DIGITAL DIVIDE: A TOOL FOR CAPITALISM IN PAKISTAN

DANIA, NAROIS MITRA
Psychology and Sociology, College of Social Sciences

ABSTRACT

"The worker becomes the property of the capitalist and is reduced to a mere appendage of the machine."

- Karl Marx

Technological advancements have led to the replacement of 50 to 70% of jobs traditionally held by the working class between 1980 and 2016 (Acemoglu & Restrepo, 2021). While technology is often portrayed as a means to simplify life, critical questions remain about who truly benefits from such advancements. Disparities in resource allocation and exploitation reinforce existing social hierarchies, with the unequal distribution of technological resources increasingly driving large segments of the population into poverty.

This article positions poverty as a direct consequence of the capitalist deployment of technology and its exploitation of indigenous peoples. Using Pakistan's digital divide as a case study, the research explores how differential access to, and utilisation of, technology contribute to growing economic inequality. Through an analysis of digital access and socio-economic disparities, the research advocates for a paradigm shift, positioning technology as a public good rather than a profit-driven commodity. The unequal distribution of digital resources and lack of investment in reskilling further exacerbate socio-economic divides, highlighting the need for equitable access to technology and digital literacy in order to enable full participation in the modern economy.

INTRODUCTION

The commodification of the natural world, with each citizen turned into a consumer, is the backbone for building capital (Heilbroner, 1997). Processes that make this capital profitable are the core tenets of capitalism. These processes are not merely an incidental part of material conditions for workers but serve as the structural base of modern capitalist society (Delanty, 2019). From the 16th century onward, the emergence of mercantile capitalism marked the beginning of a relentless pursuit of profit. This drive for continuous capital accumulation, which intensified during the Industrial Revolution, became a foundational principle across interpretations of capitalism (Polanyi, 1944). The historical marginalisation and exploitation of indigenous peoples reflects the costs associated with capital accumulation, fuelling the justification for colonisation and, consequently, the perpetuation of poverty (Fraser, 2022). In Pakistan's post-colonial society, the effects of this indigenous exploitation to maximise profit for colonial powers have resulted in long-lasting socioeconomic inequalities, with regions like Balochistan and Sindh still suffering from underdevelopment and marginalisation.

There is a clear distinction between the profit-making goals of pre-capitalist systems and those of modern capitalism (O'Kane, 2021). Unlike earlier systems, where profit was often derived from land and feudal relationships, today's capitalism relies on a continuous cycle that keeps citizens dependent on exploitative wages. This system drives the increasing commodification of all aspects of life, and most recently of technology, thereby contributing to a period of unchecked accumulation for the bourgeois class. This cycle consolidates power within the elite, perpetuating inequality and reinforcing the capitalist structure. In the case of digital access in Pakistan, the commodification of technology serves to reinforce inequality. According to the International Telecommunication Union (ITU, 2020), only 23.3% of rural households in Pakistan had internet access, compared to 47.8% in urban areas. This disparity was compounded by the high cost of digital devices and data, making them inaccessible to low-income families. The working class, especially in rural areas, faces constrained access to digital services, with limited options and high costs. These barriers restrict autonomy and deepen socio-economic divides by preventing participation in the digital economy.

This article explores how capitalism in post-colonial Pakistan exploits indigenous people and selectively allocates technological resources to reinforce socio-economic inequalities. By deepening the digital divide, this system perpetuates poverty, especially among marginalised rural and indigenous communities.

THEORETICAL CONTEXT

This article uses a Marxist framework to analyse how capitalism sustains socio-economic inequalities in Pakistan, where technology is often leveraged not to improve citizens' lives but to exacerbate exploitation and marginalisation.

Capitalism creates and maintains all the forces necessary to widen socio-economic gaps in society, such as exploitative labour, resource privatisation, and consumerist media. The bourgeois class, with the economic power to accumulate and allocate resources, is formally uncoupled from the political domain, as they typically do not hold official political positions. This formal separation keeps the economically dominant classes anonymous in their exertion of power, allowing influence to be wielded indirectly through lobbying, funding, and shaping discourse (Pinzani, 2022). In Pakistan, the economically dominant classes, including the owners of private telecommunications companies, exert power indirectly by influencing state policies on digital infrastructure through lobbying and strategic partnerships. This influence prioritises profit-driven urban expansion over equitable access, leaving rural areas underserved. This establishes the contradictory relationship 'evident in blatant cases of privatisation of profits and socialisation of costs' (Pinzani, 2022, p.56). Private companies, prioritising profit over safety, rely on state intervention to cover the costs when disasters occur. The 2021 Korangi Mehran Town factory fire in Karachi demonstrated how corporate decisions such as neglecting basic fire safety measures like emergency exits and barred windows directly endangered lives, with the state managing the aftermath (Pakistan Today, 2021).

