

# **BRIDGING THE GENDER-BASED DIGITAL DIVIDE: EMPOWERMENT OF WOMEN THROUGH ICT**

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## **Abstract**

This paper explores how digital transformation can bridge the gender-based digital divide and empower women for civic engagement in a digital world. This is because, in recent times, women in developing countries such as South Africa have been marginalized due to the patriarchal sentiment prevalent in society. While gender equality is not only a universal human right, recognizing the importance of gender equality in ensuring the advancement of society will go a long way to reducing the existing gender gaps in digital inclusion. While it has been argued that digital transformation perpetuates gender-related inequality, empowering women has the potential to generate a new source of global economic growth that is more inclusive. In addition, the incorporation of computer-based technologies into an organization's products, processes, and strategies, often referred to as 'digital transformation' is capable of providing an avenue for more equal women participation in labour markets and entrepreneurship. However, despite the advantages of digital transformation for women's empowerment, women's marginalisation in digital technologies continues to be evident in South Africa and its education system. The present study, therefore, investigates how digital transformation can bridge the gender-based digital divide and empower women for civic engagement in a digital world by promoting gender equality in the digital communities. Underpinned by an Interpretivist paradigm, the study employs a qualitative research approach and a case study design. Thus, to investigate how digital transformation can bridge the gender-based digital divide and empower women for civic engagement in a digital world, data for the study was collected through interviews from ten female university students in a rural university in the Eastern Cape Province, South Africa. The findings from the study revealed that while there are several opportunities that the digital technologies present in the quest for women empowerment, the lack of skills and expertise, literacy gaps, traditional and social norms, and a lack of confidence in experimenting with technology, among many others are the key factors that widen the digital gender gap. Based on the findings, recommendations were made that universities and higher education institutions partners should promote women's empowerment by supporting women's meaningful and equal participation in decision making where digital technologies are concerned.

**Keywords:** digital transformation, digital divide, gender equality, marginalization, technology.

## **Introduction**

The pace at which the digital revolution is evolving is unparalleled (Mncube, Olawale, & Hendricks, 2019; Olawale & Mutongoza, 2021). Thus, the significance of digitization on economies and society, as well as the usage of interconnected digital technologies and data,

continues to open up new opportunities around the world, promising increased productivity growth and greater human well-being (Squicciarini, 2018). More than ever, access to and usage of technology has become more important. While technology has been around for a long time, the global pandemic has highlighted both its potential applications and our growing reliance on it (Benjamin, 2021). As a result, the COVID-19 pandemic has increased the use of digital technology, and the adaptation of fledgling applications to a more matured and significant level (Benjamin, 2021; Olawale & Mutongoza, 2021). While this transformation over the past decades has not been immediate, the nature of the linked innovation diffusion process resembles a well-known S-curve from center to periphery, with the centre being more developed and the periphery being underdeveloped (Hilbert, 2011). As this diffusion process proceeds, a new form of discrimination emerges which is a disparity in the ability to communicate and comprehend data digitally (Squicciarini, 2018), as well as a gender gap in digital inclusion. Despite the considerable progress that the world has made in terms of digital access over the years, there are still significant difficulties to overcome in ensuring that women are included in the transformation to a digital society (Mariscal, Mayne, Aneja, & Sorgner, 2020). Hence, the present study investigates how digital transformation can enhance digital inclusion and empower women for civic engagement in a digital world.

### **Literature Review: Digital technology, gender divide, and women empowerment**

Information and communication technologies (ICT) have expanded rapidly throughout the world during the last decade. These technologies now play a significant role in a variety of political, economic, and social areas of society. As a result, there are significant disparities between those who have access to these technologies and reap the benefits of their positive externalities and those who do not (Kiss & Abdellatif, 2019). As such, our society has experienced and undoubtedly presents a digital divide. According to Kularski (2012, P.5) "the digital divide is composed of a skill gap and a gap of physical access to Information Technology (IT) and the two gaps often contribute to each other in circular causation. Without access to technology, it is difficult to develop technical skills and it is redundant to have access to technology without first having the skill to utilise it". Thus, while the digital divide is commonly defined as the gap between those who have and those who do not have access to essential ICT resources, Saha and Zaman (2017) refer to the 'gender digital divide' as unequal access to and ability to use ICTs between men and women. This gender digital divide between men and women is now widened to become one of the most fundamental disparities exacerbated by the digital transformation (Antonio & Tuffley, 2014). According to Takyar (2022), digital transformation entails leveraging data and technology to improve a company's core business operations to efficiently meet customer expectations. In the educational sector, students, faculty, staff, and graduates are all potential consumers which can benefit from digital transformation (Takyar, 2022).

