The Digital Divide Between The Developed World And The Third World

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Abstract
This study aims to describe and explain the digital divide between developed and third-world countries and to identify the similarities and differences in the digital divide between developed and third-world countries. The digital divide refers to the difference in the accessibility and availability of Internet resources and computer-related technology between developed and third-world countries. This is because of a lack of ICT (Information and Communication Technology) resources that allow people and organizations to interact with each other. A comparative review of the literature was used that addressed: (1) the state of the digital divide between developed and third-world countries (especially the Arab nations), and (2) the similarities and differences between developed and third-world countries in this regard. The digital divide between third-world and developed countries is increasing day by day. Reasons for this are poor communication infrastructure, lack of Internet service providers, percentage of use of personal computers, and the deficit in Internet resources. There is both an internal disparity between urban and rural access to ICT, as well as an increase in the digital divide between developed and third-world countries. This analysis strengthens Arab literature, providing a further academic reference for researchers and specialists in the field.

Keywords: digital divide; third-world countries; developed countries; Arab countries.

1. INTRODUCTION
The world is experiencing a new era of progress represented by the inclusion of information and communication technologies (ICT) into almost every facet of financial and community life. ICT refers to the technological infrastructure and devices that are used to access digital information (Elena-Bucea, et al., 2021). Social, economic, and cultural relations require reform for large segments of the population in different parts of the world. There is a need for qualitative transformation in these relations in which the influence of external factors overlaps with internal factors, and the economic factor overlaps with social and cultural factors to an unprecedented degree, in light of a new technological revolution called the "digital revolution" (Porter, 2009).
When used effectively, ICT can be an essential tool for combating global challenges and changes in the business environment. It also offers tremendous prospects to enable people in third-world nations and marginalized societies to surmount difficulties, deal with their most significant communication issues, and create robust societies, with a belief in majority rights, and unfettered freedom of expression. In addition, home-based communities, rather than the digital divide, create a distinction among people who are fortunate to have and use ICTs for their benefit, compared to those who do not have the benefit of this technology or who are unable to employ it in their daily lives (Al-Baqour, 2016).

ICT has become an essential element of modernization and the computer-based economy. In easy language, "The digital divide is the division between those who have access to and use ICT effectively and those who do not." (Lucendo-Monedero et al., 2019). In the primary sense, it is concerned with the availability of technological devices and Internet resources, in the larger context, the skills and resources that enable people to use them properly. This pertains to disparities in ICT access, as people with zero access to ICT are unable to participate in new ICT-based jobs, e-government, better medical, educational, informational, communicational, and other technology-based activities (Mei et al., 2018).

The term digital divide relates to the difference between people with access to new communication devices, like the smartphone and cyberspace, and others who do not have the access or ability to use ICT devices (Park & Lee, 2015). This nomenclature even covers the difference between people who have the capacity and capability to employ ICT devices compared to people without them. These differences are often seen between those who live in villages and those who live in cities. It is also seen between the literate and the illiterate. It is known to exist among those higher and lower on the social scale. But in the widest sense, it can be seen between third-world and industrialized nations (Aqili & Moghaddam, 2008). This is confirmed by Huang and Russell (2006), who state that the digital divide puts people into two clusters: those who can use the latest technology, with loads of information on their computer screens, and those who are deprived of these facilities.
This study aims to look at the state of the digital divide in developed and third-world countries and compare the similarities and differences between these countries as well as among the countries in a particular region through comparative analysis.

1.1 Reasons for the Digital Divide

Al-Ghanim (2014) indicated that the reasons for the digital divide are as follows:

- Technological reasons: The technological development of equipment, software, and communications in addition to the growth of technological monopolies, both at the software and equipment levels makes it more difficult for third-world countries to cross the divide.
- Economic reasons: Because of the high cost of establishing and developing the infrastructure for this technology, and the entry of multinational companies into global markets, local markets and companies are left to survive on their own.
- Political reasons: Governments in third-world countries control information outlets under the pretext of national security.
- Social and cultural reasons: These include low education levels, high illiteracy, and low income. Most people in third-world countries have low incomes. This results in an even greater disparity in the use of computer technology (van Deursen & van Dijk, 2015).

