

## Stakeholders' Perceptions of the Impact of Global System for Mobile Communication on Nigeria Rural Economy: Implication for an Emerging Communication Industry

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**Abstract:** The major purpose of the study was to examine the impact of GSM on the economies of the rural dwellers in Nigeria, specifically, on job creation, time management, reduction in crime rate and their general income flow. The study adopted a descriptive survey research design and data was collected using a questionnaire administered to one thousand respondents randomly selected from ten rural communities in a part of Nigeria. The sample was taken from a state of the federation out of the 36 states in Nigeria, however, the rural communities represent typical rural villages in the country, hence, the findings could be generalized for the whole country. The GSM is an emerging communication industry in Africa, with Nigeria rated as one of the fastest growing market in this field of communication. However, the impact of the communication system is largely felt in the urban cities, the impact on the rural dwellers is still marginally poor. Hence, focus should be shifted to the utilization of the GSM for the development of rural economies in Africa, Nigeria inclusive. The study is a product of a recent survey carried out by the authors; hence the findings reported here are original and reflect the current views and practices in the rural communities in Nigeria with regards to the impact of the communication mode. Apart from some 'market' researches in this area, this perhaps represents one of the few academic thorough researches in the field in Nigeria.

**Key words:** Nigeria, communications, global system of communication, economy, rural, industry

### INTRODUCTION

The world is fast becoming a global village and a necessary tool for this process is communication, of which telecommunication is a key player. The quantum development in the telecommunications industry all over the world is very rapid as one innovation replaces another in a matter of weeks. A major breakthrough is the wireless telephone system, which comes in either fixed wireless lines or the Global System for Mobile communication (GSM) Wajuade<sup>[1]</sup>. Without mincing words, communication is a major driver of any economy. Nigeria is not left out in the race for rapid developments, as the years of economic reversal via mismanagement have had adverse effects on its rate of growth and development. The Nigerian telecommunications sector was grossly under-developed before the sector was deregulated under the military regime in 1992 with the establishment of a regulatory body, the Nigerian Communication Commission (NCC). Since then, the NCC has issued various licences to private telephone operators. These licences allow Private Telephone

Operators (PTOS) to roll out both fixed wireless telephone lines and analogue mobile phones. The return of democracy in 1999 however paved the way for the granting of GSM licences to three service providers, MTN, ECOPNET (which is now V-MOBILE) and NITEL plc in 2001; with GLOBACOM joining in 2003.

The development of GSM in the world was prompted by the need to provide seamless telecommunications through Europe. Back in the early 1980s, analogue mobile telephony was growing rapidly and operators find it increasingly difficult to interconnect the various networks in Europe. This was so because each implementation of the analogue service was fundamentally different, which made inter-working a serious challenge. To address this challenge, a study group called 'Group Special Mobile' (where GSM got its name) was formed and was tasked to provide a standardized system for mobile telephony. Out of this group (and seven years later), the GSM standard was realized. In January 1992, the first GSM network, OY Radioing AB in Finland went on air.

Today, GSM covers over 1.2 billion users on 630 networks in over 210 countries and is the fastest growing

technology of all time. The initial release of GSM was called GSM Phase I and it is commonly referred to as the 1st generation. This release made provision for the basic voice, SMS and Circuit Switched Date (CSD) services. CSD allow a maximum data rate of 9.6 kbs and was capable of fax transmission as well. Supplementary services at that point were very basic consisting of call forward and called barring capabilities.

The second generation (GSM Phase 2) was released in 1995 and provided enhanced supplementary services, amongst which were Calling Line Identity (CLI), all waiting and multi-party services. Data services however remained limited to 9.6 kbs.

GSM Phase 2 + was an enhancement to GSM Phase 2 and was released two years later in 1997. Realizing the need for enhanced data service, Phase 2 + address this requirement by making provision for High Speed Circuit Switched Data (HSCSD) and General Packet Radio Services (GPRS). HSCSD and GPRS allowed maximum data rates of 48 and 177 kbs, respectively.

