Policy Research Journal
ISSN (E): 3006-7030 ISSN (P) : 3006-7022 Volume 2, Issue 4, 2024

DIGITAL MARGINALITY AND SOCIAL INEQUALITY IN URBAN PERIPHERIES: A SOCIOLOGICAL ANALYSIS OF ACCESS, POWER, AND EXCLUSION IN QUETTA

Dr. Farah Naseer

Lecturer, Department of Sociology, Sardar Bahadur Khan Women's University Quetta

DOI: https://doi.org/10.5281/zenodo.18170843

Keywords
Digital inequality; Social exclusion; Power relations; Urban marginality; Quetta

Article History
Received: 03 November 2024
Accepted: 17 December 2024
Published: 31 December 2024

Copyright @Author
Corresponding Author: *
Dr. Farah Naseer

Abstract
The rapid expansion of digital technologies has transformed access to information, services, and opportunities; however, these benefits are unevenly distributed, particularly in peripheral urban contexts such as Quetta. The core problem addressed in this study is the persistence of digital marginality, where unequal access to digital infrastructure, skills, and decision-making power reinforces existing social and economic inequalities. The purpose of this research is to examine how digital access–or the lack thereof–shapes power relations, social mobility, and social inclusion among different socio-economic groups in Quetta. Employing a qualitative research approach, the study draws on in-depth semi-structured interviews and focus group discussions conducted with students, women, low-income workers, and local stakeholders. The findings reveal that digital inequality in Quetta is not merely a question of connectivity but is deeply embedded in class, gender, education, and spatial divides, leading to unequal access to employment, education, public services, and civic participation. The study concludes that without targeted and inclusive digital policies, digitalization risks reproducing and deepening existing urban inequalities rather than reducing them. The paper recommends context-sensitive interventions focusing on digital literacy, affordable access, and inclusive governance to address digital marginality in Quetta.

INTRODUCTION

1.1 Digital Transformation and Contemporary Societies

Over the past two decades, digital technologies have emerged as one of the most transformative forces shaping contemporary societies. The expansion of information and communication technologies (ICTs) has fundamentally altered how individuals access information, participate in economic activities, interact socially, and engage with political and governance systems. Digital platforms now mediate everyday life, from education and employment to healthcare, banking, and civic participation. As a result, digital connectivity is increasingly recognized not merely as a technological convenience but as a critical social resource with profound implications for inclusion, power, and inequality (van Dijk, 2020). In development discourse, digitalization is often framed as a tool for empowerment and socio-economic progress. International organizations and national governments promote digital inclusion as a means to bridge development gaps, improve service delivery, and enhance transparency and governance. Concepts such as e-governance, digital entrepreneurship, online education, and financial technology have become central to development strategies in the Global South. However, the optimistic narrative surrounding digital transformation often obscures the uneven social

realities through which digital technologies are adopted and used.

Scholars increasingly argue that digital technologies do not automatically produce egalitarian outcomes. Instead, they tend to mirror and, in many cases, intensify existing social inequalities(Robinson et al., 2015). Access to digital resources, the capacity to use them effectively, and the ability to translate digital engagement into meaningful social and economic benefits are unevenly distributed across social groups. Consequently, digital transformation must be understood as a deeply social process, shaped by power relations, institutional structures, and historical patterns of inequality.

1.2 From Digital Divide to Digital Inequality

Early debates on digital exclusion were dominated by the concept of the "digital divide," which primarily referred to disparities in physical access to computers and the internet (Norris, 2021). This binary framing—dividing populations into those who had access and those who did not—played an important role in drawing policy attention to technological gaps. However, as internet penetration expanded globally, scholars began to question the adequacy of access-based explanations.

Contemporary research emphasizes a more complex and layered understanding of digital inequality. van Dijk (2020) conceptualizes digital inequality as a cumulative process involving multiple stages: motivational access, material access, skills access, usage patterns, and outcomes. According to this framework, inequalities at earlier stages often reproduce themselves at later stages, resulting in unequal social and economic returns from digital engagement. Thus, even when physical access is widespread, significant disparities persist in how digital technologies are used and what benefits they generate.

