

BRIDGING THE DIGITAL DIVIDE IN NIGERIA

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Abstract

The purpose of this is to understand the concept of the digital divide and examine the ways in which the divide can be bridged in Nigeria. A qualitative research approach which was based on the Diffusion of Innovation theory was employed to elicit primary data for in-depth insight into the study. The study used a purposive sampling technique to recruit a total of 30 participants from the 6 geo-political zones across Nigeria for a focused group discussion that lasted for a period of three weeks. According to the findings, the digital gap in Nigeria is caused by poverty and infrastructural inequalities between rural and urban areas. Furthermore, findings show that the digital gap in Nigeria is an intentional institutional and political phenomenon. The threats posed by the digital divide call for an all-inclusive approach that should result in improved economic development. It is recommended that closing the digital divide in Nigeria is critical to making socio-economic growth in Nigeria more equitable and sustainable. It is critical for Nigeria to bridge the ever-widening digital gap that exists between Africa and the rest of the globe, as well as inside and between African states, communities and people.

Keywords: digital divide, infrastructural inequality, information technology, Nigeria, poverty, telecommunication

Introduction

It is often said that development is a process rather than a completed product. Because of this, no nation can claim to have reached the pinnacle of its growth process at this time. Because of this, every nation is engaged in a continual effort to achieve a greater, better, and more sustainable level of development at any given time (Angalapu, 2019). Whatever the case, it is a verifiable reality that certain nations are significantly more developed than others in terms of their participation in the global political system. There is a significant division between the nations of the globe into two asymmetrical groupings – the northern and southern hemispheres (Seer, 1970). The former consists of nations such as the United States and Western Europe, while the latter is situated in the middle of Africa, Latin America, and Asia, and is surrounded by water. It is a paradox that nations in the northern hemisphere have achieved high levels of industrialization and better levels of development, despite the fact that they account for just one-quarter of the global population. It is estimated that three-quarters of all mankind lives in the South, which has a high level of poverty, unemployment, and inequality (Okereke & Ekpe, 2002). This nation, Nigeria, is a classic example of a developing country in the southern hemisphere that is afflicted by development issues. Nigeria is not just well-known for being the most populous nation in Africa with a vast landmass; it is also a typical instance of underdevelopment caused by a lack of leadership, corruption, and violent wars, among other factors (Onyishi & Ezechi, 2019; Abegen & Nambeh, 2019; Eteng, 2016).

Individuals who live in poverty and are unable to meet their basic needs of food, clothing, and shelter; social and economic obligation, and lack gainful employment skills and assets have low self-esteem. They also have limited access to social and economic infrastructure such as education, health care, potable water, and sanitation, and as a result, have a limited chance of advancing their welfare due to their ability to do so. Despite the fact that poor individuals may be found in both urban and rural locations, the prevalence of poverty in rural areas is much greater than that found in urban areas (Oye, 2012). According to the United Nations Development Programme (2009), 54.4% of the population lives below the national poverty level. Furthermore, the unemployment rate in Nigeria increased from around 12 out of every 100 working-age persons in 1999 to 21.1 in 2010, with the percentage of young

unemployment growing in urban areas at a faster pace than in rural areas (NBS, 2010). Because of this, the exploitation of information and communication technologies has had an influence on almost every aspect of human growth. Consequently, access to information and communications technology (ICT), especially the Internet, has given individuals a basis for accumulating and applying knowledge throughout the world, particularly in poor countries. The impact of new information and communications technologies (ICTs) has permeated virtually all sectors of society, and it is critical that Nigerians embrace a common vision and strategy for an information-based society that not only recognizes ICT as a tool for economic innovation, but also as a platform for poverty reduction and development.

