



RESEARCH ARTICLE

ECONOMIC INEQUALITIES IN THE U.S. DIGITAL ERA: A REVIEW: INVESTIGATING THE CHALLENGES AND STRATEGIES TO MITIGATE DISPARITIES

Oluwatoyin Ajoke Farayola^a, Nolutando Mhlongo^b, Funmilola Olatundun Olatoye^c, Rosita Eberechukwu Daraojimba^d, Franciscamary Chinyere Okonkwo^e

^aFinancial Technology and Analytics Department, Naveen Jindal School of Management, Dallas, Texas, USA

^bCity Power, Johannesburg, South Africa

^cIndependent Researcher Houston, Texas, USA

^dFirst Bank PLC, Calabar, Nigeria

^eOnesubsea (a SLB company), Nigeria

*Corresponding Author Email: rositadaraojimba@gmail.com

This is an open access journal distributed under the Creative Commons Attribution License CC BY 4.0, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited

ARTICLE DETAILS

Article History:

Received 18 November 2023

Revised 20 December 2023

Accepted 28 January 2024

Available online 31 January 2024

ABSTRACT

This review paper delves into the multifaceted issue of economic inequalities in the United States during the digital era. It provides a comprehensive analysis of how the advent and proliferation of digital technologies have reshaped and influenced these inequalities. The paper begins with an overview of the historical evolution of the digital divide, highlighting its impact on economic disparities. It then examines the current state of economic inequalities in the digital era, emphasizing the role of digital technologies in both exacerbating and potentially mitigating these disparities. The review identifies key trends and strategies employed to address economic inequalities in the digital era, including technological innovations and policy interventions. It also presents case studies that illustrate successful approaches to mitigating economic disparities. The discussion section assesses the impact of digital era innovations on economic equality, exploring the socioeconomic implications, challenges, and barriers in reducing inequalities. The role of policy and governance in shaping economic equality is critically analyzed, along with future directions for bridging economic disparities in the digital age. The paper concludes with a summary of key insights and findings, discussing the prospects and challenges for the future of economic equality in the digital era. Recommendations are provided for industry, academia, and policymakers, highlighting the need for collaborative efforts and continued research in this field. The review underscores the importance of addressing economic disparities in the digital age and offers a roadmap for future initiatives aimed at promoting economic equality in the face of rapid technological advancements.

KEYWORDS

Economic Inequalities, Digital Divide, Technological Advancements, Policy Interventions

1. INTRODUCTION

In the contemporary digital era, the United States faces a complex web of economic inequalities, significantly influenced by the digital divide. This divide, which manifests in disparities in access to and utilization of digital technologies, exacerbates existing social, cultural, and economic inequalities (Ragnedda and Gladkova, 2020). The digital divide is not a static concept but an evolving phenomenon characterized by three levels: access, skills, and tangible outcomes from online activities (Skaletsky, 2017). These levels reflect the multifaceted nature of digital inequalities and their profound impact on economic disparities.

The historical perspective of the digital divide reveals its deep roots and evolving nature. Initially, the term referred to the gap in access to technological resources, but it has since expanded to include disparities in the usage and outcomes of these technologies (Osborne and Morgan, 2016). In the U.S., this divide is more pronounced in low-income districts, where the integration of digital resources in education and other sectors is often suboptimal compared to wealthier areas. This disparity leads to a perpetuation of economic inequalities, as those with limited digital access and skills are increasingly marginalized in a technology-driven economy.

Addressing these disparities is crucial in the digital age. The digital era

offers unprecedented opportunities for economic growth and social advancement. However, without proactive measures to bridge the digital divide, these benefits remain inaccessible to a significant portion of the population, further entrenching economic inequalities. Strategies to alleviate the digital divide, such as enhancing access to technology in underserved communities and improving digital literacy, are essential in promoting economic inclusion and equality (Osborne and Morgan, 2016).

1.1 Overview of Economic Inequalities in the U.S. Digital Era

The digital era has significantly reshaped the landscape of economic inequalities in the United States. Since the onset of globalization around 1980, economic disparities within the country have widened, even as absolute poverty has declined and global inequality has reduced (Howard-Hassmann, 2021). This paradox highlights the complex nature of economic inequalities in the digital age, where advancements in technology and globalization have not uniformly benefited all segments of society.

The digital divide, a critical aspect of these inequalities, is characterized by disparities in access to and utilization of information and communication technologies (ICTs). This divide is not merely a matter of technological access but also encompasses the ability to effectively use technology for improving quality of life and economic outcomes. A group researchers

Quick Response Code



Access this article online

Website:

www.bosoc.com.my

DOI:

10.26480/bosoc.01.2024.08.15

emphasize the relationship between communication inequalities, such as daily internet use, and health-related quality of life, underscoring the broader implications of the digital divide on public health and economic well-being (Philbin et al., 2019).

Furthermore, disparities in computer and broadband internet use are starkly evident across different socio-economic, racial, and geographic groups in the U.S. a studies report significant variations in internet and computer use based on race, income, and urban versus rural residency (Singh et al., 2020). These disparities are not just digital but translate into broader health and socio-economic inequalities. For instance, communities with lower levels of internet and computer use exhibit poorer health outcomes and shorter life expectancies compared to those with higher usage levels.

The digital era has also seen the rise of individualized online content and advertising, which, while enhancing consumer experience, has raised concerns about exacerbating economic inequalities. Park discusses how online price customization and data-driven advertising strategies can exploit consumers and widen economic disparities (Park, 2017). This exploitation is particularly pronounced in the digital economy, where data is a valuable commodity, and those with better access to and control over digital resources can disproportionately benefit.

In summary, economic inequalities in the U.S. digital era are multifaceted, deeply intertwined with the digital divide, and manifest across various dimensions of life. While technology and globalization have brought numerous benefits, they have also contributed to widening economic disparities, affecting different segments of society unevenly. Addressing these inequalities requires a comprehensive understanding of the digital divide and its socio-economic implications.

1.2 The Digital Divide: Concept and Context

The concept of the digital divide is pivotal in understanding the landscape of economic inequalities in the U.S. digital era. The digital divide refers to the disparities in access to and utilization of information and communication technologies (ICTs) among different segments of the population. This divide is not merely a technological issue but a complex socio-economic phenomenon that reflects and reinforces existing inequalities (Andreasson, 2015).