In Nigeria, the National Economic Empowerment Development Strategy (NEEDS) highlights the nation's socio-economic development aspiration. Specifically, it call for the reform of the public sector, enabling a robus private sector-led economy and the implementation of an effective social charter to reduce poverty, create, wealth, generate employment and re-orientate national values. One fundamental feature is that it clearly delineates responsibilities between government and the private sector. While government would provide the enabling business and regulatory environment, the private sector is to invest in and manage ventures that stimulate and support socio-economic development.

Being aware of the catalytic role typically played by mobile telecommunications in socio-economic development in Africa, GSM operators in Nigeria have developed a Joint Economic Development (JED) framework to support the government in the actualisation of its objectives as set out in NEEDS. JED outlines the positive multiplier effects of mobile telecommunications on virtually every sphere of endeavour in the society, previews further prospects targets, highlights challenges and proffer solutions to such challenges and assigns specific roles to government and operators for further optimisation of the benefits of GSM services.

NEEDS target for the telecommunications sector include: Attainment of tele-density of 1: 25 by the year 2007; ii. the development of a national communications backbone and multi-media super-corridor. Strategies identified for attaining these targets include the use of fiscal financial incentives to encourage investment, adoption of a local content policy in the manufacture of

equipment, accessories and components as well as financial support for rural roll out and Internet access. Today, tele-density stands at about 1.15, there is significant improvement in rural telephone access penetration from just one (NITEL'S) transmission backbone in 2001, at least four other backbones are being constructed across the country today.

The summary is that the telecommunications sector has not in respect of tele-density exceeded its targets under NEEDS. This is essentially due to the advert of GSM services in 2001 which has resulted in a dramatic increase in the total number of lines from just above 500000 to about 12 million today, accounting for about 91% of the total telephony (fixed and mobile) market.

In Nigeria, there has been more expeditious roll out in rural areas covering over 50% government areas and at least 5,000 communities and villages. Most of the GSM operators are presently building transmission backbones to complement NITEL'S facilities. The result of this will be the availability of spare capacity that can be utilized by other interests for conveying data, video and voice. These developments inform Nigeria's present rating as the fastest growing telecommunications market in Africa. There is no doubt that telecommunications sector has united the whole world. Within a second, business is on the wheel globally. Nevertheless, considering the previous relationship existing between the developed countries and the underdeveloped ones in the world, the pertinent questions now are: Does this global system for mobile communication have any impact on the Nigeria rural economy? What is the role of GSM and its effectiveness on rural dwellers time management? Does it contribute to job creation and crime reduction? This study is design to address all these questions.

**Literature review:** The journey to success in Nigeria telecommunication milieu has been long and tortuous. Telecommunication facilities in Nigeria were first established in 1886 by the colonial administration. At independence in 1960, with a population of roughly 40 million people, the country only had about 18,724 phone lines for use. This translated to a tele-density about 0.5 telephone line per 1,000 people. The telephone network consisted of 121 exchanges of which 116 were of the manual type and only 5 were automatic.

Between 1960 and 1985 the telecommunication sector consisted of the department of Posts and Telecommunication (P and T) in charge of the internal network and a limited liability company, the Nigerian External Telecommunication (NET) limited, responsible for the external telecommunication provided the gateway to the outside world. The installed switching capacity at the

end of 1985 was about 200,000 lines as against the planned target of about 460,000. All the exchanges were analogue with 1 telephone line to 440 inhabitants, well below the target of 1 telephone line to 100 inhabitants recommended by ITU for developing countries. The quality of service was unsatisfactory. The telephone was unreliable, congested, expensive and customer unfriendly. Arising from the foregoing, in January 1985, the erstwhile posts and telecommunications department was split into postal and telecommunication divisions. The latter was merged with NET to form Nigeria Telecommunication Limited (NITEL), a limited liability company. The main objective of establishing NITEL was to harmonise the planning and coordination of the internal and external telecommunications services, rationalize investments in telecommunications development and provide accessible, efficient and affordable services. However, almost 43 years down the line, the Nigeria telecommunication, NITEL had roughly half a million lines available to over 100 million Nigerians. NITEL, the only national carrier had a monopoly on the sector and was synonymous with epileptic services and bad management. On assumption of office on May 29, 1999, the President Olusegun Obasanjo administration swung into action to make it a reality the complete deregulation of the telecom sector, most especially the much touted granting of licences to GSM services providers and setting in motion the privatization of NITEL. This practice approach by the government to the telecom sector has made it possible for over 2.5 million Nigeria to clutch GSM phones today<sup>[2]</sup>. GSM mobile communication is one of the most explosive developments ever to have taken place in the telecommunications industry. Marring the convenience of mobility with the rich multi-media content of the Internet, it has become a good riddance to bad rubbish. In addition, the integration of the mobile phone- palm-sized computers cameras and content related information makes it almost inevitable that the ubiquitous access point to the telecom is the PC but some form of mobile appliance. Audile<sup>[3]</sup> describe GSM as part of evolution of wireless mobile telecommunication that includes high speed circuit, switched data, general packets radio system and universal mobile telecommunication service. According to Radio Electronics<sup>[4]</sup>, the overall system definition for GSM describes not only the air interface but also the network. They explain that by adopting this approach it is possible to define the operation of the whole network to enable international roaming as well as enabling network elements from other, although this last feature is not completely true; especially with older items. International Engineering Consortium<sup>[5]</sup> conceives GSM as a globally accepted standard for digital communication. To them, it