In today's global information economy, equitable access to information is a fundamental value to be adhered to. Nigeria, more than any other nation, exemplifies the urgent need for information and communications technology (Meseret, Gebremichael, & Jackson, 2006). When it comes to Information and Communication Technology (ICT), which includes mobile phones, personal computers, and Internet connections, rural populations in Nigeria, the most populous nation on the African continent, have suffered from marginalization (Hwang, 2006). Poor service in Nigeria is caused by capacity constraints in the communication network, a lack of infrastructure to support technology hardware and software, a scarcity of financial resources, and an unreliable electric supply. All of these factors combine to make ICT usage difficult in the country, particularly in rural areas (Akanbi & Akanbi, 2012; Nwabueze, Nwabueze, & Egbra, 2013). The digital gap is exacerbated by discrepancies in access to the Internet and the World Wide Web by Nigerians as well as a lack of understanding of search engines, poor Internet connection quality, inadequate English proficiency and a wide range of socio-economic levels (Ani, Uchendu, & Atseye, 2007). When we talk about the digital gap in Nigeria, we are referring to the discrepancy between those who have access to the Internet and computers and those who do not. Computers and the Internet are present in the houses of the wealthy but not in the homes of the poor owing to the high cost of computers and the prohibitively high cost of Internet connection (Eke, 2011). For the purpose of acquiring information, connecting with others, and competing in a global economy, the digital gap in Nigeria is a key wedge between the haves and have-nots.

It is critical to comprehend the distinction between the haves and the have-nots in access to certain resources. At this moment in time, our society is increasingly dependent on digital platforms, and as a result, the public is divided into two groups: those who have access to a lot of information and those who do not. In this instance, the Internet connection is quite important. Participants in this digital environment must have a reliable Internet connection in order to participate, and those who do not have one will be left behind in this post-modern race. A very important variable should be considered in this situation. It is not always the case that those who do not have access to a dependable Internet connection do not have the financial means to get one. Many people, regardless of their financial means, may not have adequate Internet connectivity. In certain instances, it is dictated by the geographical area in question. Consequently, as a result of regional Internet issues, those who have economic resources have now joined those who do not have economic resources in the group of the informationally disadvantaged.

This research aims to look at bridging the digital divide in Nigeria. A more elaborate understanding of the nexus between the digital divide in Nigeria and development could aid policymakers in developing the appropriate strategies needed to further bridge the divide, foster development in Nigeria, and position Nigeria in the Northern hemispheres.

To describe the effects of the digital divide in Nigeria, Rogers' Diffusion of Innovation Theory is employed. On the basis of the existing situation, we can all make educated guesses about the relationship between information-rich and information-poor environments. Furthermore, the digital divide creates a disparity between industrialized and developing nations in terms of information abundance and information scarcity respectively. Consider the distinction between human beings as social animals and human beings who have social gaps! As a result, it evaluates not only the mental and physical well-being of a person but also the mental and bodily well-being of society.

Research Objectives

The objectives of this research are to identify the causes and effects of the digital divide in Nigeria and to determine how this divide can be bridged. Three questions for this research are, therefore stated, as follows:

1. What are the causes of the digital divide in Nigeria?
2. What are the effects of the digital divide in Nigeria?
3. In what ways can the digital divide in Nigeria be addressed?

Theoretical Framework

Some people who do not believe in the digital divide say that the gaps between people who have and those who do not have access to the Internet will close up in the future (Compaine 2001; Crandall 2000). Using technology such as: TV, radio, and the telephone as an example, Compaine says that the way the market works will eventually fill in the gaps without the help of policymakers. Roger's Diffusion of Innovations Theory (1986) is used by Compaine (2001) to say that technologies first become popular with people who have a lot of money. These early adopters drive down the cost for people who do not have as much money, making it easier for people who cannot afford the initial investment to get in on the action. This leads us to the conclusion that the digital divide is not a big deal. It is just a normal part of the market, and it will get better with time.

Among these arguments is that one of the most important flaws is that they do not make sense because of the way the Internet works. Internet and IT are not the same as other ways of communicating, like phones and TVs, before. The telephone helps people communicate with each other, and the TV and radio help people communicate with a lot of people. The Internet, on the other hand, helps people communicate both with each other and with a lot of people (Allbritton and Rogers 1995). Audience members can choose the information they want to see, connect with people who share their interests, debate information, and even work as activists for social change through the Internet. Another unique thing about IT is that while improvements in phones, radio, and TV are all about better quality, improvements in IT make it easier to do more complicated tasks that require a lot of advanced digital skills. People were able to share information, send messages, and store files on the Internet at any time because there was so much space. E-mail technologies opened up new ways of communicating with each other and forming groups. After the Internet, the World Wide Web and hypertext communication came out, which made it easier to connect with other people, view documents, and get information. If you had a radio or TV set, you would not need the same resources, skills and access to these new communication technologies as you would need to own a computer or a network. Rogers (1986) says that the use of interactive communication technologies like IT systems is not the same as the use of older communication technologies like TV for a number of reasons. According to Rogers, the rapid changes in technology could make it more difficult to get the information you need. People who have been using the Internet are getting better at finding and processing information, and the gap between them and people who have only basic skills is likely to get bigger. Van Dijk (1999) makes this point again when he talks about usage gaps. Van Dijk (1999) says that because digital skills build on each other, people who only have basic skills now will be outpaced by people who can choose and process information better than they can now.