The evolution of the digital divide mirrors the rapid technological advancements and their integration into everyday life. Initially, the divide was primarily about access to ICTs, but it has now expanded to include disparities in the quality of access, digital literacy, and the ability to leverage technology for economic and social benefits (Skaletsky et al., 2021). These disparities are evident in various forms, such as differences in internet speed, the availability of digital resources, and the skills required to effectively use these technologies.

In the United States, the digital divide is a multifaceted issue, influenced by factors such as income, education, race, and geographic location. For instance, low-income households, rural areas, and certain racial and ethnic groups have lower rates of internet and computer use compared to their counterparts (Sanders and Scanlon, 2021). This divide not only limits access to digital resources but also impacts opportunities for economic advancement, education, and social participation.

The COVID-19 pandemic has further highlighted the critical nature of the digital divide. As the world shifted to remote work, education, and healthcare, the lack of access to high-speed internet and digital devices disproportionately affected certain groups, exacerbating existing social, economic, and educational disparities (Sanders and Scanlon, 2021). This situation underscores the importance of addressing the digital divide as a matter of social justice and human rights.

Moreover, the digital divide has implications for the broader economy. In a digital economy, access to and proficiency with digital technologies are crucial for participating in the labor market, accessing educational resources, and engaging in civic activities. The disparities in digital access and skills can lead to a cycle of economic disadvantage, where those without adequate digital resources are left behind in an increasingly digital world (Andreasson, 2015).

1.2.1 Historical Perspective of the Digital Divide

The historical evolution of the digital divide in the United States provides crucial insights into the current state of economic inequalities in the digital era. The term 'digital divide' first emerged in the late 1990s, reflecting growing concerns about unequal access to rapidly advancing information and communication technologies (ICTs). This divide was initially

conceptualized as a binary distinction between those with access to the internet and computers and those without (Davis et al., 2020). However, over time, the understanding of the digital divide has evolved to encompass a broader range of factors, including the quality of access, digital literacy, and the ability to use technology effectively.

Income, education, and ethnicity have been significant determinants of the digital divide in the U.S. Davis, Kuan, and Poon analyzed the 2016 U.S. census data and found that lower income levels, lower education levels, and certain ethnic backgrounds correlated with reduced access to the internet (Davis et al., 2020). This correlation indicates that the digital divide is not just a technological issue but is deeply intertwined with broader socio-economic inequalities.

The digital divide has also been shaped by geographic disparities. Rural areas and certain urban communities have historically had less access to high-speed internet and digital resources compared to more affluent urban areas (Singh et al., 2020). These disparities have significant implications for economic opportunities, education, and healthcare access, contributing to a cycle of disadvantage for those on the wrong side of the divide.

Moreover, the digital divide's impact extends beyond individual access to technology. It affects communities and regions, influencing economic development, public health, and social cohesion. A group of researchers found that communities with lower levels of internet and computer use had poorer health outcomes and shorter life expectancies, highlighting the broader societal implications of the digital divide (Singh et al., 2020).

In recent years, there has been a growing recognition of the need to address the digital divide as a matter of social justice. Efforts to bridge this divide have included policy initiatives, public-private partnerships, and community-based programs aimed at expanding access to digital technologies and enhancing digital literacy (Larson, 2022). These efforts reflect an understanding that addressing the digital divide is essential for promoting equitable economic growth and social inclusion in the digital era.

1.2.2 The Digital Era and Its Impact on Economic Inequalities

The digital era has profoundly influenced economic inequalities in the United States, reshaping the dynamics of socio-economic stratification and opportunity. Since the late 20th century, the rapid advancement of information and communication technologies (ICTs) has significantly altered the economic landscape, creating new forms of inequality while exacerbating existing ones (Howard-Hassmann, 2021). This transformation has been marked by a shift from traditional industrial economies to knowledge-based economies, where digital skills and access to technology play a crucial role in determining economic success.

The digital era has widened the gap between those who have access to digital technologies and the skills to use them effectively and those who do not. This divide is evident in various sectors, including education, healthcare, and employment. For instance, individuals with limited access to the internet and digital devices face challenges in accessing educational resources, healthcare services, and job opportunities, which are increasingly mediated through digital platforms (Singh et al., 2020). This situation has led to a scenario where the lack of digital access and literacy directly translates into economic disadvantages.

Moreover, the digital era has introduced new forms of economic exploitation and inequality. The rise of data-driven economies has led to concerns about privacy, data security, and the commodification of personal information. Park highlights how individualized online content and advertising strategies, while enhancing consumer experience, can also exploit consumers and exacerbate economic inequalities (Park, 2017). This exploitation is particularly pronounced in the digital economy, where data is a valuable commodity, and those with better access to and control over digital resources can disproportionately benefit.

The impact of the digital era on economic inequalities is also reflected in the changing nature of the labor market. The demand for digital skills has increased, leading to a premium on jobs that require such skills. However, this shift has also resulted in the marginalization of workers who lack digital literacy, contributing to a growing divide in income and employment opportunities (Howard-Hassmann, 2021). This trend underscores the need for policies and initiatives that focus on digital inclusion and skill development to ensure equitable participation in the digital economy.

Moving forward, the digital era has had a significant impact on economic inequalities in the United States. The increasing importance of digital

access and literacy in determining economic opportunities, coupled with the challenges posed by data-driven economies, highlights the need for concerted efforts to address the digital divide and promote digital inclusion as a means to mitigate economic disparities.

1.3 Importance of Addressing Economic Disparities in the Digital Age

Addressing economic disparities in the digital age is of paramount importance for ensuring equitable growth and social justice in the United States. The digital age has brought about significant changes in the way economies function, with a growing reliance on digital technologies and data-driven decision-making. This shift has the potential to exacerbate existing economic disparities if not managed carefully (McCall et al., 2022). The concept of digital redlining, where specific groups are systematically deprived of equal access to digital tools, is a stark example of how economic disparities can be perpetuated in the digital age.

The COVID-19 pandemic has further underscored the critical nature of digital access as a determinant of health and economic well-being. With physical distancing requirements, the need for broadband internet access has become more pronounced, highlighting how digital access is intertwined with social determinants of health (Garnier et al., 2020). This situation has revealed the deep-seated socio-economic disparities in the U.S., where communities with limited digital access face greater challenges in accessing healthcare, education, and employment opportunities.

