

Journal of Rural Social Sciences

Volume 32 | Issue 2

Article 2

12-30-2017

Effect of Mobile Telecommunication Technologies on Globalization of Nigerian Rural Areas

O. A. Lawal-Adebowale

Federal University of Agriculture, Abeokuta, deoaks@gmail.com

Follow this and additional works at: <https://egrove.olemiss.edu/jrss>

 Part of the [Rural Sociology Commons](#)

Recommended Citation

Lawal-Adebowale, O.. 2017. "Effect of Mobile Telecommunication Technologies on Globalization of Nigerian Rural Areas." *Journal of Rural Social Sciences*, 32(2): Article 2. Available At: <https://egrove.olemiss.edu/jrss/vol32/iss2/2>

This Article is brought to you for free and open access by the Center for Population Studies at eGrove. It has been accepted for inclusion in Journal of Rural Social Sciences by an authorized editor of eGrove. For more information, please contact egrove@olemiss.edu.

EFFECT OF MOBILE TELECOMMUNICATION TECHNOLOGIES ON GLOBALIZATION OF NIGERIAN RURAL AREAS

O. A. LAWAL-ADEBOWALE*

FEDERAL UNIVERSITY OF AGRICULTURE, ABEOKUTA

ABSTRACT

The globalization of a country is today measured with respect to indices of globalization such as the Maastricht Globalization Index (MGI) and the *Konjunkturforschungsstelle* (KOF). These indices of national globalization often have an urban bias. This study however explores the extent to which these international measures include rural environments of the globalizing country. Application of the MGI/KOF indices for determination of the Nigerian rural environment inclusion in globalization showed that the country's rural communities were mainly integrated technologically by virtue of telephony (communication technology) penetration of rural areas. An attempt to modify the MGI/KOF globalization indexes for rural inclusion showed that the Nigerian rural communities were technologically integrated but only partially integrated politically and socio-culturally. Based on this, it was recommended that a globalization index for rural inclusion needs to be developed to establish countrywide globalization in absolute terms.

The need for attainment of quality living by human society has engendered an extensive exploration of the available livelihood assets. The dynamics with which livelihood assets, such as natural, physical, financial, human and social assets, are explored for attainment of quality life has greatly revolutionized humans' social and economic engagement on a global scale. Consequently, livelihood assets exploration takes place, not only within the domain of a particular country but beyond the geographical boundaries to other countries across the world. Such exploration is often effected through the forging of interconnectivity that allows for easy movement and utilization of livelihood assets between countries. The interconnectivity, as opined Gyamotsho (2005), Dahir et al. (2014), and Martens and Raza (2009, 2010), is largely facilitated by a functional and smooth transportation network, integration of information and communication technologies (ICT), relaxed migration regulations, multilateral trades and forged partnerships between countries. These acts thus enhance the closeness and frequent interaction of countries such that the earth is seen as a global village – a world that is small enough to facilitate interactions and exploration of livelihood assets in a faster and convenient way for man's social and economic development. In the same vein, Dahir et al. (2014) expressed that the narrowing distances between countries have prompted conditions in which globalized social and economic interaction is facilitated.

*Corresponding author: deoaks@gmail.com; Tel. +2348034873606

EFFECT OF MOBILE TELECOMMUNICATION TECHNOLOGIES 21

Globalization, as conceived by Friedman (2000), entails the integration of markets, nation-state and technologies in a way that enables individuals, corporations and nation-states to reach around the world faster, farther, deeper and cheaper than ever before and in a way that enables the world to reach into individuals, corporations and nation-states faster, farther, deeper and cheaper than ever before. On another note, Rennen and Martens (2003) describe globalization as intensification of cross-national interactions with the aim of promoting established transnational structures for facilitation of economic, social, cultural, ecological, political, technological and social processes on global, supranational, national, regional and local levels. Researchomatic (2010) simply puts the concept as the process of economic integration of the entire world through the removal of barriers to free trade and capital mobility, and diffusion of knowledge and information. In essence, globalization is a kind of development effort with a platform created for human interaction across the world and ease of movement of goods and services between countries for attainment of social and economic benefits of all the interacting countries. According to Gyamtsho (2005), globalization causes man's socioeconomic development through trade liberalization on a level playing ground allowing all nations and individuals to compete on the world stage.