The notion of a "second-level digital divide" further highlights differences in digital skills and competencies (Hargittai, 2022). Individuals with higher education, greater economic resources, and stronger social networks are better positioned to use digital technologies strategically for learning, employment, and civic engagement. In contrast, marginalized groups often remain confined to limited and passive forms of digital use, such as entertainment or basic communication. This shift in focus from access to outcomes underscores the need for sociological approaches that situate digital inequality within broader structures of social stratification.

1.3 Digital Inequality, Power, and Social Stratification

From a sociological perspective, digital inequality is inseparable from questions of power and social stratification. Bourdieu's (1986) theory of capital provides a valuable framework for understanding how digital advantages accumulate unevenly. Economic capital influences the ability to afford devices and connectivity, cultural capital shapes digital literacy and confidence, and social capital facilitates access to information and opportunities within digital networks. These forms of capital interact to produce what scholars increasingly describe as "digital capital" (Ragnedda, 2018).

Digital capital enables individuals and groups to convert digital access into tangible social and economic benefits. Those possessing high levels of digital capital are better equipped to navigate online job markets, educational platforms, and institutional systems. Conversely, individuals lacking digital capital face barriers that limit their participation and reinforce marginality. Importantly, these dynamics are not neutral but are embedded in broader power relations that shape who controls digital infrastructures, platforms, and decision-making processes (Castells, 2010).

Foucault's (2008) conceptualization of power as diffuse and embedded in everyday practices further illuminates how digital systems can produce exclusion. Digital governance platforms, for instance, may appear efficient and neutral, yet they can systematically disadvantage individuals who lack digital literacy, language proficiency, or reliable access. In this way, digitalization can create new forms of exclusion while legitimizing them through technological rationality.

1.4 Urban Inequality and Peripheral Cities

Urban spaces play a central role in shaping digital inequality. Cities are often portrayed as hubs of innovation and opportunity, yet urban development in the Global South is characterized by stark

inequalities. Rapid urbanization, weak planning, and uneven investment have produced fragmented cities where prosperity and deprivation coexist (Sassen, 2001). Peripheral urban areas, in particular, tend to experience limited access to infrastructure, services, and institutional support.

Digital inequality is closely intertwined with these urban dynamics. Research demonstrates that digital infrastructure and service quality are unevenly distributed within cities, often favoring affluent neighborhoods and commercial centers (Graham, 2021). Peripheral and low-income urban areas frequently suffer from poor connectivity, unreliable services, and limited access to digital training opportunities. These spatial disparities compound existing socio-economic disadvantages, creating layered forms of marginality.

In peripheral cities, digital exclusion is further shaped by political marginalization and historical neglect. Such cities often receive limited public and private investment, resulting in infrastructural deficits that constrain digital development. Understanding digital inequality in these contexts therefore requires attention to both urban political economy and localized social realities.

1.5 Quetta as a Context of Digital Marginality

Quetta, the provincial capital of Balochistan, offers a critical case for examining digital marginality in a peripheral urban setting. Despite its administrative significance, Quetta has long been characterized by socio-economic underdevelopment, infrastructural limitations, and political marginalization. The city faces challenges related to poverty, unemployment, educational deficits, and security concerns, all of which shape everyday life and access to opportunities.

Digital transformation in Quetta has unfolded unevenly. While mobile phone usage has expanded and internet services are available in parts of the city, access remains inconsistent and socially stratified. Central urban areas and middle-income neighborhoods benefit from relatively better connectivity, while peripheral localities experience weak infrastructure and frequent service disruptions. For many residents, particularly those from low-income households, digital engagement is constrained by affordability issues, limited skills, and unreliable connectivity.

Gender norms further complicate digital access in Quetta. Women often face social and cultural restrictions that limit their access to digital devices and the internet. Concerns related to privacy, surveillance, and online harassment reduce women's digital autonomy, particularly in conservative households. As a result, digital marginality in Quetta is not only economic and spatial but also deeply gendered.

1.6 Digital Access, Social Mobility, and Power

Digital technologies increasingly shape pathways to social mobility. Access to online education, digital skills training, and employment platforms can expand opportunities beyond local labor markets. In theory, digitalization holds the potential to reduce barriers faced by marginalized populations by providing alternative routes to learning and income generation. However, empirical evidence suggests that these benefits are unevenly distributed.