Fraser (2022) explains that 'capitalist production is not self-sustaining, but free rides on social reproduction, nature, political power, and expropriation; yet its orientation to endless accumulation threatens to destabilise these very conditions of its possibility' (Fraser, 2022, p.23). This society is not structured to be consumed without replenishment, and capitalism therefore cannot sustain itself forever. This is due to finite resources, with profits only maintained through the continuous exploitation of working-class wages. It is thus that the working class is trapped in the illusion of choice, believing they have freedom in selecting jobs and education, while in reality their options are constrained by systemic inequalities. Resources such as unpaid labour and social processes that sustain daily life and prepare individuals for participation in the economy (activities collectively referred to as social reproduction, including caregiving, domestic work, and education) are often extracted from oppressed and racialised groups. Under capitalism, these vital activities are devalued and exploited, reinforcing inequality and marginalisation (Fraser, 2022). This results in poverty: not from a lack of income, but from systemic extractions of these resources which leaves entire groups denied access to the resources that sustain social, economic, and political life, including technology. This in turn denies individuals access to opportunities in education, healthcare, economic advancement, and political engagement. When technology is deployed selectively for profit, digital access becomes a new indicator of economic status (Jamil, 2021).

This systemic exclusion is especially apparent in countries with deeply divided histories of exploitation and inequality, where poverty has complex and enduring roots. In Pakistan, historical and socio-political factors have created a landscape of sharp economic divides, disproportionately impacting marginalised and indigenous populations. Colonial exploitation, combined with persistent structural inequities, has left a legacy in which economic progress and access to essential resources, including technology, remain deeply unequal. For many in Pakistan, poverty is not simply a lack of income but a multi-dimensional exclusion from the modern economy (Jamil, 2021). With digital access increasingly determining one's ability to participate in education, healthcare, employment, and political life, those left behind by the digital divide find themselves trapped in cycles of poverty. This unequal access to technology in Pakistan is not merely a consequence of social structures but is actively shaped by capitalist interests, where the privatisation of digital infrastructure and services aggravate socio-economic divisions, further limiting opportunities for marginalised communities (Ahmed & Ludlow, 1989).

SOCIETAL CONTEXT

Understanding Poverty in Pakistan

Pakistan's socio-economic landscape reflects deep-rooted inequalities that trace back to colonial times. These structural disparities continue to shape poverty and social exclusion in the country, often more intensely for marginalised communities such as those in rural and indigenous areas. In recent years, the rise of digital technology has introduced new avenues for economic participation and growth, yet access to these resources is largely restricted to affluent, urban areas. Consequently, a digital divide has emerged, reinforcing historic inequalities and creating barriers to socio-economic mobility for much of the population.

Understanding the persistent poverty and inequality in Pakistan requires examination of the colonial legacy that shaped the country's early economic and social structures. During British rule, colonial policies were largely geared towards resource extraction and economic benefit for the empire rather than the development of local communities. Infrastructure investment

focused on urban centres like Karachi and Lahore, serving colonial administrative and economic interests, while rural areas were left underdeveloped and underfunded (Alavi, 1972). This urban-rural divide has endured, with the economic hubs that served colonial interests continuing to receive the majority of resources, funding, and technological advancements post-independence (Alavi, 1972)._In essence, the foundations of poverty in Pakistan are deeply intertwined with the country's colonial history, which has led to systemic inequalities that limit social mobility and access to resources for those outside the privileged class.

The Digital Divide

In the modern era, technological advancement has transformed economies worldwide, offering new opportunities for innovation, education, and economic growth. However, access to these opportunities is not universal, particularly in Pakistan. The digital divide - the gap between those with access to digital technology and those without - has become a defining feature of socio-economic inequality in the country (Shair et al., 2023). This divide disproportionately affects rural areas, where access to the internet and digital resources is minimal or non-existent, and among indigenous communities who face additional socio-political barriers to technological inclusion.

Urban areas such as Karachi, Lahore, and Islamabad enjoy relatively better access to technological infrastructure, enabling residents to benefit from online education, telemedicine, e-commerce, and digital financial services. In contrast, rural areas, especially in regions like Balochistan, Khyber Pakhtunkhwa, and Gilgit-Baltistan, suffer from poor digital connectivity. Limited infrastructure investment in these areas has resulted in weak or no internet services, low digital literacy rates, and lack of digital empowerment (Shair et al., 2022). The capitalist-driven allocation of technological resources in Pakistan, which prioritises areas with high economic returns, has left these less profitable regions behind, reinforcing the socio-economic marginalisation of rural and indigenous communities (Jamil, 2021).