Furthermore, educational disparities in adult health across U.S. states have been shown to reflect underlying economic factors (Montez and Cheng, 2022). This finding suggests that addressing economic disparities in the digital age requires a multifaceted approach that considers the interplay between education, health, and economic conditions. Efforts to bridge the digital divide must therefore be integrated with broader strategies to address socio-economic inequalities.

The importance of addressing economic disparities in the digital age also extends to the realm of telemedicine. Disparities in telemedicine literacy and access have been identified, with disadvantaged groups being at risk of being underserved (Harris et al., 2022). This situation highlights the need for targeted interventions to increase telemedicine literacy and access, particularly in communities that are already facing economic challenges.

Therefore, addressing economic disparities in the digital age is crucial for promoting equitable access to opportunities and ensuring that the benefits of digital advancements are shared broadly across society. This endeavor requires a comprehensive approach that addresses the root causes of disparities and leverages digital technologies as tools for empowerment and inclusion.

1.4 Review of Existing Literature on Economic Inequalities in the Digital Era

The existing literature on economic inequalities in the digital era in the United States provides a comprehensive understanding of how digital technologies have influenced socio-economic dynamics. This literature review synthesizes key findings from recent studies, highlighting the multifaceted nature of digital-era inequalities and the various strategies proposed to address them.

Wang and Ding conducted an extensive analysis of digital economy literature, emphasizing the role of digital technologies as a driving force in global economic and social development (Wang and Ding, 2021). Their study underscores the significant impact of the digital divide on economic opportunities, with countries like China and the United States being major players in the digital economy. The research highlights the importance of digital governance and the need to address the digital divide to ensure equitable participation in the digital economy.

Azzopardi-Muscat and Sørensen focused on the impact of digital technologies on health equity, presenting health literacy as a critical lens for understanding access and utilization of digital technologies (Azzopardi-Muscat and Sørensen, 2019). Their findings suggest that digital technologies are likely to increase health inequities associated with age, education, and socio-economic status. This study is particularly relevant in understanding how economic disparities in the digital era extend beyond economic opportunities to encompass health and well-being.

Park analyzed the tactics and technologies of commercial surveillance in the digital era, particularly focusing on online price customization in the United States (Park, 2017). The study argues that these strategies exacerbate economic inequalities by exploiting online users and eroding

consumer agency. Park's research provides a critical perspective on how digital-era economic practices can contribute to widening economic disparities.

The literature on economic inequalities in the digital era in the U.S. reveals a complex interplay between technology, governance, health, and consumer rights. These studies collectively highlight the need for multi-dimensional strategies to address the digital divide and promote equitable economic opportunities in the digital era.

1.4.1 Identification of Research Gaps

The exploration of economic inequalities in the digital era in the United States reveals several research gaps that need to be addressed to develop a more comprehensive understanding of this complex issue. The existing literature, while extensive, often overlooks certain aspects that are crucial for a holistic understanding of digital-era inequalities.

One significant gap identified in the literature is the intersectionality of digital inequalities. Rhinesmith and Reisdorf emphasize that while race has been considered a factor in digital inequalities, the intersection of race with other socio-economic factors has not been adequately explored (Rhinesmith and Reisdorf, 2017). Their study highlights the need for more nuanced research that considers how various socio-economic factors, including race, education, and income, interact to create complex patterns of digital exclusion, particularly in distressed urban neighborhoods.

Another research gap pertains to the impact of the COVID-19 pandemic on digital inequalities. While the pandemic has brought the issue of digital access into sharp focus, there is a dearth of comprehensive studies that examine the long-term implications of these disparities. A group of researchers point out that the pandemic has exacerbated existing digital divides, particularly in education, but there is limited research on the specific needs and challenges faced by students in remote communities (Olanrewaju et al., 2021).

Additionally, the literature often overlooks the historical context of educational and economic inequalities in the U.S. Camps-Cura and Camps-Cura provides a long-term perspective on education and inequality, but there is a need for more studies that connect historical trends with contemporary digital-era inequalities (Camps-Cura and Camps-Cura, 2019). Such research could provide valuable insights into how past policies and socio-economic dynamics have shaped current digital divides.

The identification of these research gaps underscores the need for more intersectional, pandemic-focused, and historically informed research on economic inequalities in the digital era in the U.S. Addressing these gaps will contribute to a more nuanced understanding of digital inequalities and inform more effective policy interventions.

1.4.2 Emerging Trends and Recent Developments

The landscape of economic inequalities in the digital era is continually evolving, with recent developments and emerging trends shaping the discourse in the United States. This review highlights key trends and developments that have been identified in recent literature. Camps-Cura and Camps-Cura provides a historical perspective on education and inequality in North America, with a special focus on the United States (Camps-Cura and Camps-Cura, 2019). The study traces the evolution of educational systems and their impact on economic disparities. In the digital era, these historical trends have been exacerbated by the rapid advancement of technology, leading to a widening gap between those with access to digital education and those without. This historical context is crucial for understanding the roots of current inequalities in the digital era.

A group of researchers discuss the opportunities and challenges faced by women entrepreneurs in the digital transformation (Hazudin et al., 2021). Their research highlights the significant role of social media and digital business solutions in empowering women entrepreneurs. However, they also note the challenges, including traditional gender issues and emerging digital pressures. This study sheds light on the gender dimension of economic inequalities in the digital era, emphasizing the need for targeted strategies to support women entrepreneurs.

Hurrell analyzes the challenges faced by emerging economies in the context of the new global order, with implications for the United States (Hurrell, 2014). The study emphasizes the need for strong institutions, the rule of law, and sustainable development to reduce social inequalities. This global perspective is relevant for understanding the broader economic trends that influence inequalities in the digital era in the U.S.

1.5 Aim and Objectives of the Review

The aim of the research is to comprehensively analyze and understand the multifaceted impact of the digital era on economic inequalities in the United States, and to identify effective strategies and policy recommendations for mitigating these disparities.