The disparity in the use of ICT is multifaceted because of its relationship with a wide variety of factors and variables. Adhikari et al. (2016) and Khawi & Amer (2017) classified the dimensions of this phenomenon into three classifications. These are given as under:

- Divide due to digital access: This is the gulf relating to populations that can access ICT and other kinds of computer-based tools compared to others who did not, was considered the only definition for many years in studies of this phenomenon. Thus, this term was only employed to signify access or no access to digital technologies. Earlier research projects have mentioned the elements of financial standing, household income, level of learning, profession, and geographic position as the most common factors causing the digital divide. This suggests that people and communities having low monetary income and low degrees of literacy may have reduced chances or ability to use ICT in this digital age.
- Capacity gap: Studies have found that simply providing individuals with access to ICT cannot really ensure that they make the proper usage of this technology to meet their requirements. Individuals who have ICT facilities must also have the digital skills to use those technologies. Failing this premise, the digital divide would still occur in the form of a skill shortage, which could be grouped into two levels: Level I (reach within ICT) and Level II (capacity to utilize ICT properly).
- The digital outcomes divide: This is an additional but pertinent examination of the occurrence, also called the digital divide of the third level. The digital outcomes divide can be explained as the changes in life seen through the use of ICT and adherents of this technology, related to variables such as an individual's attitude, motivation, nature of technology use, and ability to understand what they are doing. The use of ICT in education has directly impacted the level of motivation, as indicated by a study of primary school students about how the digital divide is formed in educational settings. However, many variables combine with each other to affect the computing environment in classrooms, such as access to computers and the Internet at home, familiarity with ICTs by parents, and experience of using ICT for education.

This study looks at the realities of the reasons for the digital divide between developed nations and third-world countries. Of main interest is the state of the Arab world, because the lack of ICT resources impacts both the country's productivity and its economic progress.

1.2 Terminology of Study

Digital Divide: A phrase used to portray the split between people with access to and the resources to use knowledge and new message platforms, like cyberspace, and others without those resources or access to technology (Park & Lee, 2015).

ICT (Information and Communications Technology): This is a reference to the systems, programs, hardware, and software tools that allow individuals and organizations to communicate and collaborate online (Elena-Bucea et al.,2021).

Third-World countries: Nations with a history of colonialism that have not advanced economically, socially, or politically as a result of their reliance on agriculture, low incomes, weak trade ties, widespread social inequality, and restrictions on their citizens' rights to political and civil freedom. (Singh, 2019).

Developed-world countries: Economically advanced countries or those with high average incomes, high standards of living, long life expectancies, and other features that reflect high quality of life. (Sharma, 2020).

2. LITERATURE REVIEW

Many studies have discussed and addressed the digital divide. A study by Gammoh (2022) was done to estimate the degree of the digital divide among operators in Jordan's digital repositories. The results showed that the extent of digital illiteracy was significant- therefore librarians needed training on various information technology devices and an increase in information services. A study by Kodiya (2019) was conducted to look at the dimensions and extensions of the digital divide and its repercussions on the process and work at the World Trade Organization. The conclusion was that there is a distinct correlation between the expansion of ICT and reducing computer illiteracy. This phenomenon also impacted the work efficiency of the World Trade Organization and its future. It shows that the use of ICT has provided numerous advantages to developed nations while resulting in a loss of opportunities for third-world countries.

Another study (Myovella et al., 2020) investigated the causes of the digital divide in Southern African countries by looking at the levels of Internet use and broadband connectivity. This project looked at 41 geographically linked countries in the region and analyzed them using the Spatial Durbin model (SDM). This study found a strong spatial correlation between the countries of the South. This means that cyberspace usage and broadband connectivity in one nation could be impacted by Internet access and broadband connectivity in another. The study also found that per capita GDP, total capital formation and stability, political and regulatory effectiveness, and electricity supplies impact the digital divide.