Technology and Reinforcing Social Inequality

Technology, which could otherwise act as a tool for social advancement, often reinforces existing inequalities in Pakistan due to its selective deployment for profit. Economic interests dictate the allocation of digital resources, with urban and wealthy areas considered more attractive for infrastructure investment than low-income or remote regions. This selective deployment of technology not only restricts access to digital tools but also deepens socio-economic divisions, turning technology from a potential equaliser into a means of exclusion (Shair et al., 2023). The impact on marginalised communities is profound: without access to digital resources, they face limited opportunities for education, economic mobility, and social inclusion.

For indigenous populations, this digital exclusion also has cultural implications. Indigenous communities in Pakistan often use oral traditions, storytelling, and local knowledge systems to preserve their cultural identities. The digital world offers a platform for these groups to preserve, promote, and share their heritage with a wider audience (Indah, 2024). However, without meaningful access to technology, these communities struggle to participate in cultural discourse, effectively silencing their voices in the digital sphere. This exclusion denies indigenous populations not only economic and social opportunities but also the ability to advocate for their cultural and political rights.

Poverty in the Context of Digital Exclusion

Poverty in Pakistan must be understood as more than just an absence of material resources. It is also a structural exclusion from essential digital resources that are increasingly critical for full participation in the modern economy. When entire communities lack access to technology, they are effectively locked out of opportunities that drive social and economic advancement. Digital access has become a new determinant of economic status, where those without access to the internet and other technological resources find it challenging to break free from cycles of poverty (Wang et al., 2022).

Jamil and Muschert (2024, p.1165) highlight how disparities in digital access deepen existing socio-economic inequalities. Factors such as income, location, and education disproportionately affect marginalised communities, entrenching them in cycles of deprivation (Ritzhaupt et al., 2013). In this context, poverty is no longer defined solely by a lack of material resources but by exclusion from the digital tools, skills and opportunities that are critical for socio-economic mobility in a modern, connected society.

Impact on Education

An often-overlooked consequence of digital exclusion in Pakistan is its impact on educational access, which in turn shapes labour force characteristics. This divide restricts Pakistan's digital independence to 'the middle, upper middle, and upper

socioeconomic classes living in urban and semi-urban areas' (Jamil & Muschert, 2024, p.1163). In a context where quality education is already scarce, digital resources could serve as a vital equaliser if they were widely available. Urban centres benefit from digital learning platforms, particularly since COVID-19 accelerated digital adoption. However, in rural areas where internet access remains limited, students are effectively cut off from these opportunities. For instance, during the pandemic, 69% of children in Sindh were not contacted by schools, highlighting the exclusionary effect of limited connectivity (ReliefWeb, 2023). This creates cumulative educational disadvantages, restricting career prospects and socio-economic mobility. Critically, this exclusion aligns with a broader capitalist strategy, shaping a workforce deprived of digital skills and funnelling rural groups into low-wage jobs.

The lack of digital access thus not only mirrors existing economic inequalities but systematically limits social mobility, conditioning a labour force that remains reliant on precarious employment, sustaining capitalist profit margins through a flexible, economically dependent workforce (Willis, 1978).

Healthcare Disparities Amplified by Technological Exclusion

Healthcare, too, is deeply affected by technological access or lack thereof. While telemedicine and online health resources are transforming medical access in urban centres, rural populations remain largely untouched by these advancements (Rahman et al., 2022). This absence of digital healthcare infrastructure in marginalised areas deprives residents of crucial services like remote consultations, health education, and even emergency information. In regions like Balochistan and Gilgit-Baltistan, where physical healthcare facilities are sparse, digital healthcare could be a transformative solution, yet the profit-driven nature of technological deployment means such investments are rarely directed toward these less lucrative markets (Khan & Magsi, 2023). Consequently, digital exclusion compounds physical isolation, making basic healthcare a privilege rather than a right for many.

Economic Participation: Restricted by Digital Isolation

Digital access is not only a tool for education and healthcare; it is increasingly essential for economic participation. Pakistan's digital economy is expanding, with e-commerce, online freelancing, and digital payments becoming significant sources of income, particularly for urban dwellers (Jamil, 2021). For rural and economically disadvantaged populations, digital isolation is not merely a matter of lacking internet access; but represents a barrier to inclusive participation in the national and global economy.