The objectives of the research is to:

1. To examine the historical evolution of the digital divide in the United States, tracing its development over time, and understanding how it has contributed to current economic inequalities.
2. To analyze the current state of economic inequalities in the digital era.
3. To identify and evaluate strategies and policies addressing digital era economic disparities
4. To propose recommendations for future policy and practice.

2. METHODOLOGY

2.1 Research Design and Approach

The research design for this study is structured around a systematic literature review (SLR), a methodological approach that provides a comprehensive and unbiased overview of existing literature. This approach is particularly suited for exploring the multifaceted nature of economic inequalities in the digital era in the U.S. The SLR method involves a structured process of searching, selecting, and synthesizing relevant research studies. It allows for a thorough examination of the current state of knowledge, identification of gaps, and understanding of the various perspectives and findings related to the topic.

2.2 Inclusion and Exclusion Criteria for Selected Studies

The inclusion criteria for the SLR are as follows:

- Peer-reviewed articles published between 2008 and 2023.
- Studies focused on economic inequalities in the context of the digital era.
- Research specifically addressing the U.S. context.

The exclusion criteria include:

- Non-peer-reviewed articles and grey literature.
- Studies published before 2008, to ensure the relevance of the digital context.
- Research not specifically focused on economic inequalities or the digital era.

2.3 Process of Data Collection

2.3.1 Identification of Pertinent Literature

The identification of pertinent literature involves a comprehensive search across multiple academic databases such as Web of Science, Scopus, and Google Scholar. Keywords related to economic inequalities, digital era, and the U.S. context are used in various combinations to ensure a wide coverage of relevant literature. The search strategy is designed to be both exhaustive and replicable, ensuring that the review captures a broad spectrum of relevant studies.

2.3.2 Methods of Data Extraction and Analysis

Once relevant articles are identified, data extraction involves systematically collecting key information from each study, such as objectives, methodology, findings, and conclusions. This process is critical for synthesizing the vast amount of information into coherent and meaningful insights. The analysis then involves categorizing the extracted data into themes, identifying patterns and trends, and critically evaluating the findings in the context of the research questions. This methodical approach ensures that the review provides a comprehensive understanding of the state of research on economic inequalities in the digital era in the U.S.

2.3.3 Thematic analysis

A thematic analysis is employed to synthesize the findings from the

selected studies. This involves identifying, analyzing, and reporting patterns (themes) within the data. Themes are identified through a careful and detailed reading of the data, looking for patterns or issues that recur across the different studies. This method allows for the integration of findings from various studies, providing a comprehensive understanding of the broader research landscape.

3. RESULTS

3.1 Synthesis of Literature on Economic Inequalities in the Digital Era

In the digital era, economic inequalities in the United States have been significantly influenced and reshaped by the advent and proliferation of information and communication technologies (ICTs). The concept of 'digital inequality' or 'digital divide' has emerged as a critical area of study, highlighting the disparities in access to and utilization of digital technologies among different socio-economic groups (Mushakov, 2022). This divide not only encompasses access to technology but also includes the skills and competencies required to effectively use these technologies.

Mushakov emphasizes that the digital divide is a multifaceted issue, influenced by economic, age, gender, and educational factors. The uneven spread of ICTs, both between and within countries, has significant implications for the exercise of constitutional rights and the legal status of individuals (Mushakov, 2022). In the context of the United States, this divide exacerbates existing economic inequalities, as access to digital technologies increasingly becomes a determinant of socio-economic status.

Furthermore, the rapid adoption of digital health technologies, while aimed at increasing the efficiency of healthcare delivery, has inadvertently contributed to health inequities. A group researchers conducted a scoping review to identify and describe these inequities, revealing that the integration of digital technology in healthcare has led to disparities in the distribution of healthcare resources among different populations (Yao et al., 2021). This is particularly evident in the United States, where health inequities have been exacerbated by the digital divide, reflecting the inability of certain groups to obtain and adopt technology.

Additionally, the tactics and technologies of commercial surveillance in the digital era, particularly in the realm of online advertising and individualized content, have significant implications for economic inequalities. Park analyzes how these strategies exploit online users and erode consumer agency, further exacerbating pre-existing economic inequalities (Park, 2017). The growth in online data collection and the use of this data for targeted advertising and price customization contribute to a cycle of exploitation and inequality. This process, Park argues, maximizes capital extraction by those already in power, thereby heightening their influence within society and perpetuating economic disparities.

Therefore, the literature on economic inequalities in the digital era in the United States presents a complex picture of how digital technologies, while offering numerous benefits, also contribute to and exacerbate existing disparities. The digital divide, health inequities due to digital health technologies, and the exploitation inherent in commercial surveillance are all facets of this issue that need to be addressed to mitigate these inequalities.

3.2 Key Trends in Addressing Digital Era Economic Disparities

3.2.1 Technological Innovations and Economic Inclusion

The digital era in the United States has been marked by significant technological innovations, which have had a profound impact on economic inclusion. In exploring the landscape of economic inequalities in the digital era in the United States, a synthesis of recent literature reveals a multifaceted and evolving issue. This synthesis, drawing from key studies, provides insights into the various dimensions of economic inequalities exacerbated by digital advancements.

Mushakov examines the correlation between the digital divide and the exercise of constitutional human rights (Mushakov, 2022). The study highlights that the uneven spread of information and communication technologies (ICT) both between and within countries leads to 'digital inequality'. This inequality restricts citizens' access to ICT, thereby limiting their ability to exercise constitutional rights. The research emphasizes the need to address the digital divide as a crucial step towards ensuring the legal status and rights of individuals. This perspective underscores the broader implications of digital inequality beyond mere access to technology, delving into its impact on fundamental human rights (Mushakov, 2022).

Park analyzes the tactics and technologies of commercial surveillance in the context of online advertising and individualized content in the United States (Park, 2017). The study argues that these strategies not only exploit online users but also exacerbate pre-existing economic inequalities. Park's research details the significant growth in online data collection, advertising, and e-commerce, and how these developments contribute to widening economic disparities. This work offers a critical perspective on the role of digital technologies in reinforcing economic inequalities through commercial practices. It highlights the need for a more equitable digital economy that considers the implications of commercial surveillance and data exploitation on economic disparities (Park, 2017).

