

# The Impact of Information and communication Technology (ICT) on Globalisation

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## **Abstract**

*All sectors of business capacities across the globe including Africa are becoming increasingly effective and efficient as a result of globalisation and the digitisation of information that have comprehensively improved the way governments, International organisations and private companies are conducting their daily businesses. Past and current studies argued that, ICT plays a critical role in engineering and knowledge economy as well as in management. Information and Communication (ICT) seems to assume an explanatory role in energizing the coming together of world societies. More so, it aids in the acceleration of the interdependence of institutions, organs, processes and values. This article is therefore set to explore a symbiotic linkage and explain the nexus between ICT and globalization. To achieve this goal, ICT is used as a framework for analysing global interdependence through effective communication. Using a theoretical method of inquiry, this paper inferred that ICT is the tool through which technology is transmitted, while technology is the oiling of communication which is the nerve of globalization.*

**Keywords:** Digitisation, globalisation, Information and Communication Technology (ICT), Engineering Economy, Knowledge economy, technology, Resources, Communications,

## **1- Introduction**

Globalisation activities are varied and most of these are related to economic productivity. The inclusion of ICT therefore has made globalisation to

become more effective in that ICT reduces transaction cost. It offers readily available connectivity while improving transparency and accuracy ( Kramer et al , 2007).

Globalization could be identified as a Single Sector Analysis (SSA) or a Multi-Sector Interaction (MSI). In both instances, it explains elements of a widespread perception that there is a *broadening, deepening and speeding* up of international interconnectedness and interrelationships in all parameters of life, from the political to the cultural, from the economic to the criminal, from the financial to the environmental (Ezeanyika and Oporum, 2008).

As a single sector analysis, globalization refers both to an increasing flow of goods and resources across national boundaries and the emergence of a complementary set of organizational structures to manage the expanding network of international economic activities and transactions (UNCTAD, 1997). It is the international integration in trade, investment, financial and consumer markets (UNDP, 1998). Globalization is the growing economic interdependence of countries worldwide through increasing volume and of cross-border transactions in goods and services, free international capital flows and more rapid and widespread diffusion of technology (IMF, 2003). It is also a worldwide process of homogenizing prices, products, wages, rates of interest and profit (Sheriff, 2003). These definitions corroborate the meaning of globalization as in the pioneering work of Levitt (1983). These studies perceive globalization as essentially a financial phenomenon. The reality on the ground is that the global economy is far from such an ideal situation. It would therefore, be more appropriate to carefully describe the ongoing globalizing process as *international economic interdependence*. This will suggest a situation in which international linkages between markets and among manufacturing production and financial interactions are so dynamic that economic developments in any one nation are substantially spurred by policies and developments in other nations. In such a scenario, resource endowments, institutional arrangements and policy options should be patterned by national economic performance, as well as to the way international forces influence that performance (Ezeanyika and Oruebor, 2001: 140-141).

Globalization is also a multi-sector interaction, though with greater thrust on the economy. It is a social phenomenon of Western creation integrating the world societies, values and resources through sustained trend of communication (Obiukwu and Oporum, 2003). Gidden (1990, 2001) concurs with this understanding of globalization. He construes globalization as the intensification of worldwide social relations, which link distant localities in such a way that local happenings are shaped by events occurring many miles away and vice versa. As a MSI, globalization elicits

certain subsystems, which include: the political, the economic, the social and the cultural (Hoogvelt, 1997: 116). The economic subsystem of globalization serves an adaptive function, through ensuring market discipline, flexible accumulation of capital by global webs of financial deepening. The political subsystem serves the purpose of mobilizing material and human resources. The cultural subsystem provides the governance with value system, requisite for social reproduction through time. The social subsystem targets the integration of values of all the subsystems for a functioning and functional global environment.

Globalization is, therefore, the latest level of that “sustained communication of more than four centuries, integrating the world’s societies to a Single World Community (SWC), for the continued survival of the Possessors of High Potential Capabilities (PHPC” (Obiukwu and Oporum, 2003). Globalization significantly captures to expanding interrelationships in the human environment expressed in terms of the ‘intra and extra’ territorial mutuality. Territorial mutuality or interdependence does not necessarily suggest “mutual progress” or “equal benefits”. It may, at times, involve unequal economic relations.