Ever since the conceptualization of globalization and its attendant definitions, social and economic researchers have apparently found it crucial to ascertain the impacts of the globalization drive; using indicators from political, economic, socio-cultural, technological, and environmental domains as the guiding criteria. Based on these measuring criteria, variables such as absolute number of embassies and high commissions in countries, (Dreher 2006; Dreher et al. 2010; Figge and Martens 2014), and involvement of countries in conventional arms trade and international military aid (Held et al. 2000) have been used as measures of political impacts of the countries given globalization. Measurement of the economic domain has been in trade and the spread of neoliberalism, capitalism and market economy (Antonio 2007), multilateral trades of goods and services between countries. In the cultural domain are variables such as trade of differentiated products, promotion of understanding between cultures, tourism and flows of immigration – (both legal and illegal), international migrant group as a share of the population and the number international arrivals and departures (Figge and Martens 2014). For the technology domain, variables such as modern communication technologies, particularly as for mobile cellular subscriptions per 100 inhabitants, internet users, and transportation system have been used. The environmental impacts have been measured in ecological footprints of imports and exports as a share of biocapacity (Figge and Martens 2014).

Based on these indicators, the established social and economic impacts of globalization in some countries largely reflect expanded foreign investment

(Martens and Raza 2009, 2010), free or relaxed movement of goods and services, flow of capital, movement of labor and transfer of technology through liberalization and increased openness to trade, flow of ideas and norms, information and people (Bhandari and Heshmati 2005), cultural integration (Falk 2000), lower cost of transportation and communication, and development of new or enhanced legal system. Ranking countries based on these globalization impacts, Figge and Martens (2014) put Nigeria at 91 out of the surveyed 117 countries.

Critical examination of these indicators of globalization impacts however reveals that the impacts are drawn on what is tenable in urban areas, particularly cities, than what holds for rural areas. For example, rarely do embassies or high commissions locate in rural areas or immigrants reside in the rural areas. This notwithstanding, some aspects of these indicators still provide the basis for rural areas to be integrated in the globalization. For instance, the cultural, technological and economic domains form potential avenues by which any rural areas could be integrated in the drive for globalization. On this account, it becomes essential to stimulate cultural, technological and economic development of the rural areas such that they could become globally integrated. Beyond this Flora and Flora (2013) and Mattos (2015) stress the need to invest in existing capital assets, such as natural, human, social, cultural, political, financial and built capitals for the development of rural areas. Furthermore, natural assets such as parks, lakes, rivers, wildlife, forestland, farm land, mountains, rocks and other natural resource features (Mattos 2015); and natural assets, such as cultural events/festivals, musical heritage, libraries, museums, multilingual populations, historical associations (Beaulieu 2014), could place the rural areas on the global scene by attracting tourists. This in turn could directly influence economic development of the areas as to income generation, wealth accumulation, entrepreneurial or business development and build-up of the much desired infrastructure, such as telecommunications, water and sewer systems, roads and transportation system, which are essential to attainment of improved well-being of the rural environment; and could indirectly stimulate transformational development of the social, human and political assets of the rural areas. According to Dasgupta (2007), the capital assets make infrastructure open to all the people, even as they produce, consume and trade.

In as much as the capital assets are crucial to rural development, integration of the rural areas in the globalization is contingent on the introduction of digital technology. According to Reference.com (2017), digital technology, which is a means of fast accelerating globalization, allows for distribution of information and cultural traits around the world. As further emphasized by the author, digital technology makes it possible, for instance, to have European music or American films reach remote villages in Asia and Africa in minutes, allowing for commercial opportunities on broader market scales and exchanges of cultural elements to an

EFFECT OF MOBILE TELECOMMUNICATION TECHNOLOGIES 23

unprecedented degree. In view of this, rural areas around the world could thus have their culture and economic opportunities showcased to the world through the digital communication technology and receive that of other areas for assimilation and acculturation.

With digital communication technology development in Nigeria and its penetration to rural areas, the country's rural communities have the potential to become part of the drive for globalization. Although, the developed communications technologies in Nigeria were not consciously targeted at rural areas, this revolutionary development has spread to rural areas by virtue of radial coverage of the communication networks thereby causing rural telecommunication penetration of the country side. The telephony networks have thus afforded rural dwellers the opportunity to communication with people outside their communities. Telephony networks have also made it possible for rural dwellers to communicate and exchange information with any other individual or groups through electronic mail (e-mail), chat-rooms and blogging, despite the distance between the two communicating ends. Radio and television applications component of the mobile phones, alongside the internet-based radio and video players for online broadcasting, form the information superhighway by which global news and other happenings around the world could be accessed or disseminated by Nigerian rural dwellers. The social media component of the internet, blogs and other online-visual platforms allow, not only for information exchange, but also for showcasing of events, materials and artefacts to the world by rural communities. In view of this, the study assesses the extent to which the Nigerian rural areas have been integrated in the globalization drive. To accomplish this task, the following questions serve as guides:

- To what extent are the Nigerian rural communities integrated into the global scene?

