communication channel in fish marketing enterprise among fishmongers in western zone of Kainji Lake, Nigeria. Both multistage, stratified and cluster techniques were combined with purposive and random samples to get 60 respondents, interviewed using a semi-structured questionnaire to generate the data that were analyzed descriptively. Demographic characteristics revealed that most of the fishmongers are women, young in age and experienced in the business. Information on fish market intelligence showed that fish retailers are small scale entrepreneurs dealing mostly on low quality processed fish products. Within five years of mobile phone debut in the lake, 55 percent of fishmongers own a handset and use it in fish marketing enterprises to contact suppliers, customers and to monitor prices. It is expected that expansion of network coverage around the lake will multiply the impact of mobile phone contribution to communication and information dissemination among operators in the chain of fish production. Therefore, mainstreaming mobile phone technology is an effective means of reaching fisher folks in isolated environments while promoting information dissemination.

Keywords: GSM, fisheries, Nigeria.

Introduction

According to Spore (2008), half the world's 6.5 billion people now use a mobile telephone, compared with 2 billion just two years ago. In Africa, mobile phone business is the most rapid growing sector of the economy with over 120 million subscribers Scheen (2008). According to Adogla (2009), the annualized aggregate growth rate in handset numbers was pegged at a healthy

58%, a figure that clearly propelled the African cellular market to outperform all others worldwide. In Nigeria, the introduction of GSM in 2001 marked the positive contribution of telecommunication to socio-economic activities of the people. According to <http://www.ncc.gov.ng/> (Retrieved 2009), the GSM industry has empowered 64.3 million subscribers and achieved 45.93 percent teledensity as of 2008. Breakdown of subscribers as shown in Figure 1 revealed that telecommunication is dominated by GSM users (89%) and distantly followed by Code Division Multiple Access system (CDMA) and fixed wired/wireless. Empowerment of citizens with mobile phones has transformed businesses and the way of life in urban and rural areas of the country.

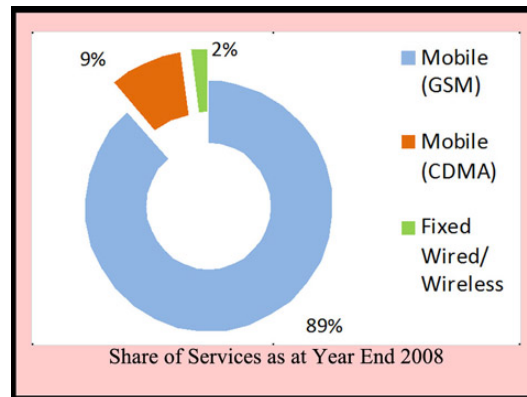


Figure 1. 2008 Share of Services

The remarkable impact of the GSM industry is demonstrated by access to communication by coverage of 5,000 communities and villages; by a 53% increase in gross domestic product in 2003; by employment of over 135,000 persons (Balogun, 2000; Adomi, 2006); and by boosting government revenues over 200 billion Naira (Adeyinka et al. (2007). Other benefits and merits of mobile phone use are well documented in studies by Adeyinka et al. (2007), Ajiboye et al., (2007), Mihika (2007), Williams (2005), Spore (2008) and Adogla (2009). These benefits spread across different sectors of the economy -- health, education, communication, agriculture, industry, banking, wildlife and trade.

In agriculture, the mobile phone holds the ace in the application of modern information communication technologies (ICT) to disseminate information and knowledge to farmers. In the fisheries sub-sector, mobile phones are used to coordinate fishing efforts (Adogla, 2009); product marketing, talk and to improve safety (Spore, 2008); as well as linking fisherman and wholesalers together for business (Scheen, 2008). Fish marketers need market information and intelligence to generate wealth and sustain the livelihood of the millions of people in the fish market business. According to Neiland et al. in Neiland (2005), a total of 117,170 tons of smoked and dried fish valued at \$54 million was marketed in Lake Chad between 2002 and 2003. Nigeria commands the highest (48%) market share, valued at \$26 million dollars of fish traded in the six riparian countries of Lake Chad. Another inland freshwater is Kainji Lake with an estimated 40,800 metric tons of fish resources worth 16.3 billion Naira. The volume and value of this fish trade

makes it imperative for fisher folks to be connected to GSM networks to boost economic activities and income, and to reduce hazards and poverty.

