# Gender and Digital Technology: A Comprehensive Analysis of History, Culture, and Gender-Technology Interaction

## Ziyi Wang

*King's College London, Strand, London, WC2R 2LS, UK*
*ziyi_wang04@163.com*

***Abstract:*** *This paper explores the complex relationship between gender and digital media technologies, emphasising how gender significantly influences our engagement with digital technologies and vice versa. It delves into the historical context, highlighting the persistence of gender disparities in technology, largely due to the development of patriarchy. The paper pays particular attention to the #MeToo movement as a key case study to illustrate the empowerment of women and marginalised genders through social media platforms that provide them with a voice to share their experiences of sexual harassment and assault, challenging societal norms and traditional gender power dynamics. This analysis covers the strengths and weaknesses of digital media in shaping gender dynamics, recognising the role of digital media in breaking the silence on gender-based violence and elevating gender-related issues into the global discourse. However, it also addresses the limitations and challenges posed by the digital divide and the potential for online harassment and victim blaming. Finally, the paper argues for the need to create more inclusive, equitable and diverse digital environments in the future. Recommendations are made to address algorithmic bias, improve digital literacy, ensure online safety, and advocate for supportive policies and inclusive design as key steps towards gender equality in the digital age.*

***Keywords:*** *Gender and digital technology, Social media empowerment, Gender dynamics, Sexual harassment awareness*

## 1. Introduction

Gender is essential for the comprehension of technology (Cockburn, 1992)[1] entirely. Our daily technology use is heavily influenced by our gender. We normalize gendered characteristics of the digital world through these habitual interactions. Thus, normalization causes gender-biased inequality. Algorithms, code, data, and structure shape gendered representations, discourses, practices, and cultures. They can limit imagination, representation, and experience (Helen, 2019)[2]. The correlation between technology and gender has experienced significant transformations in recent years. The link between gender and technology is dynamic and ever-changing, with both factors impacting each other across different aspects of everyday existence. Digital media technologies encompass all types of media that employ digital technologies for creation, distribution, and consumption. These technologies are made up of a diverse array of tools, platforms, and systems that facilitate digital content creation, storage, manipulation, and distribution. Gender, however, encompasses the collection of attributes, societal expectations, and roles linked to being male, female, or other gender identities. It differs from the notion of biological sex. The optimal user of technology is one who embraces and utilizes its functionality effectively. By simply adhering to the instructions, the technology will operate flawlessly. The predominantly "ideal user" of digital technology is often associated with males, which can be attributed to the historical development of technology within a patriarchal society. The historical connection between gender and digital media technology has significantly impacted society's perceptions of gender, influenced the development and utilization of technology, and mirrored gender roles and conventions. This paper concisely introduces the historical background and gender-related effects of technology and gender. Sections 2, 3, and 4 examine the influence of gender on digital media, specifically focusing on the empowerment of social media, the impact of digital media on gender dynamics, and the advantages and disadvantages of its societal consequences. The final section discusses the future trajectory of this issue.

According to Caroline Basset (2013), gender relations shift as waves of technical innovation pass

through society[3]. There has always been a connection between gender and technology, but the nature of that connection is continuously shifting. When it comes to the conception of technologies, the production of those technologies, or even the application of those technologies, they have never been gender-neutral; they are not now and will never be. Furthermore, gendered assessments of how technology is used shed light on the historically unequal power dynamics that exist between men and women. In order to investigate the relationship between gender and technology, I have decided to use the #MeToo movement as a case study. This movement was previously well publicized. It provides a significant illustration of the relationship between gender and the advancement of digital media technology.

## 2. Historical context and gender implications

According to Mazzuca et al. (2020), gender is a multifaceted concept, so the relationship between technology and the history of gender is complex and multifaceted[4]. Throughout human history, gender roles, identities, and relationships have been influenced by technological development (European Institute for Gender Equality, 2023)[5]. Assault, particularly against women, was frequently pushed to the sidelines in mainstream media during the pre-digital age, it means before the emergence of digital media. This is because mainstream media was controlled mainly by patriarchal organizations. Patriarchy is the frequently used term for the patriarchal structure. Patriarchy is a societal and intellectual framework that regards men (who are patriarchs) as being superior to women. Patriarchy perpetuates inequitable power dynamics between males and females through the imposition of societal norms that define masculinity and femininity (Rawat, 2014)[6]. To the impact of gender, early technical development processes insinuated a bias towards gender. For example, the early phases of developing digital media technology, including social media, were largely male-dominated in the technology industry. Of this, the design and operation of technology have been impacted. As a result, they frequently represent the perspectives and interests of men while ignoring the requirements and opinions of women and members of other genders.