Kodiya and Zargoun (2017) looked at the issue of the disparity in computer usage and its impacts at the global level according to facts and figures. They revealed a discrepancy regarding the significance of the rate of computer usage in advanced and third-world countries and even between nations in the same geographical strata. From this, it is clear that there are economic repercussions between developed and third-world countries. Mitigating these would require concerted efforts from many organizations and government bodies.

Mohamed (2022) tried to decipher the state of Egypt's digital divide by using the figures issued by the International Telecommunication Union (ITU), which considered the following factors: access to ICT, use of ICT, and ICT skills. Additionally, results indicated a technological gap between Egypt and other countries regarding use and skills, rather than access. Egypt was fortunate to have a robust foundation in the ICT field that helped it achieve access rates that almost approached and, in some cases, even surpassed global rates. The country has sufficient access to ICT, which suggests that the digital divide here does not come from the lesser availability of devices, technology, and access to cyberspace but from factors relating to society, education, and culture.

Wang et al. (2021) explored the connection in China between ICT, the digital divide, and city life by relying on a weighted spatial regression model (GWR) and partial least squares structural equation modeling (PLS-SEM) to explore the effects of technology information and communication on movement to cities. The outcomes indicate that ICT certainly impacts the formation of cities and directly improves the lives of city dwellers. Although mobile phones are indispensable tools for city dwellers, there are digital divides between regions. Less developed cities have a slower rate of progress compared to developed cities owing to their poor infrastructure and lesser rates of ICT awareness in the population.

However, a study by Cullen (2001) indicates that it is not just the availability or lack of ICT resources that make a difference. Making full use of these technologies requires a degree of educational and computer literacy and knowledge of how to research, analyze and interpret information gathered to arrive at results and conclusions. There may also be a lack of access and understanding due to socio-economic disparities between educated and marginalized groups, even in developed countries. Furthermore, this gets even more pronounced in third-world countries. Sometimes, people continue to use the old technologies due to familiarity with them, rather than adopt the new technologies readily. So, the process of change may be slow. Concentrating on basic needs like agriculture and animal husbandry may be more beneficial as they fulfill economic needs (UNESCO, 1998).

According to a study by the Gartner Group, ICT may not be fulfilling its role in reducing the digital divide, as lower incomes, lack of robust communication systems and unreliable Internet access, cost of using these facilities, attitudinal factors, and degree of usage among kinships in ethnic societies all have an impact on how much ICT is employed.

By reviewing previous studies that dealt with measuring and analyzing the digital divide within or between countries using various measurement methods and methods of analysis, it was concluded that many factors impact this phenomenon within different regions or countries. The most important of these are the high cost of ICT, income, level of education, and political stability. The difference between previous studies and the current study is that this study addresses the digital divide between the nations comprising the industrialized world and third-world nations.

2.1 STUDY PROBLEMS AND QUESTIONS

This issue of computer access is emerging as of the prime issues related to the ICT era between those with access and usage of cyberspace. This covers different nations, businesses, and workers. This has created a classification labeled as the "information-rich" and "information-poor." At the same time, it solicited the consideration of users, people, businesses, and Governments on this issue. It has become the subject of inquiry to guarantee there is no inequity between the various strata of different cultures (Al-Ahmad et al., 2018).

Participants of the Global Summit on Information (WSIS) declared at the end of 2003 that the global initiative for the 21st century was to construct social units in which everyone could see and exchange information, and in which people and communities could be empowered to utilize all their efforts to make progress and improve their work and life situation. It was emphasized by the UNO that communities needed to make unified efforts to enhance the ability of civic communities to increase their inclusion rate, expanding opportunities and reducing roadblocks to getting information. This will help build an atmosphere that enables societies to reduce computer unavailability and take advantage of information to do so (Krause, 2012).