Globalization also captures spatial and longitudinal influence on human thoughts, attitudes and actions, leading to periodic change in international standards of socio-economic and political relations. This explains the recent use of the terms global good governance, cyber-behavior, e-banking, global commerce, shared development, global security, etc. Perhaps, globalization serves a new purpose, that of creating a new awareness in the broadening and deepening efforts to link distant localities to the matrix of expanding capitalist institutions or structures. This growing awareness in territorial linkage and value-deepening efforts seem to find a steam and nerve ICT. As mentioned earlier , ICT plays a critical role in engineering and knowledge economy as well as in management. Information and Communication Technology (ICT) seems to assume an explanatory role in energizing the coming together of world societies. More so, it aids in the acceleration of the interdependence of institutions, organs, processes and values. This article is therefore set to explore a symbiotic linkage and explain the nexus between ICT and globalization. To achieve this goal, ICT is used as a framework for analysing global interdependence through effective communication.

## **2-Review of Literature**

## 2-1 Understanding the Concept of Cybernetics Communication

Communication is derived from the Latin word, *communicare*, meaning “talk together, confer, discuss and consult with one another” (Anyanwu, 2005: 79). It is the epicenter of human society. It is also perceived as the wheel on which all human activities revolve. Without communication, society will remain static and stagnant (Ndolo, 2005).

Cybernetics is a technical concept associated with communication theory. It is a derivative of the Greek word *kubernetes*, which means steersman, governor, pilot or rudder, the same root as government (Ashby, 1958; North, 1967). It is a broad field of study, but its essential goal is to understand and define the functions and processes of systems that have goals and that participate in circular, causal chains that move from action to sensing to comparison to desired goal to action (Umpleby, 1989: 111; heylighen and Joslyn 2001: 158). Wiener (1948) defined cybernetics as the study of control and communication in the animal and the machine. Beer (1974) explained cybernetics as the science of effective organization. The word cybernetics was first used in the context of ‘the study of self-governance’ by Plato (1927) in *The Laws, Volume 12* to signify the governance of the people.

The above explanation draws a linkage analysis between governance and communication, such that one, who governs, equally communicates with, and steers the environment and people. Such a person mobilizes the people, generates material resources and allocates such resources to pursue society-relevant policies and interests. Governance at any level of societal development seems a near impossibility without communication. In the same way, good governance, shared development and global peace and security are occasioned by communication. As a matter of fact, cognate interdependence of humans and nations are made possible through communication.

Cybernetics communication, perceived as “all procedures by which one mind affects another” (Shannon and Weaver, 1959: 95) offers the above definition to reflect the *techniques* and *patterns* of exerting observable influence on the intellectual conduct, actions or inactions of associating parties and minds. This understanding points to the relevance of communication in learning and knowledge acquisition, teaching and mutual interaction, as well as interest articulation and aggregation. Communication is thus, relevant in knowledge preservation, utilization, and expression. It remains an inevitable essential factor in construction and in destruction of values as well. In fact, two or more minds cannot agree to build or destroy without trails of

communication. Conflicts and disagreements are activated and resolved through abstract and sublime ideologies translated into realistic and substantive instruments of revolution and change. This is the situation when ideology sensitizes a man to action, i.e. he questions the existing order and moves to alter it through protests, demonstrations and revolution (Smith, 1980; Rothkopf, 1998).

In this sense of ‘one mind affecting another,’ communication assumes a complex phenomenon, which organizes and re-organizes human collectivities, controls their activities, directs their actions and motivates them towards effective capacity generation and utilization. Understanding communication as an all procedure through which one mind affects another, illustrates the Eurocentric claim of civilization and salvages colonial mission in Africa (Ezeanyika, 2006).

This claim of communication technique helped to neutralize the initial resistance of African societies to the forces of colonization. The communication technique also tends to explain the subsisting picture of the ‘South’ as a group of poor and helpless nations in the global environment, whereas the nations of the North are consciously positioned as high capacity nations or simply referred to as development compliant nations (Ezeanyika, 2007). To bridge this gap or widen it requires mainstreaming communication. Hence, developing globalization, or globalizing development, is a function of defective communication.

Just like in any other aspect of North-South relationship and interaction, globalization presents an extended version of world imbalance in interrelationship. It is heavily propelled by technological development, imbalance between the developed North and the developing countries of the South.