The need for transformational development of human society for quality living had engendered a strong drive for exploration of the existing capital assets by stakeholders in development. An attempt to harness such capital assets, wherever they may exist on a comparative advantage, caused interconnectivity of different countries of the world such that there is easy movement of goods and services, funds, information and people. Impacts of the global connections, as revealed by studies on globalization (Figge and Martens 2014), have however been largely reflected at the national level with almost no reference to such impacts in rural areas. To ascertain whether or not rural environments are integrated into the globalization drive, the study sought to examine the Nigerian rural situation for transition into the globalization drive. This led to the following null hypothesis:

- The Nigerian rural environment is not integrated into the globalization drive

Theoretical Concept of Globalization Measurement: The MGI and KOF Models

The dynamics of human activities have effected an extensive change in the nature and tempo of social and economic engagement on a global scale. Rather than having things done mainly within a national boundary, development issues are shared across national boundaries in an integrated manner thereby leading to the concept of globalization. Such a mode of engagement is not without its consequential impacts on nationals, be it negative or positive (Martens, Dreher, and Gaston 2010). Irrespective of specific impacts, point of emphasis is on their appropriate measurement. This becomes essential as it makes possible to ascertain the severity and benefits in clear terms, and to be able to develop how the impacts should be managed (Martens et al. 2010). In this way, Martens et al. (2014) not only emphasize the need for measurement of globalization impacts, but also the dimensions and units of measurement. While the measured dimensions may take the form of political, economic, social, cultural, technological, and environmental elements, the units of measurement were either at the local, national, regional or global levels. In the wake of these elements of globalization indicators is the development of measuring indexes such as the Maastricht Globalization Index (MGI) and *Konjunkturforschungsstelle* (KOF) Index of Globalization. Both indexes include political, economic and social indicators in their measurement. However, the MGI further included cultural and ecological/environmental indicators to become a comprehensive measuring tool of globalization (Figge, Oebels, and Offermans, 2016). This notwithstanding, Martens et al. (2014), stress that globalization is not, and should not be limited to a single composite index but could be in a set of complementary indexes.

Consequent upon this, is the development of a series of globalization indexes by scholars in the field of development. The first initiative of this kind, as indicated by Martens et al. (2014), was the A.T. Kearney/Foreign Policy Globalization Index, launched in 2001 with the KOF Index of Globalization appearing as the second major measurement exercise in 2002. The Center for the Study of Globalization and Regionalisation (CSGR) at the University of Warwick produced a globalization index covering the years 2002–2004 and a Cultural Globalization Index was suggested in 2004. The Maastricht Globalization Index (MGI) emerged in 2008 and a New Globalization Index was proposed two years later. More recently, Caselli (2012) has suggested a Person-Based Globalization Index (PBGI). According to Martens et al. (2014), these measurement exercises are important, not only in themselves, but also for the explanatory claims that may flow from them.

Scholars however seem to disagree on whether globalization indices are objective measurements (Dreher et al. 2010) or subjective constructions (Caselli

EFFECT OF MOBILE TELECOMMUNICATION TECHNOLOGIES 25

2012). Comparison of indexes by Dreher et al. (2010) showed that some were considered either narrow, medium or broad in their measuring scope. On another note was the OECD handbook (2008) indication that globalization indices are mathematical or computational models, which include many subjective choices of the modeler in the construction process. Martens et al. (2014) indicated globalization measurement may be evaluative and a high-ranking globalization measure might take a meritorious quality. In the light of this variety of perspectives, research has shown that there is no single correct way to construct a globalization index, and each may be right and consistent. Martens et al. (2014), stress that different indices will also yield different results, depending on the choices of indicators and the aggregation methodology, Dreher et al. (2010) emphasize the need to ensure relevance of the indicators to be used as a measure of globalization. Based on this, this study adjusted the MGI and KOF indexes, which mainly accommodated countries' integration in globalization, to reflect the inclusion of the rural areas in the globalization drive.

METHODOLOGY

The research was conducted in selected states of the southwest Nigeria farming zone. The southwest farming zone consists of eight states, namely Delta, Edo, Ekiti, Lagos, Ogun, Ondo, Osun, and Oyo States. The zone is one of five farming zones into which the entire country was structured for administration of agricultural policies and programs. With food and tree crops as the major farm enterprise production in the zone, crop-based research institutes, namely Cocoa Research Institute of Nigeria, Nigerian Institute of Horticulture, Institute of Agricultural Research and Training, Forest Research Institute of Nigeria, Rubber Research Institute of Nigeria, had their headquarters in the zone. Beyond these institutes were the headquarters of the Nigerian Institute of Oceanography and Marine Research established for administration of fish related matters, and the Federal Institute of Industrial Research, Oshodi established for postharvest and agro-processing for agro-industrial development.