Mobile phone technology is vital in an isolated place like the Kainji Lake Basin where distance and communication are threats to livelihood of 6,613 fishing entrepreneurs in 314 fishing communities. The Anthonio survey (1995) identified three categories of fish markets around the lake -- village fish market, primary and secondary markets. New-Bussa serves as retail and secondary markets for consumers and transit to cities of Onitsha, Lagos, Abuja, Ibadan, Ilorin, Kaduna and Oshogbo. Fishmongers are retailers that sell directly to consumers and are characterized by easy entry and exist, low profit margin and small capital. Most of the fish traded in the New-Bussa market come from primary markets (Shagun, Malale), and catch from fishermen in surrounding communities and nearby Jebba Lake. As the only urban town in the west side of the lake in Niger State, New-Bussa commands the fish trade due to the high number of civil servants and business activities located there.

Debut of GSM in the western side of Kainji Lake (precisely New-Bussa in 2004) is expected to open a new horizon in communication and information sharing among operators in the change of fish production. Before now, interpersonal methods were the popular sources of information in fish marketing (Anthonio, 1995). A recent study by Ifejika et al. (2007) found low content (4%) of fisheries information in radio programs around the lake. These situations justify the need to conduct the study on mobile phone applications as a communication channel among fishmongers in the western side of the lake. Specific objectives of the study are:

1. Identify the demographic characteristics of the fishmongers.
2. Collect information on market intelligence of fish markets in New-Bussa.
3. Ascertain mobile phone use as a communication channel among fishmongers.

Methodology

The study combined multistage, stratified and cluster techniques. First, out of the two existing strata (East and West), the western stratum of the lake in Niger State was purposively selected for the study based on the Nigerian-German Project Document (2002). The second stage selected New-Bussa market with services of GSM operators from five fish major markets in the zone namely; New-Bussa, Malale, Guffanti, Shagunu and Kokoli. The third stage was the stratification of fish sellers in New-Bussa market otherwise called Monday market into five clusters based on the shade. From each cluster, ten respondents were purposively chosen to get a total of sixty respondents. Open-ended questionnaires were used to collect data on market day through interviews in April, 2008. Data generated were analyzed descriptively.

Results

Table 1 displays the demographic characteristics of the fishmongers in the New-Bussa market. Respondents came from ten States in the country which was dominated by northern states (80%) and southern states (20%). The present situation is consistent with earlier findings by Alamu and Mdaihlil (1994) on involvement of more northern women in fish mongering activities in the lake. On the issue of gender, women (81%) play a more prominent role over their male counterparts.

Confirming the leading role of women in fish marketing were studies by Alfred-Ockiya (2000) in Niger Delta states and supported by Alamu and Mdaihlhi (1994) around Kainji Lake. Responses on age revealed that the minimum age was 19 and 71 years as the maximum, 40 years was the mean age, and 30 to 40 years was the most active age group. Similar observations were made by Alfred-Ockiya (2000) in Niger Delta, Bolorunduro and Sule (2003) in Lake Chad, Borno State and Rettberg et al. (1994) in Kainji Lake in Niger and Kebbi states. Entries in education revealed prevalence of illiteracy by 82 percent of the respondents. Earlier studies by Alamu and Mdaihlhi (1994), Bolorunduro and Sule (2003), and Alfred-Ockiya (2001) reported high illiteracy. By implication, fish mongering is a low status job that is not attractive to literates. Experience of the fish sellers was found to be high, ranging from 1 to 40 years with a mean of 11 years. The majority (64.4%) were experienced fish sellers with more than 6 years in the business whereas 1 to 5 years (35%) are considered as new entrants. Both Anthonio (1995), and Bolorunduro and Sule (2003) found experience of fish traders to be high in their respective studies. The overall demographic features of fish sellers in New-Bussa market is similar to situation obtained in the past fifteen years around the lake. Age and experience are viewed as strengths of fishmonger businesses dominated by women.