is the name of a standardization group established in 1982 to create a common European mobile telephone standard that would formulate specifications for a Pan-European mobile cellular radio system operating at 900 MHz.

Ndukue cited in Wojuade periscopes a number of things on the development of GSM in Nigeria. He explains that GSM actually came as a result of the choice of the operating companies who bided for the mobile licences. The operating companies quickly adopted GSM because of the obvious economic advantage. He concluded that since then GSM has spread even to the United States and such other places that traditionally did not have GSM at the beginning. And that it grew very fast and overtook fixed services within a short time and it is not just in Nigeria but all over the world.

ECONET wireless Nigeria Limited (ECONET0 which was one of the winners of GSM licences in Nigeria is a Zimbabwean based company with strong ties in South Africa. It is the fourth biggest mobile phone operator in Africa with a vast network in the southern part of the continent (Wojuade). In Nigeria, ECONET Wireless International (EWI) holds equity interest in ECONET of Zimbabwe and the South African government owned company Transnet. Both companies hold a 60% stakes in Nigeria affiliate Masiyiwa<sup>[6]</sup>. To Masiyiwa, Zimbabwean ECONET vision was to provide telecommunication to all Nigerians and its mission to serve Nigeria pioneering, developing and sustaining reliable, efficient and high quality telecommunication of uncompromising world class standard and ethics. Ajakaye<sup>[7]</sup> explain that ECONET promises affordable charge and proposed to the government to allow them charge a connection fee of N20, 000 and air-time cost of N29 or N30 per min which has been done.

In the same vein, Mobile Tele-communications Network Nigeria limited (MTN) is also one of the companies that own GSM licence in Nigeria. It began in 1994 with five countries and over three million customers in Uganda, Burundi, Swaziland, Cameroon and South Africa, leading Africa into a new age of economic developments using telecommunications as the spring board, which is the driving force behind MTN investment strategy for the continent. Effective communication services are, particularly from a business perspective and nowhere more than in Nigeria which is developing into one of our most important trading<sup>[8]</sup>. However, it is on this fundamental truth that MTN has based its vision to become the leading provider of communication services in African continent linking quality services that is a catalyst for economic development. The success of MTN in Nigeria revolves round providing telecommunication across the countries. MTN's aim is to facilitate changes

that have long term domestic benefits. Apart from the obvious economic development, local infrastructure and facilities are up graded to improve the quality of life through communication. Global communication was granted the licence as Nigeria's second national carrier in August 2002. The licences covers three broad categories which are: digital mobile licence (GSM); National carrier licence (fixed and non fixed wireless) and international Gateway licence. The licence will enable it to provide a high quality and world-class communication network that will provide any type of content voice, data and multimedia to consumers, subservice providers or enterprises. In line with the term of its licence, Globacom has incorporated GLO mobile limited to operate its digital mobile licence an addition that gives Globacom leverage to offer total quality products and services to its subscribers. Other operators of GSM in Nigeria are Mtel, Starcom, Orascom, Celtel etc<sup>[9,10]</sup>. All the operators have made communication effective and efficient in Nigeria. The services offered by these operators are prepaid phone card, contract line, voice mail, short messages services, fax and data communication service, conference calling, caller line identification, call diverse, call barring, call waiting, switching of cells, itemised bills and directory inquiry<sup>[11]</sup>.