The study area however was limited to three of the eight southwest Nigerian states, namely Ogun, Osun and Oyo States, to ensure in-depth data collection within a manageable geographical area. Each state has its state capital and is structured into several Local Government Areas for political administration. The capital cities of each state is largely urbanized with commercial activities in merchandising, banking, educational, communication and civil services as the economic base. Away from the urban area is the rural environment where many Nigerians reside and engage in agriculture as their major means of livelihood. From each of the three states was purposive selection of five rural communities, based on availability of mobile phone network services, to give a total of 15 communities.

The rural areas are largely characterized by poorly developed roads, buildings are in isolation from one another and are largely constructed with mud, which are occasionally plastered with cement or mortar; rivers, streams and wells are sources of water for consumption and domestic use.

Farm-based activities constitute the means of rural livelihood, but given the poor system of agricultural practice in the country, soil cultivation is by hoe and cutlass with heavy dependence on rainfall for farming activities. Commonly cultivated farm enterprises by farmers across the three states include food crops such as maize, cassava, yam, vegetables and spices. Other cultivated tree and horticultural crops in the study areas are citrus, mangoes, cashew, pineapple, pawpaw and cherry. The cultivated crops are often sold in the open market, and become very cheap during the rainy season, but become scarce and expensive during the dry season. This is due to outright lack of, or poor storage system for post-harvest handling. Beyond crop cultivation is management of small farm animals such as sheep and goats, and chicken, usually for home consumption.

Although, rural communities across the country generally lack basic infrastructure, media broadcasting and mobile telephony network are available in the rural communities largely due to radial connectivity coverage of the media. Based on this, Nigerian rural communities access information from radio and television broadcasting services, and use the mobile phones for information communication with friends, relatives and business partners. Although, no internet hub or service is available in the Nigerian rural environment, internet service provisions by the mobile phone network service providers, namely MTN, Airtel, Globacom and Etisalat, is the only internet service available to the rural areas.

Study Population, Sampling Frame and Sampling Procedure

The study domain includes rural areas with mobile phone network services in Nigeria and the study population consists of rural dwellers who either owned or used mobile phones. To ensure collection breadth of data on mobile usage for effecting globalized activities, a total of 15 rural communities was purposively selected for the study. Owing to non-availability of an established sampling frame for the study area, and due to lack of official documentation on mobile phone subscribers in Nigeria's rural areas, a non-probability sampling technique was determined to be appropriate for the study. Consequently, saturated point selection (Glaser and Strauss 1967) or trickle down sampling approaches (Bailey 1987) which allows for selection of as many individuals that may be willing to participate in the study and thereafter trickled or reduced to manageable size was adopted for this study. Based on the understanding that 30 respondents suffice for a survey study, the study spread the number across the selected 15 communities to a total of 450 respondents (Bailey 1987). For trickling down or to reduce sample to a manageable

EFFECT OF MOBILE TELECOMMUNICATION TECHNOLOGIES 27

size, Watson (2001) sample size determination model (chart) was adapted to select 212 respondents, (with average of 14 persons per community) at 95% confidence level, 50% variability and $\pm 5\%$ margin error.

Data Collection

This was done by means of field observation/diary study, cultural probe, Experience Sampling Method, and Mobile User Experience (Cherubini and Oliver 2009; Grinter and Eldridge 2001; Ichikawa, Chipchase, and Grignani 2005; Kraemer 1991). The mobile phones/communication technology and field observation/diary study were used to capture environmental features of the study domains, such as type of mobile phones in use, availability of mobile phone and internet network services, and available telecentres (Blom, Chipchase, and Lehtikoinen 2005; Grinter and Eldridge 2003). The Experience Sampling Method and Mobile User Experience on the other hand were used to retrieve information on current happenings and socioeconomic and polity engagement of the rural dwellers (Consolvo and Walker 2003; Hektner, Schmidt, and Csikszentmihalyi 2007; Hormuth 1986).

Measurement of Variables

Globalization integration. This was based on MGI/KOF globalization indicators that are: political, economic, technology, socio-cultural and ecological integration. However, these were modified to reflect globalization actions at rural level. Consequently, the variables take the following form:

Technology integration. In place of mobile cellular subscription per 100 inhabitants and internet users as a share of population, the study measures technology integration as available functional mobile phone network service in rural communities, mode of mobile phone usage and usage of internet-based applications for global connectivity.

Political integration. In place of absolute number of embassies and high commissions, membership of international organizations and trade in arms by a country as a measure of political integration of a nation by MGI/KOF this study measured political integration of rural communities as mobile phone usage for monitoring governance in different countries, reception of international political news, and seeking information on political matters internationally.