Table 1. Respondents' demographic characteristics.

	Percentage	Frequency
State		
Southern states	12	47
Northern states	47	80
Gender		
Women	48	81
Men	11	19
Age		
19-29	13	22
30-40	21	36
41-51	12	20
52 and above	13	22
Education		
No school	34	58
Primary	14	24
Secondary	11	18
Experience in Years		
1-5	21	35.6
6-10	13	22.0
11-15	9	15.3
16 and above	16	27.1

Source: 2008 field survey.

Entries in Table 2 represent the responses on market intelligence of retail fish market, New-Bussa. Anthonio (1995) defined market intelligence as the collection of economic data on supply, demand, number, size and conduct of distributors, prices and variation. As shown, 86.4 percent of fish products sold by retailers were processed smoked/sundry and fresh (13.4%). Smoked/dry fish are processed product that add value and attract higher price to sellers. Similarly, Neiland et al. in Neiland (2005) reported trading of smoked and sundry fish in Lake Chad basin and collaborated in earlier work of Anthonio (1995) around the lake 15 years ago. Responses on record keeping indicated that 66 percent of the fish sellers keep records of buying and sales to determine profit. In affirmation of record keeping, Rettberg et al. (1994) remarked that most of the women in the lake could do some basic calculation. Also, close to half of the fish sellers (46%) accepted making profit always and occasionally make profit (54%). On fish price ranges, the minimum is 40.00 naira and maximum is 5,000.00 naira. Prices quoted by respondents were 100.00 naira below (52%), 200.00 to 250.00 naira (23%) and 500.00 naira above (25%). It implies that 75 percent of the women fish sellers deal on low quality fish product (broken fish pieces, tilapia, clupeid, and moon-fish) for low income people, whereas few deal on quality fish like lates, Clarias and Heterobranchus.

Table 2. Data on New-Bussa fish market intelligence

	Frequency	Percentage
Type of fish sold		
Smoke	51	86.4
Fresh	8	13.6
Keep record of fish sales		
No	20	34
Yes	39	66
Make Profit in fish sales business		
Occasional	32	54
Always	27	46

Source: 2008 survey

Table 3 relates to application of mobile phones by fishmongers. Most (55%) own handsets. High ownership of a handset is a sign that fishmongers value and are desirous of access to communication and information. Adesope et al. (2007) reported 98.9% access to mobile phones as the most needed information technology by extension managers and supervisors in Niger Delta, Nigeria. Data on the table reveals that phone owners mostly use it to contact suppliers (53%), contact customers (48%), and are least used to monitor prices (19%). Phone ownership and usage to communicate is a tremendous improvement on positive impact of GSM as information communication technology around the lake. Around the lake 15 years ago, Anthonio (1995) reported 1.6% use of mass media to disseminate information in fish marketing. Among fishmongers, mobile phones are now used as a source of communication channel and information to contact suppliers (fishers and processors) and customers. The finding is a confirmation of

assertion that GSM is used mostly to communicate by Balogun (2000) and report of Spore (2008) on the application of mobile phone in fish marketing.

Table 3. GSM application as communication channels by fishmongers (multiple responses)

GSM Application	Frequency	Percentage
Own handset	39	66
Contact Fishers	31	53
Contact customers	28	48
Monitor fish price	11	19

Source: 2008 survey

Conclusion

The overall demographic features of fish sellers in New-Bussa market is similar to the situation obtained in the past 15 years around the lake except for age. Both age and experience are viewed as strength of fishmongers business dominated by women to sustain their livelihood. Mobile phone technology is contributing to relaying market information between fish producers, processors and fish sellers. It is expected that expansion of network coverage within the lake will increase ownership of handset and multiply the impact of GSM on communication and information dissemination among fishmongers.

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