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RELEVANCE OF THE KNOWLEDGE-GAP HYPOTHESIS AMIDST EMERGING DYNAMICS OF INTERNATIONAL COMMUNICATION IN THE INFORMATION AGE

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ABSTRACT: ***This theoretical paper aims at evaluating the relevance of the knowledge-gap hypothesis in international communication in an era marked by significant improvements in information and communication technology. The study adopted a documentary design which involved looking up secondary sources of data. It was found that the knowledge-gap with respect to matters related to international communication among people of differing socioeconomic status still exists as it has always been, as the distribution of GSM devices/services and satellite services/devices remain uneven amongst members of the population. The knowledge-gap hypothesis fails in one aspect, it failed to accommodate knowledge-gaps that may arise due to people's interest in matters relating to international communication.***

Keywords: Knowledge-gap, international, communication, Global System for Mobile Communications (GSM), Satellite broadcasting.

INTRODUCTION

Information distribution has been a major concern for policy makers, and other cadre of social scientists. It is commonly assumed and theorized by some that the more information is available, the more information is distributed. But this has not always been the case, as noted by Tichenor, Donohue and Olien (1970), information distribution maybe unequal based on social and economic differences of members of the population; the preceding authors expected that the less advantaged would gain knowledge but that the more advantaged would gain more knowledge faster. Tichenor and colleagues (1970) were the proponents of the knowledge-gap hypothesis which explains that knowledge, like other forms of wealth, is often differentially distributed throughout a social system. Specifically, the hypothesis predicts that "as the infusion of mass media information into a social system increases, segments of the population with higher socioeconomic status tend to acquire this information at a faster rate than the lower status segments, so that the gap in knowledge between these segments tends to increase rather than decrease". From a political perspective, the knowledge-gap hypothesis hinges on several facts, "an informed citizenry is considered a normative prerequisite for well-functioning democracies (Carpini & Keeter, 1996); and the media are deemed a primary source of information about politics and policies (Chaffee & Kanihan, 1997); if social groups are more or less systematically deprived of information, their participation in the political process is hampered, potentially leading to inequalities and misbalances of power in political representation (Murdock & Golding, 1989)". The knowledge-gap hypothesis has also be applied in different fields of natural and applied sciences, including geographical sciences as well as health and safety (Spence, Lachlan, & Burke, 2011; Shirley, 2012); as well as to different periods of human existence since its inception. However, there is need to question the

relevance of the knowledge-gap hypothesis in the 21st century, this is due to the emerging dynamics of international communication owing to the fluid reverberations of global systems for mobile Communication and satellite broadcasting. This translates to better asses to information that ever before, in fact, Ives (2004) describes this condition as a "electronic information superhighway".

Objective of Study

This paper aims at evaluating the relevance of the knowledge-gap hypothesis in international communication in an era marked by significant improvements in information and communication technology. Since the knowledge-gap hypothesis proposes that knowledge is distributed unevenly among the populace, this evaluation will be done considering how much information distribution systems pertaining to GSM and Satellite broadcasting contributes to international communication literacy.

The study will specifically investigate the following:

1. Distribution and availability of GSM
2. Distribution and availability of Satellite Broadcasting
3. Utilization of international communication systems made available through GSM and satellite communication

On completion of the above investigations, data collected will be used to answer the following questions:

a. Is there a knowledge-gap based on social economic status?
b. What other reasons for knowledge-gap exists?

Conceptual Reviews

Conceptualization of the Knowledge-gap Hypothesis

The knowledge-gap hypothesis was first proposed in 1970 by Philip J Tichenor, then Associate Professor of Journalism and mass Communication, George A. Donohue, Professor of Sociology and Clarice. N Olien, instructor in Sociology, all three researchers in the University of Minnesota. They commented on the knowledge-gap hypothesis thus, "as the infusion of mass media information into a social system increases higher, socioeconomic status segments tend to acquire this information faster than lower socioeconomic status population segments. Hence, the gap in knowledge between the two tends to increase rather than decrease." In simple words, as the access to mass media increases those particular segments of population inevitable gain information faster and hence the wide gap increases with the lower economic status of the population (Ramzy, 2017). This theory suggests that knowledge, like other forms of wealth, is often differentially distributed throughout a social system.

Tichenor, Donohue and Olien (1970) goes further to state five (5) reasons why the knowledge gap should exist:

i. *Communication skills*: higher status people generally have more education, which improves their reading, comprehension, and memory skills;
ii. *Stored information*: higher status people are more likely to already know of topics in the news through previous media exposure or through formal education;
iii. *Relevant social contact*: higher status people generally have a broader sphere of activity, greater number of reference groups, and interpersonal contacts and are thus more likely to discuss news topics with others;
iv. *Selective exposure*: lower status people may be less interested, and therefore less likely to expose themselves to certain news topics; and
v. *Media target markets*: media outlets cater to the tastes and interests of their audience.