In contexts like Quetta, individuals with stable internet access and digital skills are better positioned to access online job portals, freelancing opportunities, and information networks. In contrast, digitally marginalized groups remain dependent on traditional, often informal, economic networks that offer limited prospects for upward mobility. This disparity highlights how digital access functions as a form of power, enabling some groups to navigate opportunities while excluding others.

Moreover, digital access influences civic participation and engagement with governance systems. E-governance platforms, online complaint mechanisms, and digital information portals increasingly mediate citizen–state interactions. Individuals lacking digital access or skills are effectively excluded from these spaces, weakening their political voice and reinforcing patterns of exclusion.

1.7 Research Problem and Objectives

Despite the growing significance of digitalization in Pakistan's development agenda, sociological research on digital inequality in peripheral urban contexts remains limited. Existing studies often focus on national-level indicators or major metropolitan

centers, overlooking the lived experiences of digital marginality in cities such as Quetta. Furthermore, much of the policy discourse emphasizes infrastructure expansion while paying insufficient attention to social, cultural, and power-related dimensions of digital exclusion.

The central research problem addressed in this study is the persistence of digital marginality in Quetta and its role in reinforcing social inequality and power asymmetries. This study seeks to move beyond access-based explanations by examining how digital inequality is embedded in class relations, gender norms, educational disparities, and spatial marginalization.

The specific objectives of the study are:

- To analyze patterns of digital access and exclusion among different socio-economic groups in Quetta.
- To examine how digital inequality intersects with class, gender, education, and spatial location.
- To explore the relationship between digital access, power relations, and social mobility.
- To generate sociologically informed policy recommendations for inclusive digital development in peripheral urban contexts.

By situating digital inequality within the broader framework of urban marginality and power relations, this study contributes to sociological debates on digital transformation and social inequality in the Global South.

2. Literature Review

2.1 Theories of Digital Divide and Social Inequality

The concept of the digital divide emerged in the late 1990s to describe disparities in access to computers and the internet. Early approaches conceptualized the divide in binary terms, distinguishing between those who had access to digital technologies and those who did not (Norris, 2001). While this framework was useful in highlighting access gaps, it soon became evident that access alone could not explain persistent inequalities in digital outcomes.

Subsequent scholarship introduced a more nuanced understanding of digital inequality. van Dijk (2020) argues that the digital divide consists of multiple layers, including motivational access, material access, skills access, and usage access. These layers are deeply embedded in social structures, meaning that individuals' socio-economic positions significantly shape their ability to benefit from digital technologies. From this perspective, digital inequality is best understood as an extension of broader social inequality.

Sociological theories of stratification further illuminate the relationship between digital access and inequality. Bourdieu's (1986) framework of economic, cultural, and social capital provides a useful lens for understanding how digital advantages accumulate among privileged groups. Individuals with higher levels of education and income are more likely to possess the cultural competencies and social networks necessary to translate digital access into tangible benefits, such as better employment opportunities or political influence.

2.2 Digital Power, Exclusion, and Marginality

Digital technologies are closely intertwined with power relations. Castells (2010) emphasizes that power in the network society is exercised through control over information flows, communication networks, and symbolic representation. Access to digital platforms enables individuals and groups to amplify their voices, mobilize resources, and participate in decision-making processes. Conversely, exclusion from these platforms can deepen social marginality.

Marginality in the digital age is not merely a technical condition but a social one. Foucault's (1980) conceptualization of power as diffuse and embedded in everyday practices helps explain how digital exclusion operates subtly through institutional arrangements, norms, and discourses. For example, digital governance systems may appear neutral but can systematically disadvantage those lacking digital literacy or reliable internet access.

In peripheral urban contexts, digital power is often concentrated among political elites, business groups, and educated urban middle classes. This concentration reinforces existing hierarchies and limits the transformative potential of digital technologies for marginalized populations. Women, informal workers, and ethnic minorities are particularly vulnerable to digital marginalization due to intersecting forms of exclusion.

2.3 Empirical Studies from Developing and Peripheral Cities

Empirical research from developing countries consistently demonstrates that digital inequality mirrors broader patterns of social and spatial inequality. Studies from India, Africa, and Latin America show that urban peripheries lag behind city centers in terms of digital infrastructure, service quality, and digital skills (Gurumurthy & Chami, 2014). These disparities limit residents' access to online education, e-health services, and digital employment opportunities.