Not much work needs to be done to find proof of these knowledge gaps. Van Dijk (1999) says that the user's inability to choose and process information under current technological conditions will keep getting in the way as technology changes. For example, people who already know how to make and share content online will keep up with technological changes, but people who are just learning how to search for and find information on the Internet will always be behind.

The Diffusion of Innovations theory (Rogers 1986) can be used in research and policy debates about the Digital Divide to help people understand what the gaps mean. It also stops theorists and policymakers from making too simple conclusions about what the gaps tell us about how communication is being helped or hurt. A decade-long debate about gaps in statistics is still going on, and communication theory can help explain why the most commonly agreed-upon gaps exist. There is

a natural fit between the digital divide and the diffusion of innovations. More macro-level measures should be added, and diffusion adoption categories can give more theoretical and empirical insight into the factors that affect digital adoption and related divides.

Poverty and the Digital Divide

The digital divide is described as "a discrepancy in access to, distribution of, and use of information and communication technologies between two or more populations" according to the United Nations Development Programme (Wilson, 2006). Additionally, it was characterized as "the divide between those who have and those who do not have access to computers and the Internet" (Van Dijk, 2006). Several factors including poverty, illiteracy and other factors have been identified as preventing individuals from having access to computers and the Internet, resulting in only the rich being able to buy technology, particularly the most powerful equipment and software. The impoverished, who often play the role of ethnic minorities, are the ones who stand to gain the least from increased access to information and communication technologies. Attempts to close the Digital Divide are now at the heart of many poverty-reduction initiatives. Because political leaders in many developing nations have been unable to alleviate poverty in their countries, they cling to new technology and global commerce as their last best chance for raising the quality of life of their citizens in their countries (Venkat, 2002).

In accordance with Van Dijk and Hacker (2003), there are four different kinds of access obstacles: Having a lack of "mental access" refers to having a lack of rudimentary digital experience, while having a lack of "material access" refers to having a lack of computer hardware and network connections, and having a lack of "skill access" refers to having a lack of digital skills. It is the absence of "use access" that indicates a scarcity of relevant usage chances. Poverty, according to Chowdhury (2000), is defined as a lack of enough ownership or gainful control over assets (tangible and intangible), manual motor power, or other types of production abilities. He identified a variety of challenges that are prevalent among the disadvantaged population. These include illiteracy and a lack of access to proper information, among other things. Chowdhury (2000) cites a number of factors contributing to poverty, including a lack of 'information and telecommunications' infrastructure and a lack of necessary skills. The majority of poverty-related arguments center on issues such as poor nutrition, inadequate housing, and so on. It has only been lately that some have begun to suggest that a lack of access to information and communication technologies (ICTs) is a contributing factor to poverty in developing countries. This position is not similar to conventional debates of poverty concerns (Kenny, 2001), despite the fact that it is acknowledged that information and communications technologies (ICTs) have the potential to play a critical role in poverty reduction initiatives.

Furthermore, it has a tendency to reach the richer and better-educated segments of this community. On the African continent, low levels of education and poverty are the most prevalent reasons that prevent people from having access to the Internet, resulting in a greater degree of digital divide among the population. Using data from 2005, Fong (2009) examined the impact of information and communications technologies (ICTs) on Gross National Income (GNI) per capita in developing countries. He discovered a statistically significant relationship between GNI per capita (measured in PPP international dollars) and the adoption of each ICT (mobile phone, personal computer, and telephone), but not with the adoption of Internet technology. Jensen (2007), the World Bank (2003), Tella, Amaghionyeodiwe and Adesoye (2007), and other researchers have proven the existence of a favorable association between information and communications technologies and economic development. They argue that information and communication technologies (ICTs) have the ability to alleviate poverty in developing nations. Governments and international aid agencies have also viewed these technologies as important tools for national integration because they have the potential to increase access to health and education services while also creating economic opportunities for underprivileged populations groups, among other things. Indeed, the 2006 Information and Communications for Developments report released by the World Bank (2006), for example, said that information and communications technologies (ICTs) were critical to poverty alleviation (Oyeyinka, 2004). Oyeyinka (2004) went on to say that, despite its modest achievements, Africa continues to trail behind other continents in terms of information and communications technology development and Internet use. It is generally agreed that inequitable Internet access in Africa is a result of the poor condition of ICT