## **2.2 Cybernetics Communication as a ‘Complex Image’**

Responding to the question: Communication is a complex image of what? Boulding (1956) opines that “communication is a complex image of what is and an image of what ought to be.” In this sense, communication serves as a showcase of the expected norms, attitudes and belief systems in the society as contrasted from deviant behaviors. It is an image of the ‘existing’ and expected values in the society. To Boulding (1956) therefore, man operates according to cybernetic principles: that is, that man behaves in various ways in an effort to reduce the gap between the images of what is an image of what ought to be. Hence, the global system functions in such a way as to reduce the gap between the ‘existing’ and ‘preferred’ interstate relations.

### **2.3 Communication as Information Dissemination and Message Transaction**

When an impoverished family in Ajegunle, a slum in Lagos State of Nigeria says, “I prefer a television (TV) to a refrigerator because there is always a program on TV,” or a Senegalese rural community champions the installation of a parabolic dish in order to view national and international programs, they are merely emphasizing the relationship to a medium of communication that links them to the globalizing world through a language of images, ideas, and messages and allows them to know what is happening in the world.

Communication entails all processes by which information is conveyed from one part of the system to other parts of the system. Deutsch (1966) defines information as a “patterned relationship between events.” He stated that information is that aspect of the state of description of each stage of channel of communication that has remained invariant from one stage to another. Immutability is therefore very essential in any message transaction that assumes the status of information. This means that distortion of a piece of message before it gets to its destination may not constitute wholesome information. The quality of any piece of information is the capacity of its message contents to be invariant, while subjecting the message receiving systems to high level capacity to change. In this sense, information as an integral part of communication is capable of changing, influencing or modifying its receiving medium. Hence, any observable directions of social and political change, global interactions or interdependence as well as interstate relations are patterned by information (Mowlana, 1986; Mowlana and Wilson, 1989; Mowlana, 2000). Put simply, there is a symbiotic relationship between the quality of information, which exist within the global system and the degree of changes therein.

Deutsch (1966: 275) corroborates this view when he opined that “the extent of the effect of the introduction of new information into a political or economic system might well be related, among other things, to the extent of the instabilities that already exist there.” It follows, therefore, that the new awareness towards political reforms, economic restructuring, anti-corruption crusade and re-orientation programs in Nigeria and other developing countries of the globe may not be unconnected to the quality of information available to the countries in question.

It can therefore be said that the print and electronic media enjoy efficacious power embedded in its information. They can, at an instant, relay disturbing information (through images) as tragedies unfold that rivet the attention of world audiences. Such information, for instance, could be on the adverse human predicament say in Africa. Examples such as the Ethiopian scenes of fatal hunger and mass tragedy caught in 1985 by the late Mohamed Amin's camera (whose photographs were splashed on the front pages of world newspapers), coupled with Bob Geldof's heroic initiative (in concert with other concerned well-wishers) to raise funds through music (later dubbed Band Aid), conveyed powerful stirring images and information that went a long way in not only mobilizing world opinion but also in internationalizing the poverty issue at large (Khalil, 2007:171-172).

## **2.4 Communication as a two-way Traffic**

The basic understanding here is that communication is not a unidirectional indulge. It is rather, a two-way interaction of two entities (or parties), aimed at impacting on each other. It involves conscious transmission of stimulus-response actions (messages), which leads to value exchange among interacting entities. The major concern of scholars of cybernetic bias is the nature and nurture of the value exchanged. On this issue, opinions are divided along schools of thoughts.

The *equal benefit school* maintains that communication can only take place when there are two interacting entities or parties, which, through the exchange of messages, have equal opportunity to benefit from the object of interaction. The value derivable in this sense is equitably or near equitably distributed among the interacting entities. It follows therefore, that a two-way traffic explanation of communication entails a positive relationship and is expressed in terms of equal exchange values. The numeric representation of the equal benefit analysis may be put at 50 – 50 percent or  $5 \pm 50$  percent value exchange among interacting entities. In this light, proponents of this school view globalization as an entirely new phenomenon with its roots in the recent technological transformation of world societies. They also argue that slavery, mercantilism and colonialism are not trends of globalization, rather those of Western contact, which the matrix of communication can explain. The major argument here is that slavery, mercantilism, colonialism etc. only achieved a one-way traffic that cannot assume the status of communication. More so, they argue that this one-way communication not only yielded exclusive benefit to Europe but it was extremely detrimental to the development of African societies.