At present a wide range of telecommunication services are offered in the country: Telephony; Telex; Cellular Mobile Telephony; Facsimiles; Gentex (Extension of telex terminals Leased Circuit; Alternate Leased Circuit; Maritime Mobile Service INMARSAT, shop shore, global mobile personal communications, high speed data transmission telegraphy, Public pay phones, Value Added services, Business Network services and mobile radio trucking services etc.

**The economic impact of GSM:** Mobile telecommunication is becoming one of the most important industries in the world. Although, perhaps, not the intent of introducing a new technology, the implementation of the GSM standard has directly and indirectly contributed to economic growth, led to the creation of new employment opportunities and contributed significantly to the GDP of many countries<sup>[1]</sup>. Determining the exact employments contribution is as equally difficult as calculating global mobile revenues: it is extremely difficult to know where to draw the lines. Typically, economists use a multiplier for a given industry to workout the total employment of all of its offshoots. However, the introduction of GSM has grossly enhanced competition by defining the interfaces to the subsystems', but allowing the choice of the internal component technologies to be left to the equipment suppliers. Moreover, the technologies challenges of

introducing a new digital technology were immense, with exponential increase in the complexity of the radio, signalling and control software. Meeting these challenges involved the interplay of various clusters of technologies and competencies. Thus, the European Union standardization equipment companies (e.g., Erickson, Nokia, Siemens, Alcatel and Philips) to enjoy the benefits of technological learning and economies of scale in component manufacture, enabled in world markets for mobile communications.

The introduction of GSM and the associated liberalisation of mobile markets in the late 1989s, enabled companies like Erickson and Nokia to quickly take their advantage and emerge as major global players in the mobile telecommunications market. In 20 years, Nokia has grown from the world's leading producer of mobile phones. It has become the archetype of a company influenced by the GSM mobile phone. Nokia is now so large and powerful, it dominates the economy in its home country of Finland. It accounts for almost a quarter of total finish exports and contributes significantly to the country's economic growth. Nokia employed approximately 52,000 people in 2003, which represents 5% of the manufacturing labour pool and 10% of the total employment figure for Finland. Nokia itself has increased GDP by more than 1.5% and represents an industrial economic pillar in its own right, alongside Finland's traditional metal and engineering and forest based industries.

In the financial markets as well GSM had announced its arrival. Given the higher growth in subscriber numbers, it may come as no surprise that GSM mobile technology was one of the driver massive infrastructures spending in the telecom sector, into the mid to late 1990's. The emergence of new telecommunication technologies demand internet growth in mobile communications, resulted in high expectation for future revenues and earnings, boosting share prices and allowing unprecedented levels of investment. Going by the estimate of Deutsche Bank between 1990 and 2001 the total capitalisation of global equity market is more than double \$9.3 trillion to \$26.5 trillion, to which the technology and telecom sector were significant contributors.

**Effects of GSM on economy of nigeria rural dwellers:** According to Balogun, GSM facilitate economic development as it provides easy and effective communication need to stimulate and promote trade between Nigeria and its foreign partners in the world. Even at home, it play a cynical role in communicating government programmes thereby linking to entire sectors

of the economy together in order to achieve a common goal. Above all, it encourages investment which in the long run promotes employment opportunities. At microeconomic level, the sector contribution to GDP increased by 53% in 2003 making it the third highest contributor ahead of the financial sector which has been in operation for about 100 years. It has attracted foreign direct investment of about \$5 billion. In respect of employment, over 135,000 persons have been directly and indirectly employed by the operators and their distribution chain components while the industries support service sectors such as banking, insurance, consultancies (legal, accounting, HR, tax) haulage, shipping and IT, as well as the small and Medium Scale Enterprises (SME) segment of the economy have also witnessed very significant levels of increased activity.