Today, the use of expressions like "knowledge-based society" and "sustainable development" has become commonplace. Currently, knowledge is a "resource for development," and "the absence of reliable knowledge is an example of under-development." Development should be based on information and knowledge, provided that ICTs are used correctly. If this is done on an equal footing, the digital divide or knowledge gap would be closed or reduced. Information is a means for developing people and societies. Digitalization is critical to promoting advancement in many spheres of a community. In contrast, at a personal level, access to knowledge helps one get ahead personally and professionally (Al-Ghanim, 2014).

The focus of this review revolves around answering the following questions to identify the differences between the nations of the first world and the third world regarding ICT access and usability.

- How can the digital divide between developed and third-world countries be described or explained?
- What are the similarities and differences in the reality of the digital divide between developed and third-world countries?

2.2 STUDY OBJECTIVES

This study was planned to meet the undermentioned goals:

- To describe and explain the digital divide between developed and third-world countries.
- To identify similarities and differences in the reality of the digital divide between developed and third-world countries.

2.3 STUDY SIGNIFICANCE

The significance of this study is apparent in the scientific and practical importance of narrowing the digital divide that many countries are trying to meet concerning ICT reach and how to employ it in a wide range of activities. Not many studies exist that look at the problem of access and use of ICT, despite its great importance to countries in general, and especially to third-world countries. this study also provides a description and analysis of rates of computer access and usage in industrialized and third-world nations. This analysis strengthens Arab literature by providing a further academic reference for researchers and specialists in the field, which may encourage further research on the digital divide.

3. RESEARCH METHODOLOGY

Given the nature of the study objective and its queries, a comparative style was adopted which used the following steps.

1– Description of Study: This step included defining the terminology used in the study and its scope.

2- Development of Research Questions: This step involved determining the research questions that would be the focus of the study.

3- Selection of Sources: This step involved collecting data and information concerning the digital divide in the country's status being looked at by reviewing previous studies.

4– Analysis of Data: This step included analyzing and interpreting the reality of the access and usage status in the countries under review.

5– Discussion: This step discussed the points of similarity and difference between the developed and third-world countries regarding the digital divide, based on the data and analysis above.

6– Conclusion: In this step, the validity of the research hypothesis is verified, and the implications of the study results are given.

3.1 Study population and sample

This step refers to previous studies and a review of the most relevant topics about the digital divide in developed and third-world countries. While the population covered was all those with access to the Internet and ICT as per the ITU Reports 2019 and 2021 - the sample comprised developed nations like the USA and in Europe, versus mainly Arab nations in the Third World.

3.2 Study tool and validity

A comparison was prepared that addressed the similarities and differences between the developed and third-world countries regarding the digital divide; it was presented to a group of arbiters who determined these countries' suitability for the study problem.

4. FINDINGS & DISCUSSION

This section presents the results of the study questions, which aimed to identify the digital divide between advanced and third-world economies as follows:

The first question: How can the digital divide between the developed world and the third world be described and explained?

To answer this question, the International Telecommunication Union's methodology relied on calculating the digital access index, which relied on the International Trade Union's (ITU) report and statistics for two years (2019 and 2021), for the digital divide between industrialized and third-world nations.

The digital divide is particularly pronounced between men and women, youth and the elderly, and urban and rural residents, especially in less developed countries. The statistics of the ITU indicate that in 2019, the percentage of households owning a computer reached 38.5% in third-world countries, compared to 82.3% in developed countries. Concerning home access, 87% of households have access to Internet services in developed countries; however, this percentage is at most 11.8% in third-world countries. The number of individuals using the Internet at the end of 2019 reached 28.2% in Africa, 51.6% in Arab countries, 77.2% in the Americas, and 82.5% in Europe (ITU, 2019).

The ITU Report (2021) is a yearly review of the state of digital connectivity across the globe. It indicated that the quantum of Internet users grew globally by more than 10 percent in the first year of Covid-19, the most significant annual increase to date in a decade.

The progress since 2019 has been primarily affected by growth in third-world nations, where Internet penetration has risen more than 13 percent (Lucendo-Monedero, 2021).