The *contact school* holds a different view. It postulates that communication is a 'contact' between two or more entities or parties. It believes that

communication can be said to have taken place whenever or wherever there is a contact or an interaction between two or more entities or parties. The nature and manner of contact is not so essential in determining communication, though it could be helpful in ascertaining the effect of communication on its associating media. The effect of communication in this understanding may be explained in terms of positive or negative relationship, such that the benefit derivable from an object of interaction may not be equitably distributed for communication to exist. The value exchange in contact analysis may be expressed in terms of more than one and less than hundred ( $> 1$  and  $< 100$ ) percent relationship. This situation explains a negative and adverse communication type. A handy example is the contact between Europe and Africa through colonialism and neocolonialism. In another dimension, a communication type can reveal a minus one to a plus hundred ( $- 1: + 100$ ) percent relationship, as was the case between Europe and some African societies during the slave trade. Another group of scholars hold the view that the recent maximization of technological values in communication has brought about an equitable or near equitable value exchange between interacting entities or parties. This leads to a relationship of  $50 - 50$  percent value exchange or about  $5 \pm 50$  percent value exchange within which globalization tends to assume a new phenomenon and communication accorded relevance in the analysis of global interdependence.

Communication is, however, more of a contact than a two-way traffic in the equal benefit sense. Even the equal value benefit analysis manifests “contact” between its interacting media, objects or entities. It follows therefore, that communication as a two-way traffic does not necessarily mean the values should be distributed on equal proportions but they must elicit a clear impact that may be planned or unplanned, positive or negative.

Finally, communication entails a systematic and comprehensive co-ordination and manipulation of organisms, including machines to enhance qualitative interaction in the human environment. Communication is thus, propelled by a set of skilled knowledge, exerted on the structural dynamics of the human society as technology. The thrust of our argument is that information and communication technologies (ICTs) have aided globalization. However, globalization in a developing country like Nigeria with less developed communication and information provides opportunities for the extension of the imperialistic agenda of imbalance in relationships and interactions in North-South relations.

## **2.5 The Twin role of ICT**



There is a symbiotic relationship between technology and communication. Technology is the knowledge and skill component of communication, which energizes the contact between entities, objects and organs. It is the part of communication, which provides it with dynamism, requisite value and the know-how to steer the environment and people. A comprehensive review of the studies of Galbraith (1971), Lall (1990), Lundvall (1992) and Enos (1995) culminates to the synthesis that: technology, in all its multifaceted and multidimensional perspectives, is the systematic application of scientific and organized knowledge and capabilities for the successful resolution of practical tasks and developmental problems. Put simply, technology is a better way of doing things. It is, indeed, an embodiment of techniques whose acquisition depends on communication. Reflecting on the above explanation, we deduce that technology is scientific, practical, developmental and functional. It is also cultural and traditional in terms of value build-up, manifesting in peculiar skill.

ICT is the vehicle through which technology is acquired, transmitted, transferred or driven. ICTs have also revolutionalized the way we receive and disseminate information. This has outdated the idea of national media. For instance, as direct satellite-to-home transmission become a reality, the idea of globalization of information becomes possible, thus, altering significantly, the concept of national media within national territory.

ICT through Communication elicits movement, influence, action and change as its basic characteristics, which are briefly discussed below:

*Change*: it is the ultimate goal of communication and the observed end effect of an action. It suggests an improvement on the original state or value. Hence, 'movement' and 'action' are the igniting spirit of communication, whereas 'influence' and 'change' are its observed effects. These four cardinal features of communication, which find steam in technology, are central to identifying the role of communication in the global environment.

### **3- The impact of ICT at Global Level**

There is a connectedness between ICT and globalisation. ICT is therefore seen viewed as a pillar for the strengthening of globalisation activities. The understanding of the role of ICT in the interaction of world societies is very important to understanding the complex structures, institutions and processes of globalization. The nature of this contact (globalisation) among nations reveals the aim and goal of globalisation. The goal of globalisation

assumes its esteeming in terms of the *manifest* or *latent* roles of ICT. These roles include: integration, mobilisation, adaptation, regeneration, and transformation.

*Integration* is a socio-economic role of ICT, which attempts to align all national economies with the global capitalist economic order, using a common index or matrix. It is this role of ICT that underpins the intensification of the co-operation between the rich and the poor nations. The goal is explanation or shared development for the Afro-centrists or Euro-centrists, respectively. Integration function equips globalisation to build organisations, institutions, agencies and organs, which regulate the conduct of nations in the international system. It is through integration that globalisation strives to achieve existential mutuality of world societies. The hope for a single world community that will reduce the pains of man is made alive through integration.