According to a report in Nigeria Tribune Newspaper of July 16, 2004, government treasury has been boosted by payment of over 200 billion Naira in taxes and levies. National productivity has also been enhanced as travel times and associated risks have been reduced, business communications improve and the rural-urban divide narrow down. Social and family relationship and the security situation have also been significantly enhanced. A significant number of not-for-profit Corporate Social Responsibility (CRS) initiatives are being sponsored by the operators. In his own contribution Adeyeye in Wajuade<sup>[1]</sup> said GSM has discouraged rural-urban migration, unlike before when rural dwellers were always eager to visit the cities. Now with GSM they travel to cities without boarding a vehicle. The introduction of GSM has also shown a potential for reducing crime and mortality rate. Accessibility to phone services ensure quick calls to security operations when the need arises as well as informing the first stations during fire incidents to save lives and properties. To Adomi<sup>[12]</sup>, GSM is used by Nigerians mostly to communicate with another. He explained that students used it to communicate with their course mates, friends, lecturers and family relatives. Additionally, family matters, finance and academic matters constitute the topics/subject of mobile communication for a majority of students, but mobile phone has limited the need for most of the students travel followed by facilitation of exchange information anytime the need arose.

Scotts<sup>[13]</sup> reports a research carried out by Gamos Ltd on some characteristics of the use of telephones amongst rural and low income communities in some African Countries-Botswana, Ghana and Uganda. The study reveals rural inhabitants and poorer urban users value phone services but do not use them very often compared to relatively more affluent users; over 40% of respondent

in Uganda used mobile phones through friends and family and individuals; although a further 24% of people used mobile phone through teleshops; the result from all three countries were quite striking and consistent, demonstrating a strong preference for mobile phones rather than fixed line phones and a preference for private phones rather than public access points. Scott in Adomi<sup>[12]</sup> as well reports that educated people used phone more, have a strong intention to use phone in future and have a more positive attitude towards phones.

As part of moving industry, telecommunication is expected to provide employment opportunities for the unemployed graduates and school leavers. The licensed operators in Nigeria such as MTN, ECONET, GLO, M-TEL and the likes are still recruiting workers. It is against this background that the present study is design to examine the stakeholders' perception of the impact of global system for communications on Nigeria rural economy and as well consider its implication for the emerging communication industries. To achieve objective of this study, the following questions were raised:

- Does the introduction of GSM have any relations with Nigeria rural economy?
- Does the introduction of GSM provide job opportunities to the rural dwellers in Nigerians?
- Of what relative impact is the introduction of GSM on the rural dwellers time management?
- Has the introduction of GSM reduce the rate of crime in rural areas in Nigeria?

## **MATERIALS AND METHODS**

This study adopted descriptive survey research design to describe stakeholders' perceptions of the impact of global system for communications on Nigeria rural economy and its implications for the communication industry. The study drawn on GSM subscribers whom were comprised of policemen, teachers, the unemployed graduates, itinerants' traders and the drivers as the target population. The sample comprises of 1000 respondents randomly selected from ten rural communities of Oyo State, Nigeria. Their age ranged from 25-50 years. An instrument tagged Economic Impact of GSM Perception Scale with  $r = 0.87$  Cronbach alpha was used to gather the data. The instrument was divided into two sections. The first section required the respondents' bio-data information like age, sex and years of using GSM etc while the second section contained response items. The second section was further divided into four parts. Part 1 contains items on GSM and Rural Economy; Part contains items on GSM and Unemployment; Part 3 contains items on GSM

and Time management; while part 4 contains items on GSM and crime reduction. Each part contains five items each, except part four which contains six items. These gave a total of 21 items in all. It is a likert type of points scale. Response to the items range from strongly agree-strongly disagree. The instrument was administered to the respondents in their various communities using the Town Halls as the venue of the administration. All the respondents in each of the 10 selected rural communities were intimated of the date of the administration. With the support of some research assistant, the administration was completed in 10 days.

Data collected was analysed using Chi-Square statistics.

**RESULTS**

The results of the analysis are presented as follows:

The results in Table 1 above show that 60% of the respondents' were male while 40% were female. Furthermore, 35% were single while 55% were married and 10% were shown to be divorcee. The result as well reveals that 80% of the respondents' age falls within the range of 21-50 years. This of course constitutes the majority. The return rate of the instrument was also shown to 100%.

**Research question 1:** Does the introduction of GSM have impact on Nigeria rural economy?

The result in Table 2 above shows that the X<sub>o</sub> Obs 472.1 is greater than the value of X<sub>o</sub> Crit. 26.296 at 16 degree of freedom. This indicates a significant relationship meaning that the introduction of GSM has significant impact on Nigeria rural economy.