## 3. Gender shapes digital media: the rise of #MeToo and empowerment through social media

Regarding the origins of #MeToo, the #MeToo movement was initially started in 2006 by Tarana Burke, a social activist and community organizer who launched the movement as part of her work to support and empower young women of color who have experienced sexual abuse (Bowman et al., 2019)[7]. The term "Me Too" aims to promote solidarity and show survivors that they are not alone in their experiences. In 2017, Alyssa Milano, an actress, played a significant role in promoting the utilization of #MeToo across various social media platforms. This initiative was a response to the claims of sexual abuse directed towards Harvey Weinstein, a prominent Hollywood producer. Milano's efforts garnered substantial attention and significantly contributed to the visibility and impact of the #MeToo campaign. Milano's tweets, disseminated after The New York Times report on Weinstein, urged individuals to come out and share their personal experiences of sexual harassment and assault by utilizing the designated hashtag (Zarkov & Davis, 2018)[8]. The widespread dissemination of this phenomenon on a global scale serves to underscore the pervasiveness of sexual harassment and assault across numerous sectors, societies, and populations. A significant proportion of women encounter diverse manifestations of harassment in both public and private domains, therefore necessitating the initiation of this campaign. The campaign expanded to incorporate a broader spectrum of perspectives and narratives, encompassing many experiences beyond the original emphasis on young women of color.

In the meantime, the campaign exemplifies how social media platforms have empowered women to share their stories of sexual harassment and assault. This is a significant shift, as these platforms are often criticized for gender bias in their algorithms and policies. The efforts of technological systems, while aiming to create more efficient and safer environments, can unintentionally exacerbate social inequality and exclusion, and systems can be gender-biased by failing to consider the complexity of women's life experiences (Helen, 2019)[2]. To recapitulate, the #MeToo movement's origins stem from Tarana Burk's efforts to support survivors of sexual abuse, popularised by Alyssa Milano's tweets, and catapulted into a global phenomenon through social media, transforming #MeToo into a powerful tool for raising awareness and sparking global conversations about sexual harassment and assault. The origins of the movement reflect a shift towards a more inclusive understanding of design and policy changes, prompted by the proliferation of #MeToo stories on platforms such as Twitter and Facebook,

forcing these companies to reevaluate their policies on harassment and content censorship, leading to changes that are more inclusive and protective of women and other vulnerable populations, thus emphasizing solidarity and collective action.

## 4. Pros and cons of digital media technologies in shaping gender dynamics and sociocultural impacts

The influence of digital media technologies on gender dynamics is initially manifested through the disruption of silence and the questioning of societal norms. The #MeToo movement has effectively disrupted the prevailing silence surrounding gender-based violence while simultaneously confronting societal norms and the accompanying shame of sexual harassment and assault. Furthermore, this movement has successfully elevated gender-related concerns to the forefront of worldwide discourse, facilitated mainly by various social media platforms. In contemporary society, there exists a heightened level of awareness among the general public, government entities, mass media outlets, and academic institutions regarding the prevalence and ramifications of diverse forms of violence perpetrated against women (Fileborn & Loney-Howes, 2019)[9]. Additionally, the campaign sought to question conventional notions of power dynamics, specifically focusing on the patriarchal system. This observation sheds light on the inherent power differentials that frequently place women and marginalized genders at a disadvantage. Moreover, digital media technology offers a means to unveil these disparities, enabling survivors (primarily women) to voice their experiences and pursue legal recourse. Consequently, this process challenges the prevailing notion of women as passive victims, positioning them as proactive catalysts for change who can hold individuals and institutions accountable, even those previously shielded by their social standing or influence. Thus, the #MeToo movement has catalyzed significant transformations in social, legal, and political realms, indicating a notable alteration in cultural perspectives and reactions toward instances of sexual harassment and assault.