Economic integration. In place of imports and exports of goods and services as share of national GDP; gross foreign investment, stocks, and absolute value of net capital flow as economic indicators for global integration of a nation by MGI/KOF; this study measured rural economic integration as mobile phone usage for linkages to international markets, creation of markets, monitoring of the market information, and the sourcing of employment and purchases of goods and service internationally.

Socio-cultural Integration. In place of international migrants as a share of population or international arrivals and departure per 100 inhabitants for tourism, this study measured socio-cultural integration as the extent to which the rural communities connect and forge partnerships with people outside their communities – internationally, monitor happenings in other countries, and share or project their community cultural values to the world via the mobile phones/internet.

Data analysis. This was qualitatively done based on the internationalized globalization measuring indexes, with emphasis on the MGI and KOF. Each of these had five similar measuring indicators that are economic, political, socio-cultural, technological and ecological domains. Although, the KOF indicators were broadly categorized into three domains – economic, political, socio-cultural, all the parameters reflected as five domains of globalization indicators – economic, political, socio-cultural, technological and ecological, by the MGI are equally embedded in the KOF 3 domains. This study however used four out of the five domains reflected in the MGI (Figge and Martens 2014; Martens and Raza 2009) as guide for explanation of the globalized actions observed in the surveyed Nigerian rural environment. The outcome of the analysis was established based on actual occurrence of the internationalized indicators.

RESULTS AND DISCUSSION

Analysis of Integration of the Nigerian Rural Communities into the Globalization Drive Based on MGI/KOF Indices

Political domain. Based on the indices for determination of countries' integration into the globalization, Table 1 shows the extent to which the Nigerian rural communities are integrated into the globalization. For political integration on the global scene, the guiding globalization indices reviewed for this study, namely Maastricht Globalization Index (MGI) and *Konjunkturforschungsstelle* (KOF) (Figge and Martens 2014), indicated the presence of absolute number of in-country embassies and high commissions, absolute membership of international organizations, and trade in conventional arms as share of military spending, though at the national level. With none of the indices present at the rural community levels it was affirmed that the Nigerian rural communities are not politically integrated into the global scene.

Economic domain. Similarly, the rural communities are not economically integrated on the global scene as none of the surveyed communities traded in goods and services for exportation and importation. A few proportions of the rural areas with natural resource such as rocks and lime stones were observed to have attracted foreign investment to the country whereby the rocks are being quarried for

EFFECT OF MOBILE TELECOMMUNICATION TECHNOLOGIES 29

TABLE 1. INTEGRATION OF THE NIGERIAN RURAL COMMUNITIES INTO THE GLOBALIZATION DRIVE

Variables/Indicators	Outcome of the Nigerian Rural Communities' Global Integration
Political indices	
Embassies	No embassy is present in any of the rural communities
Organizations	None of the rural communities belong to international organization
Military	No spending on or trade in conventional arms by rural communities
Economic indices	
Trade	There were no goods and services produced for exportation in the rural communities nor consumption of imported goods
Foreign direct investment	Slight foreign direct investment in the rural communities
Capital	Capital flow to the national economy could not be ascertained
Socio-cultural indices	
Migrants	No international migrants are settled in the rural communities
Tourism	There were no tourist attractions in the rural communities
Technological indices	
Phone	Mobile phone services and usage available in the rural communities
Internet	Lesser number of internet usage due to cost of data

production of granite stones, sand dusts and hard core stones, mostly by the Chinese. Attractions of such foreign investment to the rural areas were however not affected by the rural dwellers but by the State Government and as such, capital flow from the quarrying business does not accrue to the rural dwellers but to the State

and Local Government authorities. Some residents of the rural communities however had the benefit of being hired as labor for the quarry work.

Socio-cultural domain. Socio-cultural engagement of the rural areas was not visible on the global scene as no international migrants form part of the rural population. Although, the listing of the Nigeria on the globalization index (Figge and Martens 2014) suggests a level of international migrants forming part of the national population, none of such immigrants reside in rural areas of the country. This could be attributed to the lack of development infrastructure and social amenities in Nigerian rural areas. In addition, nearly all the surveyed rural communities lacked the natural or social resources to attract tourists to the areas.

Technological domain. Based on the mobile or cell phone and internet usage per 100 inhabitants by the MGI/KOF globalization integration indicators, the Nigerian rural communities could be said to be globalized because mobile phone and internet services are available to the country's rural areas. This was made possible due to rural penetration of the mobile network services facilitated by the four mobile network service providers in the country, namely MTN, Airtel, Globacom and Etisalat. With the mobile telephony service in the rural areas, it becomes possible for the residents of the areas to communicate with other people outside their immediate communities, by voice communication. Internet services were however less used by the residents due to a relatively high cost of data for the service.