**Research question 2:** Does the introduction of GSM provide more job opportunities to the Nigerians in rural areas?

The result in Table 3 above shows that X<sub>o</sub> Obs. 314.2 is greater than the value of X<sub>o</sub> Crit. 26.296 at 0.05 significant levels at 16 degree of freedom. This indicate a significant relationship which also imply that the introduction of GSM significantly create employment opportunities for the unemployed youths in the rural areas in Nigeria.

**Research question 3:** Has the introduction of GSM reduced the rate of crime in Nigeria?

The result in Table 4 above shows that the X<sub>o</sub> obs 314.2 is greater than the value of X<sub>o</sub> Crit 26.295 at 0.05 significant levels and 16 degree of freedom. This indicates a significant relationship, implying that the introduction of GSM in Nigeria has actually reduced the rate of crime, especially in the rural areas where crimes can now be reported promptly.

**Research question 4:** Of what relative impact is the introduction of GSM on the people's time management?

Table 1: Bio-data information summary

Sex	No of Respondents	% Distribution
Male	600	60
Female	400	40
Total	1000	1000
Marital status	No of respondents	Percentage
Single	350	35
Married	550	55
Divorcee	100	10
Total	1000	100
Respondents age in years	No of responses	Percentage
21-30	150	15
31-40	400	40
41-50	250	25
51+	200	20
Total	1000	100
Return rate	No	Percentage
Number administered	1000	100
Number returned	1000	100

Table 2: Rural economy and use of GSM

Items	SA	A	D	SD	R-total
GSM has improved the standard of living in Nigeria	120 (60)	92 (71)	28 (67)	16 (23)	256
Every sector of the economy in Nigeria has benefited from GSM	70 (45)	80 (53)	17 (50)	23 (54)	190
GSM is not relevant to all, as it is expensive to maintain	12 (73)	15 (77)	103 (74)	150 (80)	280
GSM is of no impact on Nigeria rural economy	5 (35)	10 (41)	65 (39)	67 (42)	147
GSM is meant for high income earners	27 (30)	20 (35)	50 (33)	30 (36)	127
Column Total	234	277	263	286	1000

\*Significant at 0.05, (X Obs = 472. 1; X Crit = 26.296; df, 16, P.05)

Table 3: Job opportunities and use of GSM

Items	SA	A	D	SD	R-total
The introduction of GSM in Nigeria encourage small scale business	92 (88)	78 (72)	13 (22)	23 (24)	206
GSM has provided a source of income to many young school leavers	102 (99)	86 (82)	21 (25)	24 (27)	233
GSM had reduce poverty in Nigeria	96 (92)	88 (76)	21 (23)	11 (25)	216
Unemployment has been dramatically reduced through the introduction of GSM	105 (86)	64 (71)	14 (22)	18 (23)	201
GSM provides employment opportunities for only a few influential Nigerians	14 (29)	15 (24)	18 (7)	20 (8)	67
GSM provides holiday job for many students	17 (33)	20 (27)	20 (8)	20 (9)	67
Column Total	426	351	107	116	1000

\*Significant at 0.05, (X<sub>o</sub> Obs. 103.66; X<sub>o</sub> Crit. 37.652; P.05; DF 25)

Table 4: Crime and use of GSM

Items	SA	A	D	SD	R-total
GSM has increased the rate of crime in Nigeria	25 (54)	32 (44)	86 (66)	97 (76)	240
GSM encourages dishonesty among Nigerians	25 (47)	18 (39)	90 (58)	76 (66)	209
The use of GSM assists in reporting criminals in the society to law enforcement agents	136 (36)	89 (49)	12 (74)	31 (85)	268
GSM has aided the activities of armed robbers	25 (43)	21 (35)	65 (52)	78 (60)	189
Introduction of GSM had dramatically increased fraudulent activities in Nigeria	14 (21)	24 (17)	22 (26)	34 (30)	94
Total	225	184	275	316	1000

\*Significant at 0.05, (Xo Obs. 314.2; Xo Crit. 26.296; df, 16; P 0.05)