Although by the mid-1970s extensive data supported the existence of a knowledge gap among low and high socioeconomic status individuals, Donohue, Tichenor, and Olien (1975) sought to refine the

hypothesis to determine under what conditions the knowledge gap might be attenuated or even eliminated. To this end, they examined survey data on national and local issues from probability samples of 16 Minnesota communities gathered between 1969 and 1975. Donohue and colleagues identified three variables that weakened the knowledge gap:

Level of basic social concern aroused by the issue - Local issues that directly implicated the community tended to arouse greater social concern than national issues that did not implicate the community. Local issues, then, tended to decrease the magnitude of the knowledge gap.

Level of social conflict surrounding the issue - Up to the point at which a communication breakdown occurred, issues with more perceived conflict tended to draw more attention and, thus, decrease the magnitude of the knowledge gap.

Level of homogeneity of the community - Because smaller, more homogeneous communities tend to exhibit less social differentiation and variety in sources of information than larger, more heterogeneous communities, homogeneous communities tended to exhibit smaller knowledge gaps than heterogeneous communities.

International Communication

International communication is the communication practice that occurs across international borders (Fortner, 1993). The need for international communication was due to the increasing effects and influences of globalization. One of the most obvious manifestations of international communication are world news, when the media of one country cover news from abroad. But, apart from journalism, international communication also occurs in other areas (culture, technology, sciences) and the nature of the "information" that is circulated can be classified in a wide variety of categories, such as cultural (music, films, sports, TV shows from one country to another), scientific (research papers published abroad, scientific exchange or cooperation), and intelligence (diplomacy reports, international espionage, etc.). In the 1980s and 1990s, with the establishment and development of fibreoptic cables, satellites and the Internet, and the gradual proliferation are eroding space and time barriers and increasing speed, and reducing the cost of transmitting various information. This trend has pushed international communication to globalization (Webster, 1995; Gilbert, 1987).

Global Systems for Mobile Communication (GSM)

The Global System for Mobile Communications (GSM) is a standard developed by the European Telecommunications Standards Institute (ETSI) to describe the protocols for second-generation (2G) digital cellular networks used by mobile devices such as mobile phones and tablets. It was first deployed in Finland in December 1991 (Anton, 2003). By the mid-2010s, it became a global standard for mobile communications achieving over 90% market share, and operating in over 193 countries and territories (4G Americas, 2014).

Satellite Broadcasting

Satellite broadcasting is the distribution of multimedia content or broadcast signals over or through a satellite network. The broadcast signals usually originate from a station such as a TV or radio station and then are sent via a satellite uplink (uploaded) to a geo-stationary artificial satellite for redistribution or retransmission to other predetermined geographic locations through an open or a secure channel. Downlinks are then received by base stations such as small home satellite dishes or by base stations owned by the local cable network for redistribution to their customers. A satellite receiver decodes the incoming signals and presents them to the user through standard television or satellite radio. In the case of satellite television, the signals coming in are encoded and digitally compressed so as to minimize the size and so that the provider can bundle more channels into the signal. The user can then select which channel to decode and view. The compression used for satellite digital TV is often MPEG compression so that quality can be retained (Techopedia, 2018).

Information Age

The Information Age (also known as the Computer Age, Digital Age, or New Media Age) is a historic period beginning in the 20th century and characterized by the rapid shift from traditional industry that the Industrial Revolution brought through industrialization to an economy primarily based upon information technology (Zimmerman, 2017). Some of the marked features of the information age is the adoption of GSM and satellite broadcasting or individual. This involves looking up available secondary data sources to gather data with which will be the focus of the work.

Methodology

This study adopts a documentary design. A documentary research is commonly adopted in social sciences, that involved using personal and official documents as a source material. Documents may include such things as newspapers, diaries, stamps, directories, handbills, maps, government statistical publications, photographs, paintings, gramophone records, tapes, internet resources and computer files. Documentary research is often conducted by social scientists to assess a set of documents for historical or social value, or to create a larger narrative through the study of multiple documents surrounding an event the aim of reaching the stated objectives.

RESULTS

Distribution and Availability of GSM

From the Worldometers (2019) real time world statistics, there are about 7.7 billion people on earth today; of which the International Telecommunication Union (ITU) (2019) estimates that at the end of 2019, 53.6 per cent of the global population, or 4.1 billion people, are using the Internet. While this is significant, this leaves some 46.4% (3.7 billion people) of the population without internet and the wide-array of information it makes available. Mobile internet is a capability provided for through the Global Systems for Mobile Communications (GSM). As noted by the Global System for Mobile Communication Association (GSMA) (2019) report on the state of mobile connectivity in 2019, it was reported that mobile connectivity is not equitably distributed in Low- and Middle-Income Countries (LMIC), thus, a significant amount of the population lack assess to the internet and therefore, miss out on the social and economic benefits it brings. Going forward, the GSMA (2019) gave reasons for the disparity, it was noted that in LMICs, affordability, low levels of literacy and digital skills, a perceived lack of relevance, and safety and security concerns are the most important barriers to mobile internet use from a consumer point of view. Silver, Smith, Johnson, Jiang, Anderson, and Rainie (2019) found that people are sharing GSM devices instead of owning one, thus, limiting their assess to information; the most common reason is linked to social economic status as shown in the figure below;