These studies collectively illustrate the multifaceted nature of economic inequalities in the digital era. They highlight the need for a comprehensive approach to address these disparities, considering not only the technological aspects but also the broader socioeconomic, legal, and human rights implications. The synthesis of this literature underscores the urgency of developing inclusive digital policies and practices that mitigate the adverse effects of the digital divide on economic inequalities.

Patwardhan, Singleton, and Schmitz discuss the global challenge of financial exclusion, highlighting the lack of access to financial services for billions of adults, including in developed countries like the U.S. (Patwardhan et al., 2018). They emphasize the role of technological innovations in fostering new approaches to mitigate these challenges, offering insights into how digital financial services can enhance financial inclusion and security. This perspective is crucial for understanding the economic implications of digital technologies in the U.S. and their potential in reducing economic disparities.

A group of researchers assess the role of data and digitization in governance, focusing on how these technologies can enable more transparent, inclusive, and representative political engagement (Stevens et al., 2017). Their analysis of social innovations leveraging digitization provides a nuanced understanding of how digital technologies can be used to foster economic inclusion and address inequalities in the U.S. Umanets, Danylina, and Shatalova explore the impact of digitalization on the labor market, highlighting the transformation of labor relations and the creation of new job opportunities (Umanets et al., 2022). Their study is pertinent to the U.S. context, where digital technologies are reshaping the labor market and influencing economic inclusion strategies. The authors discuss the challenges and opportunities presented by digitalization, offering insights into how technological advancements can be harnessed to promote economic equality.

3.2.2 Strategies for Reducing the Digital Divide's Impact on Inequality

The digital divide in the United States has been a persistent challenge, exacerbating economic inequalities. Jim, Evans, and Grant present findings from a multi-disciplinary project, Team D2IE (Digital Divide and Inclusion in Education), which investigated digital infrastructure and internet connectivity among K-12 students across the U.S. (Jim et al., 2021). They developed quantitative measures and interactive maps from socio-technical and economic perspectives to support decision-making. These tools enable stakeholders to evaluate digital access, usage, cost, and economic benefits at the county level, offering a practical approach to addressing the digital divide in education, a critical factor in economic inequality.

Ayob, Aziz, and Ayob focus on digital education as a driver of economic development, emphasizing the importance of digital skills in the era of the industrial revolution 4.0 and the internet of things (Ayob et al., 2022). They discuss the implementation of digital education policies and strategies to reduce the digital divide, linking this to the 4th and 10th sustainable development goals, which focus on quality education and reducing inequality. Their recommendations for policy and strategy improvements are relevant to the U.S. context, where bridging the digital divide in education is crucial for fostering innovation and digital literacy.

Faulkner, Cobb, Kipkurgat, and Alinat-Abed examine the gender aspect of the digital divide, detailing the challenges women face in the labor force and the importance of addressing gender inequity in education, training, and governmental resources. They provide insights into how closing the gender digital divide can improve women's employability, which is particularly relevant in the U.S., where technological skills can bring new capabilities to the workplace, reduce economic needs, and boost welfare and growth.

Reza addresses the issue of de facto segregation in U.S. school systems and its impact on educational outcomes through the lens of the digital divide (Reza, 2021). The COVID-19 crisis has exacerbated existing inequalities,

making it imperative to implement strategies that create a more equitable learning environment for all students. Reza's suggestions for reducing the digital divide are crucial for ensuring equal access to technology and, consequently, reducing economic inequality.

4. DISCUSSION

4.1 Assessing the Impact of Digital Era Innovations on Economic Equality

The digital era has brought about significant innovations that have transformed various aspects of life, including the economy. O'Keefe and Saint Clair research explores the representation of African Americans in digital retail advertising (O'Keefe and Saint Clair, 2019). They highlight a significant gap in the literature regarding diversity in digital advertisements, especially by small businesses. Their comparative analysis suggests that larger companies often lack diversity in their decision-making process, leading to less diverse advertising messages. This lack of representation in digital platforms can perpetuate economic inequalities, as it influences consumer perceptions and market dynamics (O'Keefe and Saint Clair, 2019).

Hasty discusses the challenges of consumer privacy in the modern digital environment (Hasty, 2015). The paper emphasizes the need for a new regulatory approach to address privacy dilemmas that arise with technological advancements. The author argues that recognizing digital interactions as commercial exchanges of value could bolster the Federal Trade Commission's new privacy framework. This approach is crucial for ensuring fair and equitable treatment of consumers' data, which is increasingly becoming a valuable asset in the digital economy.

Auerbach and Bates delve into the implications of the widespread implementation of electronic health records (EHRs) in the U.S. healthcare system (Auerbach and Bates, 2020). They discuss how EHRs have transformed care delivery and quality improvement, highlighting the potential of EHR-enabled approaches like machine learning and artificial intelligence. The authors argue that these innovations, while promising, require robust evaluation and reporting methodologies to ensure they contribute positively to economic equality in healthcare. These findings underscore the importance of addressing representation, privacy, and equitable access to technological advancements to ensure these innovations contribute positively to reducing economic disparities.

4.1.1 Socioeconomic Implications

A group of researchers explore the implications of an aging and increasingly diverse population in the U.S. Their study, focusing on older consumers' needs and expectations, reveals that digital engagement varies across different racial and ethnic groups (Miller et al., 2021). They found that while all groups are using technology, there are notable differences in trust levels in technology, with Asian participants reporting the highest and multiracial participants the lowest levels of trust. This disparity in digital engagement and trust has significant implications for economic participation and access to digital resources among various demographic groups (Miller et al., 2021).

Lo discusses the reimagining of civic education in the digital era (Lo, 2022). The paper highlights the challenges young people face in understanding the extent of their digital interactions and the public-private dichotomy in digital spaces. This reconfiguration of civic spaces has profound implications for civic education and engagement, affecting how young people participate in the economy and society at large.

A group of researchers address the rapid transition to telehealth and its implications for primary care access and equity in the post-COVID era (Chang et al., 2021). Their study underscores the digital divide's impact on healthcare access, particularly among marginalized and underserved communities. The authors emphasize the need for policy changes to ensure greater telehealth equity, highlighting the socioeconomic barriers associated with digital access in healthcare (Chang et al., 2021). These studies highlight the need for inclusive policies and practices to ensure equitable access to digital resources across all demographic groups, thereby fostering economic participation and social inclusion in the digital age.