infrastructure and a lack of significant investment in human resources to support the new communication technologies.

Internet Access in Nigeria

In today's global information economy equitable access to information is a fundamental value to be adhered to. Nigeria, more than any other nation, exemplifies the urgent need for information and communications technology (Meseret, Gebremichael, & Jackson, 2006). When it comes to Information and Communication Technology (ICT), which includes mobile phones, personal computers, and Internet connections, rural populations in Nigeria, the most populous nation on the African continent, have suffered from marginalization (Hwang, 2006). Poor service in Nigeria is caused by capacity constraints in the communication network, a lack of infrastructure to support technology hardware and software, a scarcity of financial resources, and an unreliable electric supply. All of these factors combine to make ICT usage difficult in the country, particularly in rural areas (Akanbi & Akanbi, 2012; Nwabueze, Nwabueze, & Egbra, 2013). Okwor revealed in 2009 that, among the fifty African nations studied, Nigeria has the lowest utilization and accessibility of mobile broadband from Nokia Siemens Networks, according to Okwor. The digital gap is exacerbated by discrepancies in Nigerians' access to the Internet and the World Wide Web, as well as a lack of understanding of search engines, poor Internet connection quality, inadequate English proficiency, and a wide range of socio-economic levels (Ani, Uchendu, & Atseye, 2007; Umukoro, 2014). Because of economic constraints, Nigerians are denied access to knowledge that other developing nations have, resulting in a loss of political power and cultural skills for the country (Nwabueze, 2010; Nwabueze et al., 2013).

In 2010, 70 percent of Nigerians lived below the poverty line of \$2.00 per day, which was set at the time (World Bank, 2011). For employment, the figure for 2010 was 21%, with the percentage of young unemployment growing at a faster pace than the national average in metropolitan regions (Akanbi & Akanbi, 2012). When we talk about the digital gap in Nigeria, we are referring to the discrepancy between those who have access to the Internet and computers and those who do not. Computers and the Internet are present in the houses of the wealthy, but not in the homes of the poor, owing to the high cost of computers and the prohibitively high cost of Internet connection (Eke, 2011). For the purpose of acquiring information, connecting with others and competing in a global economy, the digital gap in Nigeria is a critical wedge between the haves and have-nots.

Research Methodology

The qualitative research approach was used in this study, with data from both secondary and primary sources. Primary data was gathered through structured focus group discussions (30 participants). Participants were chosen from across the six geopolitical zones in Nigeria. Students, journalists, legal practitioners, academic specialists, entrepreneurs, government officials, administrators, politicians and others were among those who took part in the focused group discussions. The discussions took place online over the course of 3 weeks between 11th & 30th April 2022, using the Zoom Application. Participants in the discussions shared their thoughts on the principle of anonymity and their personal experiences.

Table 1: Demographic spread of discussants

Sex	Frequency	%
Male	22	73.33
Female	8	26.66
Total	30	100

Location	Frequency	%
North Central	3	10
North East	1	3.33
North West	1	3.33
South East	10	33.33
South-South	8	26.67
South West	7	23.33
Total	30	100
Occupation	Frequency	%
Civil Service	6	20
Public Service	8	26.67
Journalist	3	10
Students	2	6.67
Entrepreneurs	4	13.33
Professionals	3	10
Politicians	2	6.67
Academic Expert	2	6.67
Total	30	100
Age Range	Frequency	%
45 & Above	2	6.67
36 & Above	10	33.33
26-35	15	50
18 - 25	3	10
Total	30	100

The table shows the demographic spread of participants, their sex spread and locational spread across Nigeria; their occupational spread, and their percentage age ranges.