Table 5: Time management and use of GSM

Items	SA	A	D	SD	R-total
Nigerians are now more time conscious with the advent of GSM	78 (74)	87 (75)	15 (23)	21 (29)	201
GSM is time consuming	11 (63)	18 (65)	64 (20)	79 (25)	172
GSM encourages time management	86 (69)	84 (71)	12 (22)	7 (27)	189
GSM discourage unwarranted journey	90 (71)	90 (72)	6 (22)	7 (28)	193
GSM enhances proper planning and execution of private and public programmes	102 (90)	96 (92)	17 (28)	30 (935)	245
Column Total	367	375	114	144	1000

\*Significant at 0.05, (Xo Obs.342.1; Xo Crit.26.296; DF -16; P.05)

The Table 5 above shows that the Xobs. 342.1 is greater than the value of Xo Crit. 26.296 at 0.05 significant level at 16 degree of freedom. This means that the introduction of GSM has relative positive impact on the people's time management ability.

### DISCUSSION

While the major focus of this study was on impact of mobile communication system on the economy of rural communities in Nigeria, attempt was made to examine this impact on specific issues as income, job opportunities, crime and security. Perhaps, the first major observation that should be made is that the entry of the GSM into Nigeria has actually radicalized the space of information and communication among the generality of Nigerians. Within a spate of about five years, a large percentage of Nigerians, including those in the rural communities now have access to this communication mode. Whereas in the late 1980s, a particular minister of communication, a top government functionary in Nigeria, made a remarkable statement that telephone is not for poor; today in Nigeria both the Rich and the Poor have access to the mobile communication. Telephoning has since been removed as the exclusive preserve of the rich in Nigeria with the arrival of GSM. This significant observation is perhaps a major finding in this study.

On the impact of GSM on job creation for rural people. It is reported in this study that a majority of school leavers, who hitherto have been idle and jobless now engage themselves in retailing of GSM materials and as local service providers. In most parts of the urban cities, town and villages in Nigeria, there have sprung up services centres for pay phones. Due to the small capital required to set up such a business, many who were employed hitherto now enter into such businesses. This has reduced the number of unemployed youths in our cities and rural communities.

Consequent upon these job creation opportunities for rural people is the resultant increase in their income. With little earnings coming in from the retailing of GSM products and call services, the respondents indicated that the entry of GSM into the country has enhanced their income. The category of respondents being described here are the people at the lowest rung of the ladder in the society, farmers, petty traders, teachers, (at both primary and secondary schools levels), generally what could be described as the low income earners. Although, it was very difficult for the respondents to give precise figures of their income, they generally acknowledge that their income has been enhanced due to GSM effect. As reported in the literature, therefore, the introduction of the GSM into Nigeria has directly or indirectly impacted on the economy of the people, more especially, the rural populace.

On the impact of GSM on their time management, although the respondents generally agreed that this is possible, however, it was discovered that inspite of the efficacy of GSM to encourage effective time management, Nigerians, especially, the category of people sampled here, have not changed their poor time management. Perhaps, one could provide an explanation for the general poor time management among Nigerians. This is a terrible phenomenon, as most Nigerians from the top to the lowest level, suffer from the 'African time' syndrome. A situation where people get late for appointments, meetings, programmes with impunity. Attitude is something that can not be changed so easily, it takes a long period of time for people to change their long held practices. It is therefore not strange that positive changes in time management are still not achieved, in spite of the GSM communication mode in the country. It could be hoped that this communication mode will help to sharpen the sense of time management skills.

With regards to GSM and crime rates, it was reported that the introduction of GSM has significant impact on

crime reporting in the rural areas in Nigeria. It could be noted that crime detection and report to law enforcement agencies have improved. Infact a particular GSM operator provide a service that could help trace stolen vehicles in the country. This service has led to the recovery of many stolen cars in the country. It should also be noted that the category of people sampled in the study are from the rural areas, hence, they may not be able to access such services yet. On the whole, it could be concluded that the introduction of GSM communication in Nigeria has greatly enhanced trade and business and the general income of the rural populace in Nigeria.

**Way forward:** With many service providers coming on board and expansion of network services even among the existing services providers, things could only get better. It is therefore expected that access will be extended to more rural communities in Nigeria and in no distant future the whole country would have been covered. This will have multiplier effects on the life of the people generally and the rural dwellers more specifically.

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