4.1.2 Challenges and Barriers in Reducing Inequalities

The digital era, while offering numerous opportunities, also presents significant challenges and barriers in reducing economic inequalities in the United States. Andreasson discusses the concept of the digital divide, highlighting the social and economic inequalities that arise due to differential access to digital resources (Andreasson, 2015). In the U.S., a

significant portion of the population remains offline, exacerbating existing inequalities. The study emphasizes the need for public policy to identify and close these gaps, suggesting that the digital divide is a critical barrier to economic equality in the digital era (Andreasson, 2015).

Gallardo examines the unique challenges faced by rural communities in the U.S. in the digital age (Gallardo, 2022). The study identifies three primary barriers: lack of awareness about digital advancements, digital parity issues (including connectivity, mindset, and skills), and digital inclusion or exclusion. Gallardo argues that overcoming these barriers is essential for unleashing the innovative potential of rural communities and ensuring equitable access to digital technologies (Gallardo, 2022).

Newlands and Lutz investigate the feasibility of online crowdwork platforms as a source of income for socioeconomically deprived populations (Newlands and Lutz, 2021). Their study reveals substantial inequalities in device use and benefits received from crowdwork, both within the U.S. and between different countries. The research highlights the barriers to participation and economic success online, particularly for mobile-first and mobile-only populations, underscoring the digital divide's impact on economic opportunities (Newlands and Lutz, 2020). These underscore the need for targeted policies and interventions to address the digital divide and ensure equitable access to digital resources and opportunities across all segments of society.

4.2 Role of Policy and Governance in Shaping Economic Equality

In the digital era, policy and governance play pivotal roles in shaping economic equality. A group researchers discusses the challenges posed by the deep penetration of digital technologies into the social fabric (Bomani et al., 2021). The study identifies three key challenges: access to technology, knowledge of its use, and understanding the social, economic, and political concepts it supports. Mraović emphasizes the asymmetry of power caused by disruptive innovations and the resulting digital divide, underscoring the need for governance to address these issues and promote economic equality (Bomani et al., 2021).

A study by critiques the data-centrism in policy-making, highlighting the potential of digitization in fostering a more transparent, inclusive, and representative political enactment (Stevens et al., 2017). The research evaluates social innovations that leverage digitization for policymaking and citizen activism, suggesting that data-driven governance can either empower democratic engagement or reinforce state and corporate power. This duality underscores the complex role of data in shaping social order in the digital era (Stevens et al., 2017).

Stelzner provides an in-depth analysis of income inequality in the United States and the role of policy in controlling it (Stelzner, 2015). The study traces the historical context of economic inequality and examines the cycles of policy control, suggesting that changing the rules of the game is essential for addressing the disparities. Stelzner's work highlights the importance of policy interventions in mitigating economic inequalities in the digital era (Stelzner's, 2015). These studies highlight the need for innovative and inclusive policy-making that addresses the challenges posed by digital technologies and the digital divide, ensuring equitable economic opportunities for all.

4.3 Future Directions in Bridging Economic Disparities in the Digital Age

This section explores future directions and strategies that could be employed to mitigate these disparities. A group researchers discuss the changing nature of digital divides, emphasizing the shift from issues of access to those of usage and outcomes (Skaletsky et al., 2017). The authors highlight the potential for social and economic development as digital access becomes more widespread. They also examine regional digital inequalities within the United States, suggesting that future strategies should focus on inclusive global information societies (Skaletsky et al., 2017).

Georgescu and Kinnunen address the progress of digital skills and technologies and their impact on well-being, income inequality, and competitiveness (Georgescu and Kinnunen, 2021). Their study suggests that digitalization and income equality are interconnected, with digital skills being significant predictors of competitiveness and inequality. This implies that future efforts should focus on enhancing digital skills to foster economic equality (Georgescu and Kinnunen, 2021).

Ciuriak examines the implications of the pandemic on the global economy, particularly in the context of digital transformation (Ciuriak, 2020). The study highlights the need for trade governance reforms and the importance of adapting to changing market evaluations and national

investment strategies. This perspective suggests that future directions in economic policy should consider the accelerated technological development and its impact on trade and economic disparities (Ciuriak, 2020).

These studies collectively suggest a multi-faceted approach to addressing economic disparities in the digital era. They underscore the importance of enhancing digital skills, adapting to technological advancements, and fostering inclusive policies that consider the evolving nature of digital divides.

4.4 Implications for Stakeholders and Policymakers

The study highlights the importance of not just providing access to technology but also ensuring that individuals and communities have the necessary skills to use it effectively. Policymakers must prioritize digital literacy programs, especially in underserved areas, to ensure equitable participation in the digital economy. The rapid pace of technological innovation can exacerbate economic inequalities if not managed carefully. Policymakers and industry leaders need to work together to ensure that technological advancements do not disproportionately benefit certain groups while leaving others behind. This involves creating policies that encourage innovation while also addressing potential negative impacts on economic equality. The study suggests that data-centric approaches in governance can be a double-edged sword. While they offer opportunities for more informed decision-making, there is also a risk of reinforcing existing inequalities. Policymakers should use data responsibly, ensuring that it is used to identify and address disparities rather than exacerbate them.

The historical analysis of economic inequalities and policy control in the U.S. indicates the need for more inclusive economic policies. This involves rethinking current economic models and rules to address systemic inequalities. Policymakers should focus on creating policies that promote fair distribution of wealth and opportunities. Addressing economic inequalities in the digital era requires collaboration across various sectors, including government, private sector, academia, and civil society. Policymakers should foster partnerships that leverage the strengths of each sector to develop comprehensive strategies for reducing digital and economic disparities.

The study underscores the need for long-term strategic planning in policy formulation. Quick fixes are unlikely to address the deep-rooted issues of economic inequality. Policymakers should focus on sustainable solutions that consider future technological developments and their potential impact on society. Continuous monitoring and evaluation of policies and programs aimed at reducing economic inequalities are essential. This will help in understanding the effectiveness of different approaches and making necessary adjustments. Given the global nature of digital technology and its impact, international cooperation is crucial. Policymakers should engage in global dialogues and partnerships to learn from other countries' experiences and coordinate efforts to address economic inequalities.