Question 1 – Definition of Digital Divide

According to their description of the idea of the digital divide, 80% of discussants agreed that it refers to a disparity between the demographics of metropolitan areas and the demographics of rural areas. These considerations captured by R10, a political analyst, in his definition of the digital divide, is as follows:

The gap in social and economic equality that occurs when some segments of a given population do not have equal access to information and communication technology and reliable Internet facilities...

Question 2 – Causes of Digital Divide

Education, a lack of electrical infrastructure, income/poverty, urban drift, a lack of communication infrastructure, the cost of computers and smartphones, attitudes toward and responsiveness to digital technology, tradition/culture, and other factors were cited as reasons or causes of the digital divide in Nigeria by discussants. 80% of the discussants identified poverty as the primary reason for the digital divide in Nigeria. 40% of discussants mentioned a lack of communication and electrical infrastructure. 20% of the discussants mentioned the cost of computers and mobile phones as a factor driving the digital divide in Nigeria. Individuals' traditional ideas and cultures were given as reasons for the increase in the digital gap in Nigeria by 16 percent of those who participated in the discussion. R24, an entrepreneur, made the following observation:

Some cultures and religious beliefs see advancement in technology and modernization as a taboo and would fight to remain technologically backward.

Question 3 – Digital Divide a Natural Occurrence or Systematic Deliberate Process

In responding to this topic, participants were quite polarized in their responses. While 38% of discussants agreed that the digital gap occurs naturally, they also believe that it is caused by poverty and infrastructural inequalities between urban and rural areas. The digital gap in Nigeria, according to 62% of discussants, is an intentional, institutional, and political phenomenon. In the words of R2, a software engineer;

Because telecommunication companies do not determine the location of masts in Nigeria, the location and distribution of masts and electrical terminals in Nigeria are not determined by profits. Instead, the location and distribution of Internet infrastructure are determined by government regulatory bodies and institutions, which, on the surface, have the mandate to distribute these facilities and amenities evenly. In actuality, though, we can witness the stark gap that exists between communities and geopolitical zones.

Question 4 – The Necessity of Bridging the Digital Gap in Nigeria

The participants unanimously agreed that closing the digital divide in Nigeria is a necessity, as most of the participants agreed that closing the divide has a significant multiplier effect on the economy and the country's social and political landscape, including addressing social and health issues.

Question 5 – Awareness of Government Policies in Bridging the Digital Divide in Nigeria

than 90% of the discussants were utterly ignorant of any government initiatives aimed at closing the digital divide in Nigeria. Instead, they believe that government initiatives have served to exacerbate inequalities in access to information and communications technology (ICT) facilities. However, 6% of discussants noted that, since the introduction of GSM and the revitalization of the telecommunications industry, the government has made concerted efforts and implemented policies and programs aimed at reducing inequalities in access to information and communications technology infrastructure from urban to rural areas. But the usual Nigerian element has conspired to prevent the implementation of these measures from becoming a reality. Personal, religious, and political connotations are all brought into play here.

Question 6 – Effects of the Digital Divide

According to the discussants, these are some of the effects of the digital divide in Nigeria.

1. Instability in the economy
2. Illiteracy, especially among the youth in rural areas who are digitally illiterate.
3. Youth restiveness arising from a higher rate of the unemployed and illiterate youth population.
4. Increased poverty, especially in the rural areas and the rural-urban fringe.
5. Increased political weakness among citizens arising from illiteracy, poverty, and unemployment.

Question 7 – Containing the Digital Divide in Nigeria

According to the discussants, these are some of the ways that the digital divide in Nigeria can be improved:

1. Improve the situation of educational facilities in rural areas and villages.
2. Situate more institutions and government parastatals in the hinterlands and communities to foster the settlement of civil and public servants in such communities.
3. NGOs should increase their presence and activities in rural areas rather than paying lip service to the digital divide issues.

4. Rural housing projects would also foster development in the rural areas.
5. Sensitization against viewing urbanization and technological development as a threat to cultures and traditions.
6. Increase electrical and telecommunication infrastructure in the rural areas to foster development.