While digital technologies have over the years propelled higher levels of engagement and action from citizens across a broader spectrum of society, The United Nations Development Programmes (UNDP), 2021 defines civic engagement as a broad range of actions taken by an individual as well as collective actors in the civil society. These actions take a variety of forms such as actions aimed at influencing policy-making processes, actions aimed at holding state institutions accountable for their responsibilities, actions aimed at shaping cultural norms and practices, and actions aimed at enhancing the state's delivery of goods and services. From the above definition, we refer to women's digital civic engagement as active participation by women in the use of the internet and digital media as a significant platform for educational, social, and political actions (UNDP, 2021). In the simplest sense, we also define women's empowerment as a woman's acquisition of the capacity to think and act freely, exercise her choices, and realize her full potential as a full and equal member of society. It is however worth

noting that while the definition of women may vary depending on the settings, women in the context of this study in which data was garnered include young people between the ages of 15 to 25 (United Nations, 2020). Hence, given this age range, women's digital civic involvement can take many forms, from using the internet to acquire news and discuss key socioeconomic and political issues, to sharing textual or visual materials among networks and creating original content (UNDP, 2021).

### ***The gender-based digital divide: a reflection of social inequality***

According to the 2021 gender gap report, the overall gender gap in Sub-Saharan Africa is 32.7 percent, with just 67.2 percent of the gap filled thus far. It also indicated that progress in closing the gender difference gap appears to have slowed, if not reversed, and that closing the gender divide will take 121.7 years (World Economic Forum, 2021). According to the World Economic Forum (2021) report, these divisions also exist in education and the political system. Even though Sub-Saharan Africa has closed 20.8 percent of its gender gap in Political Empowerment on average, only four countries are among the top 20 globally with over 46 percent of the gap closed so far, and seven countries have closed less than 10 percent of the gap to date, putting them in the bottom 20 of the global sub-index rankings (World Economic Forum, 2021). Amongst the best performers in closing the political empowerment gaps are Rwanda, Mozambique, South Africa, and Namibia. However, in terms of educational attainment, Sub-Saharan Africa such as Guinea, the Democratic Republic of Congo, and Chad still falls greatly behind (World Economic Forum, 2021). Although women are closing the gap in some critical sectors, such as health care, their representation in leadership is still low, with less than 20 percent of women in positions of leadership (Duke, 2017).

In South Africa, women representation is at an alarming rate with women making up to 4.4 percent of Managing Directors (MDs) and 5.3 percent of Chief Executive Officers (CEOs), 15.8 percent of corporate directors, and 21.6 percent of executive management roles (Mamba, Nesaratnam, & Singh, 2018). Also, women are underrepresented in the IT sector in South Africa, with only 20 percent of the workforce being female thereby making men outnumber women at every level in the technology sector, and this is especially true at the highest levels of leadership (Makaou, 2017; Mamba, Nesaratnam, & Singh, 2018). According to Ojokoh, Adeola, Isinkaye and Abraham (2014), factors such as work-family balance concerns, undervaluing women's contributions, negative preconceptions about women, and a lack of career counselling contributes to gender gaps.

### ***Barriers to Digital Inclusion***

Research has shown that the digital gender divide is caused by a multitude of factors, including barriers to access, affordability, education (or lack thereof), and technology literacy, as well as innate prejudices and socio-cultural norms that lead to gender-based digital exclusion (Cooper, 2006; Hilbert, 2011; Squicciarini, 2018). Similarly, girls' lower educational enrolment in disciplines that would prepare them for success in a digital world such as Science, Technology, Engineering, and Mathematics (STEM) education, as well as Information and Communication Technologies (ICT) combined with women's and girls' limited use of digital tools widens the gaps and increase inequality (Organisation for Economic Co-operation and Development, 2018). Songül, Müge and Yasin (2012), add that the causes for women's inaccessibility to ICT resources include a lack of critical infrastructure, high ICT costs, a lack of ICT skills, and the English language's dominance in the ICT business.

Aside from connectivity and involvement in the ICT labour market, there are additional, more subtle hurdles that may prohibit women from gaining access to and using the Internet. For instance, access to public facilities with ICT resources may be challenging for women due to social and cultural norms or objective challenges (e.g. related to safety or cultural reasons)

(Davaki, 2018). Furthermore, the anxiety that women may face dangers of harassment, intimidation, surveillance, illegal data retention, or cybercrime when using the internet is also contributing factors to the gender digital divide (Mason & Magnet, 2012; Davaki, 2018). According to the European Parliament (2016), certain platforms even facilitate the sexual exploitation and monetization of women's bodies, as well as the trafficking of women and children – all of which causes fear for women. As a result, many women continue to fall behind in their ability to successfully use digital technologies to enhance their livelihoods.

### **Research questions**

- i. What are the underlying causes of the digital gender divide?
- ii. How can digital technology empower women for civic engagement?