The report noted that while there is a worldwide reduction in the digital gender gap; however, wide splits remain in third-world countries. The average use of the Internet worldwide by males is 62 percent compared to 57 percent by females. The gender gap between the genders has narrowed in all regions of the world. It has almost been eliminated in the developed world, where 89 males and 88 females per 100 are connected to the Internet. Substantial gaps still exist in the poorest countries (31 percent of males compared to only 19 percent of females) and in poor landlocked nations (38 males versus 27 females per 100). The gender gap is particularly noticeable in Africa (35 males versus 24 females per 100) and the Arabian

landmass (68 females per 100) versus 56 males per 100. The urban–rural divide—although less pronounced in industrialized nations—is still a significant factor regarding digital connectivity in these countries (Alawadani, 2003).

Globally, the number of cyberspace aficionados in cities is nearly double that of in villages (76 percent in city areas versus 39 percent in village areas) in advanced economies. In contrast, the gap between urban and rural areas appears to be small regarding Internet use (89 percent of the population in city environs compared to 85 percent in village environs). In third-world nations, the number of ICT users in urban areas is close to twice as many as in village locales (72 percent versus 34 percent). (Hassine, 2015).

The report also highlighted the generation gap in all regions of the world, where, on average, 71 percent of the global users aged 15–24 use cyberspace versus 57 percent of all other age groups. This generational split has been seen in all areas. This portends that local work will gradually become more digitalized and tech-reliant as the younger generation starts work.

ITU figures also indicate a wide gulf between access and physical connections for digital networks. While 95 percent of the world's population has possible access to 3G or 4G mobile broadband connections, billions choose not to use them. The cost of devices and services remains a major constraint, impacting the worldwide benchmark of affordable broadband connectivity. In third-world countries, the starting price for a mobile broadband package is 2 percent of gross national income (GNI) per capita. In contrast, in poorer nations, the cost of Internet connectivity can be as high as 20 percent or more of per capita GNI. Added to this is the lack of how to use and benefit from Internet connectivity. This is further exacerbated by the lack of content in local languages. Many residents need interfaces requiring reading, writing, or arithmetic skills (Al Rawabdeh et al., 2012).

Figure 1: The following graph shows the ICT indicators for the developed world versus third-world nations in 2021:
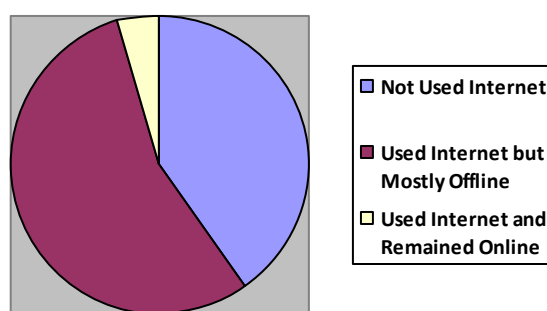
[Figure (1)]
Source: ITU World Telecommunication Indicators 2021.

The figure shows that as many as 4.9 billion people had access to cyberspace by 2021. This is about 63 percent of the world's population. During the same period, 96 percent of the 2.9 billion people in the third-world world were still offline (ITU, 2021).

The second question: What are the similarities and differences in the reality of the digital divide between the developed and the third world?

After reviewing the theoretical literature and previous studies, the following conclusions were drawn:

• The number of individuals using the Internet at the end of 2019 reached 28.2% in Africa, compared with 51.6% in Arab Region, 77.2% in the Americas, and 82.5% in Europe.

• Regarding access to Internet services from home, 87% of families in developed countries enjoy this, compared to less than 11.8% in third-world countries (Panigrahi et al., 2018).

• Although the gender-wise gap in digital technology usage has shrunk globally, wide gaps remain in third-world countries. The average worldwide use of the Internet is 62 percent of males, in contrast with 57 percent of women (Guo et al., 2016).

• The quantum of cyberspace users in developed nations in city locales is close to twice as many as in village locales (76 percent versus 39 percent). In advanced economies, the gap between city and village usage is quite minimal relating to Internet usage (89 percent compared to 85 percent) (Mora-Rivera & García-Mora, 2021).