Discussion of Findings

The goal of the study was to provide answers to three issues related to closing the digital divide in Nigeria. Specifically, in regards to Objective 1, findings indicate that educational inequalities, electrical infrastructure inequality, Internet/GSM infrastructural inequalities, poverty, the cost of computers and smartphones in comparison to other developing countries, tradition and culture and the urbanization drive, poor Internet infrastructure, deprived Internet services, and connectivity issues are the most significant factors that contribute to the digital divide in Nigeria. According to Van Dijk and Hacker (2003), there are four types of barriers that can be identified or, more accurately, four types of causes of the digital divide that can be classified into four types: lack of material access, lack of skill access, lack of mental access, and lack of user access, among others.

In order to determine the consequences of the digital divide in Nigeria (Objective 2), it is clear, however, from this research that the major consequences of the digital divide in Nigeria are greater poverty, greater political weakness, increased illiteracy, increased youth restiveness, which is caused by an increasing number of illiterate youths in the country and economic instability. International aid agencies consider information and communication technologies to be important tools for national integration because they have the potential to increase access to health and educational services while also creating economic opportunities for underprivileged populations groups, among other things. According to the World Bank (2006), information and communication technologies (ICTs) are critical to poverty reduction efforts. In addition, Jensen (2007) and Urama and Oduh (2012) asserted that information and communications technologies (ICTs) and telecommunications infrastructure have the potential to reduce poverty in developing countries. The most important question here is to determine the extent to which the issue of access to ICTs has influenced Poverty and vice versa in the developing world.

Objective 3 was to investigate or suggest ways in which the digital divide in Nigeria might be bridged. Participants in the discussion noted the state of educational facilities in rural areas and the presence of government parastatals in rural areas to encourage the settlement of more literate individuals in rural areas. This move will drive development in rural areas, cause an increase in the presence and activities of non-governmental organizations (NGOs) in rural areas and communities, an increase in the number of rural housing projects, and a shift away from viewing urbanization and technological advancement which constitute threats to existing cultures and traditions. As a result of the COVID outbreak the detrimental consequences of the digital divide in many countries which had previously gone unnoticed were brought to light.

A statistical analysis of the effects of the digital divide during the lockdown was possible since some demographic groups had difficulty working from home, attending school remotely and accessing telehealth services during the lockdown. According to Mutula (2008), "Providing technical assistance and support to information and communication technologies, as well as making adequate electric power sources available, is a crucial way of bridging the digital gap." Every space, such as schools, libraries, and community centers, should be used as the primary location for accessing and teaching computer skills to both adults and children. Additionally, local content for all media should be developed alongside raising awareness about information and communications technologies (ICTs) in order to better understand the use and potential of digital technologies.

Recommendations

Following the findings, the following recommendations should be taken into account:

1. The issues of poverty and low level of education especially in rural areas must be addressed.

2. Inadequate telecommunication and electrical infrastructure in rural areas must be addressed by the government via bridging the digital divide in Nigeria.
3. Increased affordability of data and telecommunication devices by government and telecommunication service providers is crucial to bridging the digital divide.
4. The general population should be educated on the advantages and importance of using the Internet and the numerous resources available on it in order to achieve economic and social progress.
5. Local content and apps should be generated in local languages that can be understood by the local community in order to boost Internet adoption in such areas.
6. Internet infrastructure development to include local, large-scale, cost-effective rural alternatives; such as the utilization of satellite broadband technology, drones, and earth-orbiting balloons.

Conclusion

When it comes to national integration, information and communication technologies (ICTs) are critical instruments since they allow for increased access to health and education services while also creating economic possibilities for under-served populations groups. Closing the digital gap is crucial to making socioeconomic progress equitable and sustainable across the globe. Because of the digital gap, it is becoming more difficult for Nigeria to maintain its progress in areas such as education, health, and religion, all of which are fundamental human rights in the country.

We find that the issue is worsened as we move from villages to major cities. As a result, our society's digital platform is always in danger of controlling and transforming our whole society in preparation for a new change. But we are not only creating history; we are also experiencing it. We must close the digital gap in order for development to advance in the most efficient manner feasible. As a precaution against a dystopian future, we must give relief to alleviate current worries while also planning for the long-term consequences of these concerns. Policies and initiatives must be implemented to close the digital gap. In conclusion, the issue of the digital divide is really a symptom of a far more serious problem with our economic progress that we need to address. As a result, this is an issue that affects both developed and developing countries across the globe. The digital gap will be removed if the economic issues of low education levels, inadequate infrastructural development and low quality of life or income levels are solved.

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