The economic effects of digital exclusion can be seen in Pakistan's rural youth, who lack the same access to freelancing and remote work opportunities that are accessible to their urban counterparts. Reports indicate that Pakistan has one of the largest freelance economies in the world, largely driven by a tech-savvy urban youth (Salkowitz, 2010). Yet rural youth, lacking internet access and digital training, are excluded from this growing sector. This exclusion prevents rural populations from accessing higher-paying job markets, thereby perpetuating a cycle of poverty that increasingly depends on access to technology.

Cultural Marginalisation and the Erosion of Indigenous Identity

Digital exclusion restricts digital independence. Cultural autonomy of indigenous and marginalised communities is essential for their preservation, advocacy, and representation. Digital platforms hold the capacity to enable these groups to share their narratives and advocate for themselves in this digitally growing world (Intahchomphoo, 2018). However, without access to such technology, indigenous communities face a digital erasure that exacerbates historical marginalisation. Colonial and capitalist forces have long suppressed indigenous identities, stripping them of visibility and representation: a trend perpetuated in the digital age (Smith, 2012).

This exclusion also diminishes political participation and agency. Digital platforms have become critical spaces for civic engagement and discourse, yet those without access are excluded from debates and decisions shaping their lives (Jamil, 2021). In Pakistan, where marginalised groups already navigate significant socio-political hurdles, digital exclusion ensures that rural and indigenous voices remain underrepresented in the digital public sphere: a key arena for modern public discourse and activism.

Addressing the Digital Divide to Combat Poverty

Addressing the digital divide in Pakistan requires both policy interventions and a re-evaluation of capitalist models that prioritise profit over equitable development. Expanding digital infrastructure to rural and marginalised areas would provide

those living there with the tools to participate in education, healthcare, and economic activities. Such inclusion improves digital literacy and ensures affordable access to technology which can reduce socio-economic disparities and foster economic growth. Furthermore, viewing technology as a public good rather than a commodity for profit could reshape the way digital resources are allocated. Recognising internet access and digital literacy as fundamental rights would drive investment towards inclusion and equity, prioritising the needs of underserved communities (Isa et al., 2024). The exclusion of Pakistan's rural and indigenous populations from digital connectivity reinforces socio-economic hierarchies and deepens marginalisation. Addressing this divide would not only foster economic opportunities but also promote social cohesion and inclusivity (Jamil, 2021).

Evidence shows that treating technology as a shared resource can enable it to function as a tool to reduce societal inequalities and create greater socio-economic mobility in economies like Pakistan (Jamil, 2021; Xiao et al., 2024). Redistributing technology requires addressing structural barriers that perpetuate inequality, such as privatised access and regional disparities (Shair et al., 2024). Nationalising resources such as telecommunications would encourage companies to ensure that internet access is universally available, especially in rural and underserved regions where digital exclusion mirrors traditional forms of poverty and isolation. Such initiatives would directly challenge the monopoly of multinational corporations that limit access to technology based on market-driven motives.

CONCLUSION

In conclusion, the profit-focused model driving technological deployment explains the glaring disparities in digital access across Pakistan. Capitalist systems tend to prioritise short-term gains and high-return markets, often overlooking regions that lack immediate profitability. This approach to resource allocation leaves many rural and indigenous communities stranded without digital infrastructure, as private sector investments and government support are directed towards urban, economically productive areas. The result is a model where technological progress itself becomes a marker of privilege. Urban residents gain enhanced access to digital tools, connectivity, and platforms, reinforcing a cycle of wealth accumulation and socio-economic security. In contrast, rural and marginalised communities remain on the periphery, unable to access the tools necessary for economic advancement. The lack of digital infrastructure in these regions serves as a structural barrier that entrenches poverty, effectively turning technology into a vehicle for social exclusion.

As technology becomes an essential part of modern life, poverty must be redefined to reflect the lack of proper digital access as a central component of deprivation. Traditional definitions of poverty have focused on income, employment, and material resources, but these metrics fail to capture the nuances of exclusion in a digital society. In the context of Pakistan, where digital access is increasingly linked to economic opportunity, healthcare, and social mobility, poverty must be seen through the lens of digital exclusion. This reconceptualisation of poverty highlights how structural inequality in digital access can deepen socio-economic divides, leaving certain populations increasingly disadvantaged. By viewing digital exclusion as a form of poverty, the focus shifts to the systemic forces that shape resource allocation, particularly the profit-oriented capitalist frameworks that prioritise marketable regions over marginalised ones.

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