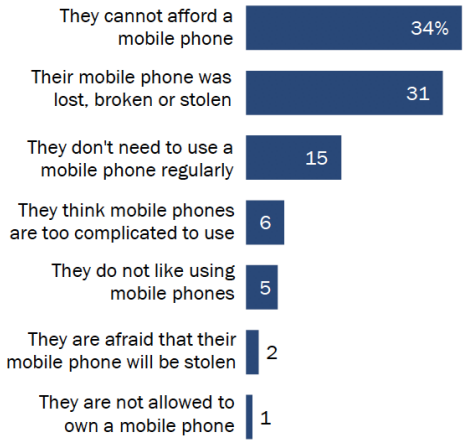

Fig. 1. Reasons why people are sharing smartphone (Silver, et al., 2019)

Distribution and Availability of Satellite Broadcasting

Satellite broadcasting has not gained mass attention as did the GSM; though, some analysts speculates potential for growth. Assayag (2017) reported that there are some 1.05 billion paid satellite television broadcast subscribers between 2016 and 2017 and Direct to Home satellite broadcasting (DTH) market grew by 7 million subscribers from 238 to 245 million.

Utilization of International Communication Systems Made Available Through GSM and Satellite Communication

International communication literacy deals with having knowledge and insight into "government-to-government", "business-to-business", and "people-to-people" interactions at a global level (Thussu, 2006). To make this possible, the international news system has been made available commonly through such means as the internet and satellite broadcasting networks; however, along with this, other options for entertainment and media consumption are still made available through this platforms; thus, the question remains, “how much are individuals interested in international literacy?”.

Utilization of GSM for International Literacy

A review of data gathered by researchers in Pew Research Center shows distribution and utilization of mobile phones which are considered the home of GSM services. Smith (2015) investigated the extent to which smartphone owners turn to their phones to access services or information pertaining to important life events, such as applying for a job, addressing a health issue, or finding a new place to live; it was found that: 62% of smartphone owners have used their phone in the last year to look up information about a health condition; 57% have used their phone to do online banking; 44% have used their phone to look up real estate listings or other information about a place to live; 43% to look up information about a job; 40% to look up government services or information; 30% to take a class or get educational content; 18% to submit a job application. Thus, only about 40% of GSM device owners use their devices as a tool for international information literacy.

Utilization of Satellite Broadcasting for International Literacy

A study by Nekmahmud & Rahman (2016) provided an insight into what people spend their time doing when consuming satellite broadcasted content, 20% are interested in TV programmes on home channels, 36% are interest in news and drama in home satellite channels, 40.7% are interested in movies, etc.

Application of Evidence to the Knowledge-Gap Hypothesis

From the evidences gathered above, the relevance of the knowledge-gap theory will be judged based on the perceived disparity in media consumption that enhances international communication and literacy. The following questions will be addressed:

Knowledge-gap based on social economic status

As held by the proponents of the knowledge-gap hypothesis, knowledge is a scarce resource, and will depend on a person’s assess to mass media, as this assess increases, the particular segment of the population gain information faster and hence the gap increases with the lower economic status of the population (Ramzy, 2017). This is true because, access to information tools and services are unevenly distributed among the population. The internet is considered one of the rich and featured sources of information on international affairs and communication, however, as at 2019, it is estimated that 46.4% (3.7 billion) of the world population lacks assess to the internet (ITU, 2019), the reasons as supported by the knowledge-gap hypothesis includes affordability, low levels of literacy and digital skills, a perceived lack of relevance, and safety and security concerns are the most important barriers to mobile internet use from a consumer point of view. This in turn, creates gap in the distribution of information.

Other Reasons for Knowledge-gap

While the knowledge gap hypothesis accommodated some refinements – noting that gap may exist or be closed in certain occasions, including level of social concern and social conflict sparked by an issue, as well as the homogeneity of the community; the knowledge gap hypothesis did not accommodate room for people's preference. Peoples preference along with their socio-economic variables have been found to influence the knowledge gap. On reviewing data from people with all they need to receive information and generally enhancing international communication and literacy – these group have good and reliable access to the internet and satellite broadcasting – it was found that knowledge gaps existed as people used this services and devices for other reasons other than reasons relating to international communication (Nekmadmud & Rahman, 2016; Smith, 2015).

CONCLUSION

Based on the findings made so far, it is a fact that the knowledge-gap hypothesis still holds relevance today in the emerging dynamics of International Communication bearing in mind the fluid reverberations of Global Systems for Mobile Communication and satellite broadcasting as not everyone has assess to this systems designed to build knowledge and literacy as it concerns international communication. However, the knowledge-gap hypothesis fails in one aspect, it failed to accommodate knowledge-gaps that may arose due to people's interest in matters relating to international communication. For a fact, in some cases, whether a matter of international interest is polarizing or not, conflicting or even in the presence or lack of homogeneity in a community, groups with differing levels of economic and social status maybe made equal with respect knowledge of matters of international relevance based on the interest demonstrated herein.

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