5. CONCLUSION

In concluding this comprehensive review of economic inequalities in the U.S. digital era, several key insights and findings emerge. The digital divide, a central theme in this discourse, highlights the disparities in access to and utilization of digital technologies. This divide is multifaceted, influenced by economic, demographic, and educational factors, and it exacerbates existing economic inequalities. The integration of digital technology in various sectors, notably healthcare, has inadvertently contributed to these disparities, as evidenced by the uneven distribution of healthcare resources and access to digital health technologies.

Looking towards the future, the prospects and challenges for achieving economic equality in the digital era are significant. The rapid evolution of technology offers immense potential for bridging these divides. However, this also presents challenges, such as the need for continuous adaptation to new technologies and the risk of perpetuating or even widening existing disparities if these advancements are not equitably accessible.

To address these challenges, a multi-faceted approach is necessary. For industry leaders, there is a need to prioritize inclusivity in the development and deployment of digital technologies. This includes designing technologies that are accessible to diverse populations and investing in infrastructure that reaches underserved areas. Academia can contribute by focusing research on understanding the impacts of digital technologies on different socio-economic groups and developing strategies to mitigate disparities. Policy makers play a crucial role in

shaping the landscape of digital equality. They should focus on creating and enforcing regulations that ensure equitable access to technology, promoting digital literacy, and investing in infrastructure that supports widespread access to digital resources.

Finally, this review underscores the need for ongoing research in this area. Future studies should aim to understand the long-term impacts of digital technologies on economic inequalities, explore innovative solutions to bridge the digital divide, and evaluate the effectiveness of policies and initiatives aimed at promoting digital equality. The digital era presents both challenges and opportunities in the quest for economic equality, and a concerted effort from all sectors of society is essential to harness its potential for the benefit of all.

In summary, while the digital era has brought about significant advancements, it also poses unique challenges to economic equality. Addressing these challenges requires collaborative efforts from industry, academia, and policymakers, alongside continued research to adapt to the evolving digital landscape.

REFERENCES

- Andreasson, K., 2015. Digital divides: The new challenges and opportunities of e-inclusion. <https://dx.doi.org/10.1201/B17986>
- Auerbach, A., and Bates, D.W., 2020. Introduction: Improvement and Measurement in the Era of Electronic Health Records. *Annals of Internal Medicine*, 172(11_Supplement), Pp. S69-S72. DOI: 10.7326/M19-0870
- Ayob, N.H., Aziz, M.A., and Ayob, N.A., 2022. Bridging the Digital Divide: Innovation Policy and Implementation in Malaysia. *International Journal of Academic Research in Business & Social Sciences*, 12 (8), Pp. 1373-1389. DOI: 10.35631/ijthm.625012
- Azzopardi-Muscat, N., and Sørensen, K., 2019. Towards an equitable digital public health era: promoting equity through a health literacy perspective. *European journal of public health*, 29, Pp. 13-17. <https://dx.doi.org/10.1093/eurpub/ckz166>
- Bomani, M., Gamariel, G., Juana, J., and Africa, S.S., 2021. Practical implications of governance and regulation. *Journal of Governance and Regulation*/Volume, 10 (2).
- Camps-Cura, E., and Camps-Cura, E., 2019. Education and Inequality in North America in the Long Term with Special Reference to the United States. *Changes in Population, Inequality and Human Capital Formation in the Americas in the Nineteenth and Twentieth Centuries: A Comparative Perspective*, Pp. 31-40. https://dx.doi.org/10.1007/978-3-030-21351-0_3
- Chang, J.E., Lai, A.Y., Gupta, A., Nguyen, A.M., Berry, C.A., and Shelley, D.R., 2021. Rapid transition to telehealth and the digital divide: implications for primary care access and equity in a post-COVID era. *The Milbank Quarterly*, 99 (2), Pp. 340-368. DOI: 10.1111/1468-0009.12509.
- Ciuriak, D., 2020. Digital Trade in a Post-Pandemic Data-Driven Economy. Available at SSRN 3617251. DOI: 10.2139/ssrn.3617251
- Davis, J.G., Kuan, K.K., and Poon, S., 2020. Digital exclusion and divide in the United States: exploratory empirical analysis of contributing factors. <https://dblp.org/rec/conf/amcis/DavisKP20.html>
- Faulkner, P.E., Cobb Jr, R., Kipkurgat, T.K., and Alinat-Abed, S.O., 2022. How Closing the Digital Divide Can Improve Women's Employability. In *Gender Perspectives on Industry 4.0 and the Impact of Technology on Mainstreaming Female Employment* (pp. 1-30). IGI Global. DOI: 10.4018/978-1-7998-8594-8.ch001
- Gallardo, R., 2022. Digital Inclusion and Its Role in Fostering Innovation and Entrepreneurship. In *Building Rural Community Resilience through Innovation and Entrepreneurship* (pp. 117-130). Routledge. DOI: 10.4324/9781003178552-8
- Garnier, R., Benetka, J.R., Kraemer, J., and Bansal, S., 2020. Socio-economic disparities in social distancing during the COVID-19 pandemic in the United States. *MedRxiv*. <https://dx.doi.org/10.1101/2020.11.07.20201335>
- Georgescu, I., and Kinnunen, J., 2021. The digital effectiveness on economic inequality: a computational approach. In *Business Revolution in a Digital Era: 14th International Conference on Business Excellence, ICBE 2020*, Bucharest, Romania (pp. 223-239). Springer International Publishing. DOI: 10.1007/978-3-030-59972-0_16
- Hasty, A., 2014. Treating Consumer Data like Oil: How Re-framing Digital Interactions Might Bolster the Federal Trade Commission's New Privacy Framework. *Fed. Comm. LJ*, 67, Pp. 293.
- Hazudin, S.F., Sabri, M.F., Aidil, M., Kader, R.A., and Ishak, M., 2021. Empowering Women-owned Businesses in the Era of Digital Transformation: A Review of the Opportunities and Challenges. *International Journal of Academic Research in Business and Social Sciences*, 11 (19), Pp. 231-244. dx.doi.org/10.6007/ijarbs/v11-i19/11731
- Howard-Hassmann, R.E., 2021. Constraints on Economic Inequality: Comparing Canada and the United States. pp. 63 - 84 <https://dx.doi.org/10.1017/9781009006545.003>
- Hurrell, A., 2014. Rising powers and the emerging global order. The globalization of world politics: an introduction to international relations, Pp. 80-94.
- Jim, C., Evans, S., and Grant, A., 2021. Multidimensional Approaches to Illustrate the Digital Divide among K-12 Students. In *IASL Annual Conference Proceedings*. DOI: 10.29173/iasl8282
- Larson, M., 2022. At the Border of the Digital Divide: San José Unified School District and Evangelina Vigil-Piñón's The Computer Is Down. *American Quarterly*, 74(2), 345-368. <https://dx.doi.org/10.1353/aq.2022.0022>
- Lo, J.C., Hodgin, E.R., and Garcia, A., 2022. Blended Spaces: Reimagining Civic Education in a Digital Era. *Democracy and Education*, 30 (2), Pp. 4.
- McCall, T., Asuzu, K., Oladele, C.R., Leung, T.I., and Wang, K.H., 2022. A socio-ecological approach to addressing digital redlining in the United States: a call to action for health equity. *Frontiers in Digital Health*, 4, Pp. 897250. <https://dx.doi.org/10.3389/fdgh.2022.897250>
- Miller, J., Patskanick, T., D'Ambrosio, L., and Coughlin, J., 2021. Population Aging and Multicultural Diversity in the United States: Implications for Older Consumers' Needs and Expectations. *Innovation in Aging*, 5(Supplement_1), Pp. 237-237. DOI: 10.1093/geroni/i-gab046.915
- Montez, J.K., and Cheng, K.J., 2022. Educational disparities in adult health across US states: Larger disparities reflect economic factors. *Frontiers in Public Health*, 10, Pp. 966434. <https://dx.doi.org/10.3389/fpubh.2022.966434>
- Mushakov, V., 2022. Constitutional human rights in the context of bridging the digital divide. DOI: 10.35750/2071-8284-2022-1-69-73.
- Newlands, G., and Lutz, C., 2021. Crowdtwork and the mobile underclass: Barriers to participation in India and the United States. *New media & society*, 23 (6), Pp. 1341-1361. DOI: 10.1177/1461444820901847
- O'Keefe, R., and Saint Clair, J.K., 2019. Are we there yet? Racial Diversity in Digital Retail Advertising.
- Olanrewaju, G.S., Omotosho, A., Falajiki, O.C., and Osama, G., 2021. E-learning in a pandemic era: Exploring the digital gaps and needs of rural secondary schools and remote communities across 6 Nigerian states. <https://dx.doi.org/10.31686/IJIER.VOL9.ISS5.3136>
- Osborne, J.H., and Morgan, H., 2016. Focus on Technology: Alleviating the Digital Divide in the United States: Hani Morgan, Editor. *Childhood Education*, 92 (3), Pp. 254-256. <https://dx.doi.org/10.1080/00094056.2016.1180931>
- Park, D.J., 2017. Individualization, information asymmetry, and exploitation in the advertiser-driven digital era. *The Political Economy of Communication*, 5 (2).
- Patwardhan, A., Singleton, K., and Schmitz, K.M., 2018. Financial inclusion in the digital age: including list of 100 leading financial technology companies promoting financial inclusion, 125912, pp. 1-66. The World Bank.
- Philbin, M.M., Parish, C., Pereyra, M., Feaster, D.J., Cohen, M., Wingood, G., and Metsch, L.R., 2019. Health disparities and the digital divide: the relationship between communication inequalities and quality of life among women in a nationwide prospective cohort study in the United States. *Journal of health communication*, 24 (4), Pp. 405-412.