Alternative Dimension of Measuring Rural Communities' Integration into the Globalization Drive – Ruralised Index

Against the backdrop of the international measuring indexes of globalization (MGI and KOF indexes) which focused on countries at the national and international levels is the conception of ruralised globalization index of this study. This is based on modification of the MGI/KOF index to reflect certain actions, which were affected by the rural dwellers through the mobile telecommunication technology as globalization actions. Table 2 thus shows the dimensions in which the Nigerian rural dwellers deployed the available telecommunication technologies within their reach to affect socio-cultural, political and economic engagement. Given that the 34.4% of the Nigerian rural dwellers occasionally monitor international political news via the internet component of their phones, it was ascertained that the rural communities are partially integrated on the global scene. With this, a few members of the rural communities become aware of political issues, such as elections, public campaigns, diplomatic relations between countries, going in other countries of the world. Other rural community members will later learn about such news whenever they are informed by those who actually access such news online.

TABLE 2. RURALISED INDEX FOR INTEGRATION OF THE NIGERIAN RURAL COMMUNITIES INTO THE GLOBALIZATION DRIVE (n=212).

Variables/Indicators	Frequency (%)	Globalization actions	Globalization outcome
Political indices			
Monitoring of global political news	73 (34.4)	Partial done	
Accessing government policies globally	0 (0.0)	Not done	Partially integrated
Participation in political debates globally	0 (0.0)	Not done	
Interaction with political organizations globally	0 (0.0)	Not done	
Economic indices			
Location of markets for goods and services on global scale . . .	0 (0.0)	Not done	
Creation of markets for goods and services globally	0 (0.0)	Not done	Not integrated
Sourcing of employment outside the community globally . . .	0 (0.0)	Not done	
Attraction of foreign investment	0 (0.0)	Not done	
Socio-cultural indices			
Sharing of local events with people globally	129 (60.8)	Partially done	
Learning about other regions and cultures	97 (45.7)	Partially done	Partially done
Forging partnership with people globally	0 (0.0)	Not done	
Technological indices			
Accessibility to mobile phone network	163 (76.9)	Fully done	
Existence/visitation of telecentres	117 (55.2)	Partially done	Integrated
Existence of internet hub	0 (0.0)	Not done	

In as much as the rural dwellers were observed to have deployed the mobile phones for location and creation of markets for their goods and services locally, it was glaring that they did not do so on a global scale. Consequently, the Nigerian rural communities were not integrated into the global economy. In essence, the areas have not effected actions for importation or exportation of their goods and services and had not attracted foreign investment into the areas. On the socio-cultural domain, 45.7% of the rural dwellers were observed to have used the internet to occasionally showcase their rural culture by uploading pictures of happenings and events in their locality, and 60.8% of them have used the mobile platform to view or learn about the culture of other regions. However, none had used the media to forge a partnership with anyone internationally.

Technologically, the rural environment was integrated in the globalization drive through mobile telephone network services and as much as 76.9% of the surveyed rural dwellers used mobile phones for information communication or exchange. Although no internet hub was established in any of the rural areas, the service is made available by the mobile phone network service providers as an accompanying package to voice communication component of the mobile network services. Yet due to fewer people using smart phones in the rural areas, internet services are less used by the rural dwellers. Establishment of telecentres in some rural communities creates the platform for the rural dwellers to be occasionally exposed to foreign lifestyles through the showcased foreign programs by operators of the telecentres. Most of the rural dwellers (55.2%) that patronize the telecentres largely do so to watch European football games and action-packed foreign films. Involvement of rural dwellers in this activity reveals that it was passionately based on the psychological enjoyment derived from such shows.

CONCLUSION AND RECOMMENDATION

As the world progressively operates within a globalized sphere, the socioeconomic engagement of human society has become revolutionized such that trade and investment has skyrocketed on a global scale. An attempt to determine the participation or involvement of different countries in the globalization drive caused several globalization indexes, among which are the MGI and KOF indexes that have been widely used for measuring the impacts of globalization on countries. Based on the indicators of these indices, Nigeria as a nation is involved in the globalization drive. However, the indices were too stringent to allow for inclusion of Nigerian rural communities in the globalization impacts. Adjustment of the internationalized globalization indices, designed for capturing as nations a whole, created the opportunity to reflect on the extent to which Nigerian rural communities are integrated in the drive toward globalization. Based on this, it was concluded that, among all the four globalization indicators, the Nigerian rural

EFFECT OF MOBILE TELECOMMUNICATION TECHNOLOGIES 33

communities were technologically integrated in the global scene, but only partially integrated politically and socio-culturally. The rural communities were however not economically integrated in the globalization drive. Based on this, the following recommendations were thus proposed for action and further research:

- Development stakeholders should give attention to the rural areas to have rural areas included in the globalization process
- In the light of the above recommendation, economic engagement of the rural dwellers should be enhanced such that they become integrated in international markets
- Rigorous information technology education and advisory services should be put in place for the rural dwellers to develop a rural-based knowledge society
- Pro-rural information technology development policy needs to be enacted and implemented for development of information technology hubs in the rural areas
- The internationalized globalization index should be adjusted to reflect rural-based indices in the globalization drive

Provision and implementation of the above recommendations does not imply automatic transformation development and integration of rural areas in the global scene but will serve to be proactive stimulating progressive development and integration of the rural system.

AUTHOR BIOGRAPHY

Lawal-Adebowale lectures in the Department of Agricultural Extension and Rural Development, Federal University of Agriculture, Abeokuta, Ogun State, Nigeria. He holds a PhD degree in Agricultural Communication with bias for Information and Communication Technology (ICT) usage in Agriculture and Innovation communication. Arising from his research activities, the author has about 40 publications to his credit, in both local and international journals, proceedings of Learned Societies/Associations and chapters in books. He is a member of Learned Associations such as Agricultural Extension Society of Nigeria (AESON), Agricultural Society of Nigeria (ASN), Farm Management Association of Nigeria (FAMAN), Rural Sociological Association of Nigeria (RuSAN), African Society for Information and Communication Technologies (ASICT) and European Geosciences Union Assembly (EGU Assembly).

REFERENCES

Antonio, Robert J. 2007. "The Cultural Construction of Neoliberal Globalization: 'Honey...I Shrunk the Kids'." Pp. 67–83 in *The Blackwell Companion to Globalization*, edited by George Ritzer. Oxford: Blackwell.

- Bailey, Kenneth D. 1987. *Methods of Social Research*, 2nd ed. New York: The Free Press.
- Bhandari, Amit K. and Almas Hesmati. 2005. "Measurement of Globalisation and its Variations among Countries, Regions and Over Time". Discussion Paper Series IZA DP No. 1578. The Institute for the Study of Labor. Bonn, Germany.
- Blom, Jan, Jan Chipchase, and Jaakko Lehtikoinen. 2005. "Contextual and Cultural Challenges for User Mobility Research." *Communications of the ACM* 48(7):37-41.
- Beaulieu, Lionel. J. 2014. "Promoting Community Vitality & Sustainability: The Community Capitals Framework." Purdue University. Retrieved July 31, 2017 (srdc.msstate.edu/LEAD/curriculum/LEAD%20Session%202/session2_handouts.pdf).
- Caselli, Marco. 2012. *Trying to Measure Globalization: Experiences, Critical Issues, and Perspectives*, Vol. 4. New York: Springer Science and Business Media.
- Cherubini, Mauro and Nuria Oliver. 2009. "A Refined Experience Sampling Method to Capture Mobile User Experience." Paper presented at the International Workshop on Mobile User Experience Research, Boston, MA.
- Consolvo, Sunny, and Miriam Walker. 2003. "Using the Experience Sampling Method to Evaluate Ubicomp Applications." *IEEE Pervasive Computing* 2(2):24-31.
- Dahir, Muhammad Nayab Gul, Ahmad Shiraz Khan Shaheryar, and Sir Aamir Gafoor. 2014. "Globalization Drivers Effect on Consumer Likelihood around the World." *Global Advanced Research Journal of Management and Business Studies* 3(2):55-73.
- Dasgupta, Partha. 2007. "The Idea of Sustainable Development." *Sustainability Science* 2(1):5-11.
- Dreher, Axel. 2006. "Does Globalization Affect Growth? Evidence from a New Index of Globalization." *Applied Economics* 38(10):1091-110.
- Dreher, Axel, Noel Gaston, Pim Martens, and Boxem Lotte Van. 2010. "Measuring Globalization Opening the Black Box: A Critical Analysis of Globalization Indices." *Journal of Globalization Studies* 1(1):166-85.
- Falk, Richard. 2000. "The Quest for Humane Governance in an Era of Globalisation." Pp. 369-82 in *The Ends of Globalization: Bringing Society Back In*, edited by Don Kalb, Marco van der Land, Richard Staring, Bart Van Steenbergen and Nico Wilterdink. Oxford, UK: Rowan & Littlefield.
- Figge, Lukas and Pim Martens. 2014. "Globalisation Continues: The Maastricht Globalisation Index Revisited and Updated". *Globalizations* 11(6):875-93. DOI: 10.1080/14747731.2014.887389