• In third-world nations, city dwellers' use of cyberspace is nearly twice that of village users (72 percent as against 34 percent) (Ali, 2011).

• As regards the generation gap in all regions of the world, on average, 71 percent of the global population between the ages of 15 and 24 use cyberspace, compared to 57 percent of all other age groups (Szymkowiak et al., 2021).

4. CONCLUSIONS & IMPLICATIONS

• The digital divide and knowledge technology between third-world and developed countries are increasing daily with increasing rates of technological progress in the field of informatics.

- Most Arab countries have sought to improve the infrastructure of ICT and have taken necessary measures to encourage competition in the telecommunications sector (Al Rawabdeh et al., 2012). There was a healthy relationship between the liberalization of telecommunications services, high mobile phones, and Internet service penetration rates.
- Third-world countries suffer from the scarcity of information and communication means and technologies, which is caused by the problem of distributing these available means and technologies and reaching their correct audience. Also, this problem has to do with the amount of information available, the speed of the media in transmitting it, and the accuracy of the information in various societies. ICT devices and usage are more concentrated in developed countries in cities than in other regions (Gerhards & Schafer, 2010).
- The widening of computer literacy and access between third-world and developed countries is
- due to the backward infrastructure of communications, the shortage of Internet service providers, the percentage of the populace employing personal computers, and the large deficit in cyberspace resources (Panigrahi et al.,2018).
- ICT depends mainly on the existence of good infrastructure. The difference between cities and rural areas threatens the form in which it exists to create an internal digital divide so that the information society is established in the city, and the countryside remains distanced from it, thereby generating new forms of exclusion and marginalization. Inequality in educational opportunities or economic prosperity is an issue that especially deserves attention because extending communication technology and the emergence of new types of wireless networks allow for connecting all regions regardless of their isolation (Boonaert & Vettenburg, 2011).
- Educational institutions constitute one of the most prominent aspects of acquiring digital culture, in light of the low rate of homes having computers and their connection to cyberspace in several countries, and the exclusion of the elderly and women in some countries from integration into modern technological societies, which can deepen the conflict between generations.
- Determination of the extent of the gulf between the developed nations and the nations of the third-world, through a comparison between wired communication structures, the number of fixed and mobile phone lines, the price of phone calls, and some of the informational and telecom data, may be obtained through ITU. Through these data, it can be said that the main problem for third-world countries is represented in the possession of structures and equipment, which makes these countries seek a typical way to access information and basic telephone services. In contrast, developed countries deal with issues related to the security of broad regions and applications. It is possible to distinguish between three types of information security and overall applications. Mega-cities, whose size and population density have emerged through telephone networks with competitive offers, and "gray areas" are areas with high-speed Internet accessible to a single customer; however, the problem in these areas lies in their cost due to the absence of competition, while rural areas are not covered by any technology because they are far from the capital.
- The differences recorded between city and village areas were substantial, leading to the decline in the nation's development due to the absence of wireless communication facilities in the countryside. The rate of Internet connectivity is almost equal across the USA (Gerhards & Schafer, 2010).

5. RECOMMENDATIONS

After identifying the reality of the digital divide between third-world and advanced nations and after providing statistics and figures, the following changes and strategies are recommended:

- Conduct field research and studies in third-world nations on the status of communications and information technology and include indicators and statistics on the volume of digital access and the percentage of coverage by fixed and mobile phones and the Internet to identify obstacles and ways to overcome them.
- Coordinate between third-world countries in the information and communications sector and formulation of effective plans and strategies to narrow the digital divide between them and developed nations.
- Make radical changes in technological infrastructure, including eliminating technological illiteracy and increasing investment in modern means of communication to narrow the digital divide.
- Change policies related to infrastructure development in third-world countries, and reduce the level of Governmental control.
- Initiate and promote more digital literacy programs in third-world nations.
- Promote affordable access to ICT in third-world nations by making the devices more affordable and the Internet services more reliable.

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