*Mobilization* is a political role of communication, which attempts to harness the human and material resources towards global integration. It involves the use of aid grants, loans and technical assistance options by the advanced capitalist nations, to woo the developing nations to appreciate the liberal initiative of capitalism. Mobilization as a political role of communication started with the acquisition of territories and their subsequent administration through colonization. Mobilization at this period made the colonized territories to recognize the Western colonial authorities as stakeholders in their resources. This pattern has been so entrenched to the extent that, even after nominal political independence, Western nations still occupy a prime position to negotiate for access to unequal opportunities in favor of their multinational corporations (MNCs) and their nationals (Ezeanyika, 2006). The most recent mobilization strategy of globalization reveals the following:

1. Offer of important positions in the capitalist controlled and dominated agencies and institutions to citizens of developing nations. This strategy includes allowing developing nations to occupy some 'key' positions in the World Bank, the International Monetary Fund (IMF), the International Court of Justice (ICJ), the United Nations Development Program (UNDP), etc. including the position of the Secretary General of the United Nations Organization (UNO). Essentially, the recent offer to Africa of two permanent seats at the Security Council of the UNO clearly typifies the mobilization strategy of globalization as a role of communication.
2. Grant of debt relief facilities. The debt profile of some developing economies has been tagged antithetical to the development by the advanced capitalist nations. Hence, to sustain the compliance of these developing economies to the global capitalist economic order, the West

introduces its debt relief facility. This facility assumes the form of debt rescheduling, debt forgiveness or outright cancellation. It is believed that the mobilization strategy or role of communication guarantees adaptation of developing economies to the conditionalities of Western economic policies linked to the attainment of the Millennium Development Goals (MDGs).

*Adaptation* is the use of integration and mobilization strategies to ensure that all nation-states comply with the principles and conditionalities of global capitalism. It seeks to identify and adhere strictly to the rules, conditions and principles guiding grants in aid, loans, technical assistance, debt relief facilities, etc. Simply put, the adaptation role of communication translates into the acquisition of requisite capitalist economic orientation. This economic orientation may take the form of deregulation of national economies to allow for greater openness, unrestricted trade and product competition. It may also include privatization and commercialization principles, maintenance of 'effective work force' and deep national economic restructuring to stem corruption, economic and financial crimes as well as lopsidedness in projects initiation and implementation. Following this pattern of manifestation, adaptation enhances national reproduction of global socioeconomic values, however inappropriate.

*Regeneration*, as a role of communication, entails the sustenance of the adaptation strategy for the socioeconomic reproduction of values. It suggests a state of affairs in which the global economy achieves subsisting identity, which regulates the international system.

*Transformation* function of communication is accompanied by trappings of chance into the global interdependence of values. This is a stage where the extra-national integration introduces a new set of values to redefine the existing international order. This explains the use of certain terms at different periods of the global transformation, such as neo-colonialism, neo-dependency, new international economic order (NIEO), neo-globalism, etc.

The *latent* role of communication explains the intricacies of deregulation of the global economy through the gradual withering of state dominance of the international socioeconomic affairs. This latent role is as well observed in terms of the 'sustenance' of global inequality through the core-periphery stratification of the world. The 'disintegration' function of communication is

also a latent, which activates the break-up of bogus agencies, entities and institutions through value distortions and mutations of needs. Indeed, understanding globalization is appreciating the role of communication. This is so because there is a nexus between communication and globalization which has functional attires such as the ones afore discussed.

## **6-Conclusion**

In this chapter, we have established that there is indeed a nexus between communication and globalization, which plays an explanatory role in the integration of world societies. We have also identified communication as a complex phenomenon, which organizes and re-organizes human collectivities, controls their activities, directs their actions and motivates them towards effective capacity generation and utilization. We observed that communication emphasizes ‘contact’, ‘complex image’, ‘message transaction’ and two-way traffic, which lead to value exchange among integrating entities or parties, whereas, globalization is a new awareness in the broadening, deepening and speeding efforts to link distant localities to the matrix of expanding capitalist institutions and structures. We also postulated that the essence of these expanding interrelationships is to achieve intra and extra-territorial mutuality towards shared development.

In order to achieve the goal of globalization, technology-driven communication plays a fundamental role. This is mainly because technology remains an embodiment of skills and techniques, and its acquisition depends on communication. The nexus between communication and globalization has therefore been explored in the light of its manifest functions ranging from integration, mobilization, adaptation, regeneration and transformation. It is these manifest functions, blended with certain latent variants, which give globalization its comprehensive meaning and true identity.

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