EFFECT OF MOBILE TELECOMMUNICATION TECHNOLOGIES 35

- Figge, Lukas, Kay Oebels, and Astrid Offermans. 2016. "The Effects of Globalization on Ecological Footprints: An Empirical Analysis." *Environment, Development and Sustainability* 19(3):863–76.
- Friedman, Thomas L. 2000. *The Lexus and the Olive Tree: Understanding Globalization*. New York: Anchor.
- Flora, Cornelia Butler and Jan L. Flora. 2013. *Rural Communities: Legacy and Change*. 4th ed. Boulder, CO: Westview Press.
- Glaser, Barney and Anselm Strauss. 1967. *The Discovery of Grounded Theory: Strategies for Qualitative Research*. New Brunswick, NJ: Aldine Transaction.
- Grinter, Rebecca E. and Margery A. Eldridge. 2001. "Y Do Tngrs Luv 2 Txt Msg?" Pp. 219–38 in *Proceedings of the Seventh European Conference on Computer Supported Cooperative Work ECSCW*. Bonn, Germany.
- _____. 2003. "Wan2tlk?: Everyday Text Messaging." Pp. 441–8 in *Proceedings of ACM Conference on Human Factors in Computing System*. Fort Lauderdale, Florida.
- Gyamtsho, Pema. 2005. The Impact of Globalisation on Rural Development with a Particular Focus on Mountain Area. pp 155 – 171 in *Sustainable Rural Development in Mountainous Regions with a Focus on Agriculture in the Tibet Autonomous Region: Proceedings of the International Conference*, edited by Pema Gyamtsho, Nyima Tashi, Karl Kaiser, and Jürgen Richter. Feldafing, Germany: InWEnt gGmbH.
- Hektner Joel M., Jennifer A. Schmidt, and Mihaly Csikszentmihalyi. 2007. *Experience Sampling Method: Measuring The Quality of Everyday Life*. Thousand Oaks, CA: SAGE.
- Held, David, Anthony McGrew, David Goldblatt, and Jonathan Perraton. 2000. "Global Transformations: Politics, Economics and Culture." Pp. 14–28 in *Politics at the Edge: The PSA Yearbook 1999*, edited by Chris Pierson and Simon Tormey. London, UK: Palgrave Macmillan.
- Hormuth, Stefan E. 1986. "The Sampling of Experiences in Situ." *Journal of Personality* 54(1):262–93.
- Ichikawa, Fumiko, Jan Chipchase, and Raphael Grignani. 2005. "Where's the Phone? A Study of Mobile Phone Location in Public Spaces". *Second International Conference on Mobile Technology, Applications and Systems*. pp. 1–8.
- Kraemer, Kenneth L. 1991. *The Information Systems Research Challenge: Survey Research Methods*. Vol. 3. Boston: Harvard University Press.
- Martens, Pim, Marco Caselli, Philippe De Lombaerde, Lukas Figge, and Jan Aart Scholte. 2014. "New Directions in Globalisation Indices." *Globalizations* 12(2):217–28. DOI: 10.1080/14747731.2014.944336
- Martens, Pim, Axel Dreher, and Noel Gaston. 2010. "Globalisation: The Global Village and the Civil Society." *Futures* 42(6):574–82.

- Martens, Pim and Mohsin Raza. 2009. "Globalisation in the 21st Century: Measuring Regional Changes in Multiple Domains". *The Integrated Assessment Journal* 9(1):1–18.
- _____. 2010. "Is Globalisation Sustainable?" *Sustainability* 2(1):280–93.
- Mattos, Daniela. 2015. "Community Capitals Framework as Measure of Community Development." Institute of Agriculture and Natural Resources, University of Nebraska-Lincoln. Retrieved August 1, 2017. (<http://www.agecon.unl.edu/cornhuskereconomics>).
- OECD. 2008. *Handbook on Constructing Composite Indicators: Methodology and User Guide*. Retrieved September 17, 2017 (<http://www.oecd.org/std/42495745.pdf>).
- Reference.com. 2017. "What are the Drivers of Globalization?" Retrieved August 11, 2017 (<https://www.reference.com/world-view/drivers-globalization-faffb211d6048ec8>).
- Rennen, Ward and Pim Martens. 2003. "The Globalisation Timeline." *Integrated Assessment Journal* 4(3):137–44.
- Researchomatic 2010. "Drivers of Globalisation". Retrieved August 6, 2017. (<http://www.researchomatic.com/Drivers-Of-Globalization-17248.html>).
- Watson, Jeff. 2001. "How to Determine a Sample Size: Tipsheet #60." University Park, PA: Penn State Cooperative Extension. Retrieved April 15, 2014 (<http://www.extension.psu.edu/evaluation/pdf/TS60.pdf>).