The corollary concern pertains to the inevitable emergence of challenges and limitations, notably the digital divide. This concept refers to unequal access to digital platforms for specific individuals, leading to the potential underrepresentation of specific groups in #MeToo discourse. Furthermore, it fails to adequately encompass or address the experiences of marginalized groups, encompassing women of color, transgender individuals, and those from lower socio-economic strata. Nevertheless, a notable difficulty arises as the movement has engendered an enduring and persistent uproar on digital platforms. Specific individuals contend that this phenomenon has given rise to a society characterized by "social media judgment," potentially posing a threat to the fundamental tenet of "innocent until proven guilty." The phenomenon mentioned above has resulted in the division of public sentiment over matters of gender, and those who publicly disclose their experiences as survivors frequently encounter instances of online harassment, spoofing, and victim-blaming. According to Van Severen (2020)[10], males and females exhibit heightened apprehension when considering the employment of attractive females, leading to a stronger tendency to remove them from social contacts. An increased dread of potential accusations primarily drives this behavior. The most troubling aspect is that there are an increasing amount of sexual assault allegations, some of which are fake, making it difficult to determine which accusations are true.

## 5. Future Directions

It is crucial to prioritize the reduction of gender inequities and promote inclusivity in digital media technologies, particularly concerning gender futures. This is essential for the development of fair and diverse digital environments. An essential proposal is to specifically target and mitigate algorithmic prejudice while also cultivating AI and machine learning systems with a conscious understanding of potential gender bias. This entails instructing algorithms using various datasets and regularly conducting meticulous evaluations to identify and address potential biases, thus improving digital literacy and ensuring greater accessibility. This encompasses providing education and training to optimize the abilities and understanding of individuals of all genders, enabling them to engage in the digital realm fully. It also involves narrowing the gap in digital access by ensuring fair and equal availability of technology and Internet resources, particularly for marginalized and underrepresented communities or individuals. Furthermore, the establishment of online harassment rules and support networks is essential for the development of secure and all-encompassing digital environments. This necessitates persistent efforts to promote gender equality and safety in online spaces, which can be

achieved by implementing more inclusive designs and policies. Online harassment policies, also referred to as measures to enhance the management and enforcement of online policies, are designed to safeguard users from gender-based harassment and abuse on digital platforms. These policies also aim to create supportive networks that offer secure environments for marginalized genders to freely express themselves and exchange their experiences. Ultimately, technology can be used to attain justice and aid survivors. Prospective endeavors should prioritize the application of digital media technology to furnish help and resources for survivors, as well as to ensure the accountability of criminals. Advocating for gender equality in technology, which is undeniably a matter of rights, encompasses more than just fairness. In summary, the future of gender development in digital media technologies lies in creating more inclusive, equitable, and diverse digital environments. This requires a multifaceted approach addressing algorithmic bias, enhancing access and digital literacy, ensuring online safety, and advocating for supportive policies and inclusive design. Through these recommendations, the future of technology can make significant strides towards gender equality and inclusiveness.

## 6. Conclusion

In general, there is a strong correlation between gender and digital media technology, and a comprehensive understanding of the technology is incomplete without including gender. In the nascent stages of digital media, there was a prevalent gender disparity, with men predominantly occupying the field and frequently disregarding the emotional experiences of women. The emergence and widespread acceptance of the #MeToo movement has heightened consciousness of sexual harassment and assault and serves as a prime example of how social media platforms have enabled women to express their experiences of sexual harassment and assault. Incorporating technology and regulations in several sectors has increased inclusivity, resulting in a better understanding and recognition of women and other marginalized groups. Regarding the influence of digital media on gender dynamics, the #MeToo movement has effectively dismantled the silence and subsequent shame experienced by women with instances of sexual harassment and assault. Simultaneously, it has brought to light the power imbalances that disadvantaged women and marginalized genders face in our society. Digital media technologies have provided predominantly female survivors the appropriate means to voice their experiences and pursue justice. The #MeToo movement has catalyzed social, legal, and political change. However, it is not without its flaws and limitations. These include the digital divide, which hinders the movement's ability to ensure that all voices are heard. Additionally, the movement has faced criticism, opposition, and even cyber-attacks and harassment towards survivors. Nevertheless, the most significant disadvantage has been the fluctuating levels of unfounded allegations that have arisen. The advancement of gender development in digital media technologies hinges on creating more inclusive, equal, and diverse digital environments. There are some ideas for addressing the concerns above. These proposals involve tackling algorithmic prejudice, improving access and digital literacy, promoting online safety, pushing for supportive regulations, and implementing inclusive design. By implementing these suggestions, the technology field has the potential to make substantial advancements in gender equality and inclusivity.

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