### **Statement Problem**

In today's society, digital technologies have become an indispensable tool. Every day, more individuals are turning online to do everyday activities including business and banking, education, job searching, civic engagement, and creating and sustaining social relationships. Many people now consider being digitally linked to being an essential part of daily lives, and it is impossible to fathom life without it (Hosami, 2018). While it has been argued that are less computer adept and more technophobic, digital technologies thus have the potential to help them overcome long-standing disparities (Antonio & Tuffley, 2014). In addition, researchers also argue that for women in developing nations, digital technologies have the potential to reduce or even eliminate the hurdles that have prevented them from fully participating in a digital society and also promote gender equality and women's empowerment (Hosami, 2018; Davaki, 2018). However, despite these larger advantages, women continue to encounter gender-based prejudice that inhibits them from fully utilizing different technologies. Hence the need for the present study.

### **Methodology**

This study is underpinned by an Interpretivist paradigm. This paradigm was found suitable for the study because interpretivism claims that no absolute or accurate realities exist (Irene, 2014). As a result, people create a sense of their current surroundings through their interactions with the world around them (Irene, 2014; Creswell & Creswell, 2018). Similarly, we employ a qualitative research approach because it investigates social phenomena in a natural environment (Teherani, et al., 2015). A single case study research design was also used in this investigation because it provides a first-hand investigation into the current phenomenon (the 'case') in greater depth (Yin, 2014). As such, the population for the study consisted of all female students in a selected rural Higher Education Institution in the Eastern Cape Province, South Africa from which ten female students between the ages of fifteen and twenty-five were purposively selected. The purposeful sampling technique is chosen because it allows for hand-picking the instances we need for the sample by making assumptions about their relevance to the study (Creswell & Creswell, 2018). Data was collected using a semi-structured interview because it allows the researchers to probe for clarification in the event of imprecise or partial responses (Datko, 2015). The data acquired for this study was analysed thematically utilizing Marshall and Rossman's (2011) six-step analysis process. The subjects of anonymity and informed consent were the study's main ethical issues. Confidentiality, anonymity, and privacy were all preserved, except material relating to personal injury. As a result, before the start of data collection, this stipulation was addressed and agreed upon.

## Results

The present study sought to investigate how digital transformation can bridge the gender-based digital divide and empower women for civic engagement in a digital world. As such, results and discussions were presented under the following sub-headings:

- Underlying causes of digital gender gap;
- Empowering women for civic engagement through digital inclusion.

### *Underlying causes of the digital gender gap*

To gather information on the opportunities that the digital divide provides and how it can be used to empower a girl-child, it is paramount to ascertain the root cause of the digital gender gap. As such, participants were asked, "why do you think most women are digitally excluded?". The research findings revealed that language difficulties, a lack of skills and expertise, literacy gaps, technology gender-based violence, traditional and social norms, and a lack of confidence in experimenting with technology are the key factors that impede women from having access to or using the Internet and ICTs. For instance, a participant stated that

*I think that most women in society are now digitally excluded, particularly the elderly, because some of them were born in an era when the digital transformation was still in its infant stages. However, young women of today are also digitally excluded because technology is stereotyped as a man's thing, which thus affects most women's confidence and interest in developing digital skills, even at a young age. (Female student 4)*

Similarly, another participant added that

*I believe women are digitally excluded because we do not possess the most advanced skills like coding etc except for a few who have studied computer sciences. Although most women my age are capable of operating smartphones, navigating the internet, and using various social media platforms, I believe that the majority of these women are careless when it comes to protecting information on digital platforms. As a result, they always fall victim to cybercrime and bullying. (Female student 10)*

Furthermore, a participant posits that

*Most women of today exclude themselves digitally because of safety reasons and protection against harassment. In a case where we have free wi-fi here on campus, you will realise that most women will still prefer to sleep, watch movies, comedies or play music online than to surf the internet for their own future benefits or engage in debates that contribute to the growth of the society. Aside from the free internet on campus, when we are on semester break, you realise that most ladies are not using these technologies because of their inability to pay for internet connectivity. (Female student 8)*

Research findings revealed that most women are digitally excluded because technology is stereotyped, it is believed to be unsafe for women and requires financial independence in purchasing digital technology and payment for internet connectivity. This finding corroborates that of West, Kraut and EiChew (2019) who argues that the underlying causes of the digital gender gap are numerous and intertwined, and they include patriarchal cultures that often prevent women and girls from developing digital skills, stereotypes that portray women as meticulous and good at following step-by-step instructions, inaccessibility to public ICT facilities due to unsafe roads, restrictions on their freedom of movement, or because the facilities themselves are deemed unsuitable for women (West, Kraut, & EiChew, 2019; UNESCO, 2021). Similarly, women may lack the financial means to invest in digital technologies or pay for internet access. Also, many women and girls are deterred from using