- <https://dx.doi.org/10.1080/10810730.2019.1630524>
- Ragnedda, M., and Gladkova, A., 2020. Understanding digital inequalities in the Global South. *Digital inequalities in the global south*, 17-30. https://dx.doi.org/10.1007/978-3-030-32706-4_2.
- Rhinesmith, C., and Reisdorf, B.C., 2017. Race and Digital Inequalities: Policy Implications. <https://dx.doi.org/10.2139/SSRN.2944205>
- Sanders, C.K., and Scanlon, E., 2021. The digital divide is a human rights issue: Advancing social inclusion through social work advocacy. *Journal of Human Rights and Social Work*, 6, Pp. 130-143. <https://dx.doi.org/10.1007/s41134-020-00147-9>
- Singh, G.K., Girmay, M., Allender, M., and Christine, R.T., 2020. Marked Disparities in Computer and Broadband Internet Use and Associated Health Inequalities in the United States. *International Journal of Translational Medical Research and Public Health*, 4 (1), Pp. 64-79. <https://dx.doi.org/10.21106/ijtmrph.148>
- Skaletsky, M., Pick, J.B., Sarkar, A., and Yates, D.J., 2017. Digital Divides: Past, Present and Future. <https://dx.doi.org/10.4324/9781315619361-31>
- Stelzner, M., 2015. *Economic inequality and policy control in the United States*. Springer.
- Stevens, H., Arora, P., Konig, R., Schaefer, M., and Pirdmore, J., 2017. Data-Driven Models of Governance Across Borders: Assessing Participation, Inclusion, and Convergence in the Digital Era. *AoIR Selected Papers of Internet Research*.
- Tarun Shyam, S.S.D. 2020. Digital Divide: Have's and Have Not's. *International Journal of Engineering and Advanced Technology*, 9 (4), Pp. 512-515, <https://dx.doi.org/10.35940/ijeat.d6737.049420>
- Umanets, T., Danylina, S., and Shatalova, L., 2022. Adaptation of the Labor Market to the Requirements of Digitalization of the Economy: The Global Dimension. *Economic Innovation*, 24(2), Pp. 185-194. DOI: 10.31520/ei.2022.24.2(83).185-194
- Wang, Y., and Ding, Y., 2021. Application Analysis of Scientific Mapping Based on CiteSpace's Digital Economy Literature Review. In *Proceedings of the 2021 4th International Conference on E-Business, Information Management and Computer Science* (pp. 121-128). <https://dx.doi.org/10.1145/3511716.3511736>.
- Yao, R., Zhang, W., Evans, R., Cao, G., Rui, T., and Shen, L., 2021. Inequities in health care services caused by the adoption of digital health technologies: scoping review. *Journal of medical Internet research*, 24 (3). DOI: 10.2196/34144