or even desiring to utilize ICT due to concerns about safety and harassment both online and offline (Mason & Magnet, 2012; Davaki, 2018; West, Kraut, & EiChew, 2019). Research findings also revealed that most women do not possess advanced skills in the use of digital technologies. This finding corroborates that of Olatokun (2007) who posits that In developing countries, women are less likely to have the necessary education and knowledge than men in the use of ICT. Mariscal, et al (2020) warns that if the causes of the gender gap in digital inclusion aren't addressed, it could lead to gender disparities in a variety of areas, including labour market inequities, women's financial inclusion, and exclusion from attractive and profitable job possibilities. This is because digital technologies are ubiquitous, and digitization will continue to have an impact on every aspect of our life.

### ***Empowering women for civic engagement through digital inclusion***

To gather information on how the digital gender gap can be bridged, it is essential to empower women for civic engagement. As such, participants were asked, "What opportunities do digital technologies present in the quest for women empowerment?" Research findings revealed that the use of ICT can help women make their voices heard at the local [university], state, and international levels. It can help women establish their own space and agency, improve their social standing, and achieve professional success. For instance, a participant stated that

*...digital technologies can be used to spur women to actively engage in institutional affairs, political offices, and societal matters. For instance, digital technologies through social media platforms such Facebook, Instagram, and WhatsApp, women can engage in political discussion, online networks, as well as advocacy campaign [like the one we recently had for the murdered female student by her boyfriend - in which actions were taken for justice]. This platform allows us to communicate directly with the authorities in the institution and offer policymakers new ways to listen and respond to our concerns. (Female student 2)*

Similarly, another participant stated that

*...digital technologies can empower women through the use of different social media platforms to mobilise engagement in issues concerning their studies, well-being, as well as the community at large. For instance, during the student representative council [SRC] election, I used social media platforms for campaigns that saw me elected into the office. This was so because I was able to mobilise and engage in discussions with different students with diverse views, academic and non-academic related challenges... Hence, this made me believe that digital technologies can assist us [women] to reach a wider set of audiences and communicate with people from all over the world who come from different origins, have different experiences, and have different points of view. (Female student 9)*

While research findings revealed that digital technologies can assist women in achieving political aspiration, facilitates social cohesion and sharing of information, another participant who believed that digital technologies can support direct women's participation in democratic practices stated that,

*Digital technologies can provide us [women] with the tools and space we need to exercise our right to free expression and participate in public life as active citizens. It [digital technologies] can also provide a forum for us [women] interested in politics to promote ourselves and our political goals to our peers [citizens]. Also, given its low cost and the role that personal initiative plays in the use of digital technologies, social media platforms can serve as an equalizer for female students [women] who are politically disadvantaged. (Female student 7)*

Research findings revealed that there are several opportunities that the digital technologies present in the quest for women empowerment which includes sharing of information, strengthening women voice and engagement, encouraging politically disadvantaged women, facilitation of social cohesion, and the promotion of women's engagement in democratic practices. This finding corroborates that of the European Parliament (2013) who argues that the new media provided by digital technologies has the potential to positively impact women's empowerment by allowing them to network with other women, create online selves that build confidence, appeal to other women and peers through styles and issues that are directly relevant and appealing, and provide an alternative power base that may be of interest to mainstream politicians. Brimacombe and Skuse (2013), as well as Weiss and Tarchinskaya (2015), are of the view that improved access to digital technologies can help women get access to employment resources and opportunities, which can help close the gender wage gap, enhance access to education and health information, contribute to the eradication of violence against women, and lead to women's empowerment and leadership. Similarly, United Nations Women (2020) adds that digital technologies can help to achieve the 2030 Agenda for Sustainable Development by providing better, more equitable outcomes for women, and allowing women to "leapfrog" and close gender disparities.

### **Conclusion and Recommendation**

The present study sought to investigate how digital transformation can bridge the gender-based digital divide and empower women for civic engagement in a digital world. Based on the findings of the study, it was concluded that although digital technology can transform women's lives, it has also been used to disempower women through online-facilitated sexual harassment, stalking, Zoom bombing, and other sorts of violence. It was therefore recommended that universities and higher education institutions partners should promote women's empowerment by supporting women's meaningful and equal participation in decision making, as well as ensuring that educational content and non-curricular activities are developed for women's interest as well as men but should avoid gender stereotypes in achieving these goals. Higher Education Institutions (HEIs) are encouraged to encourage women's entrepreneurship and participation in innovation by promoting diversity in entrepreneurship and among research and development teams. HEIs partners and relevant stakeholders may consider initiating public awareness efforts to combat socio-cultural norms, prejudices, and stereotypes. Similarly, the education of women and their families on online predators and safety through the use of social media platforms should be considered in the initiative.

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