In Pakistan, research on digital inequality remains limited but growing. Qureshi (2021) highlights significant regional disparities in internet penetration and digital usage, with peripheral provinces such as Balochistan lagging behind Punjab and Sindh. Other studies note that gender norms, language barriers, and low educational attainment further restrict digital participation among marginalized groups.

While these studies provide valuable insights, few adopt a sociological lens that explicitly links digital inequality to power relations and urban marginality. This study seeks to address this gap by situating digital access within the broader social and political context of Quetta.

3. Theoretical Framework

3.1 Sociological Perspectives on Power and Inequality

This study draws on sociological theories of power and inequality to understand digital marginality. Power is conceptualized not only as coercive authority but also as the capacity to shape opportunities, access resources, and influence outcomes (Foucault, 1980). Digital access enhances symbolic and material power by enabling participation in economic markets, educational platforms, and political discourse.

3.2 Digital Capital and Social Stratification

Building on Bourdieu's concept of capital, the study employs the notion of digital capital to explain how digital skills, access, and competencies function as a form of social advantage (Ragnedda, 2018). Digital capital interacts with economic and cultural capital, producing cumulative advantages for privileged groups and reinforcing stratification in peripheral urban contexts.

4. Methodology

4.1 Research Design and Approach

This study adopts a qualitative-dominant research design to explore the breadth and depth of digital inequality in Quetta. The research relies exclusively on qualitative methods, including in-depth semi-structured interviews and focus group discussions, to capture lived experiences of digital access, exclusion, and power relations among different socio-economic groups. This approach enables an in-depth understanding of how digital marginality is socially constructed and experienced in everyday life, allowing the study to examine meanings, perceptions, and structural constraints that cannot be adequately captured through quantitative techniques.

4.2. Sampling

The study employed a purposive sampling strategy to select participants who could provide rich and relevant insights into digital inequality in Quetta. Participants were intentionally chosen from socio-economically diverse backgrounds, including students, women, informal workers, and community stakeholders, to capture varied experiences of digital access and exclusion. Special attention was given to including individuals from peripheral and low-income areas, as well as groups more likely to experience digital marginality. Sampling continued until theoretical saturation was reached, meaning no new significant themes emerged from additional data.

4.3 Data Collection

Data for this study were collected using qualitative methods to capture in-depth insights into digital inequality and lived experiences of digital marginality in Quetta. Primary data were generated through semi-structured, in-depth interviews and focus group discussions (FGDs). These methods were selected to allow participants to articulate their experiences, perceptions, and challenges related to digital access, usage, and power relations in their own terms.

Interviews were conducted with participants from diverse socio-economic backgrounds, including

students, women, informal workers, and community members residing in both central and peripheral areas of Quetta. Focus group discussions were organized to encourage collective reflection and discussion on shared experiences of digital exclusion, community-level barriers, and social norms shaping digital access.

All data collection activities were conducted in a culturally sensitive manner and in languages familiar to participants to ensure clarity and comfort. Prior to participation, informed consent was obtained, and participants were assured of confidentiality and anonymity. The data collection process emphasized ethical considerations, voluntary participation, and respect for participants' perspectives, enabling the generation of rich and reliable qualitative data for analysis.

4.4. Data Analysis Method

Qualitative data were analyzed using thematic analysis. All interviews and focus group discussions were transcribed verbatim and systematically coded. An inductive coding approach was adopted, allowing themes to emerge directly from the data rather than being imposed a priori. Codes were grouped into broader categories reflecting key dimensions of digital inequality, such as access, skills, gender norms, spatial marginality, and power relations. To enhance analytical rigor, patterns were compared across participant groups, and findings were interpreted in relation to the study's theoretical framework on social inequality and power. This analytical process ensured depth, coherence, and credibility of the qualitative findings.

4.5. Ethical Considerations and Limitations

Ethical guidelines were followed to ensure informed consent, confidentiality, and voluntary participation. Limitations include constraints related to sample size and the absence of longitudinal data, which restrict the ability to assess long-term trends.

5. Findings

This section presents the empirical findings of the study based on survey data, semi-structured interviews, and focus group discussions conducted in Quetta. The findings are organized into five thematic areas that collectively explain the nature and dynamics of digital marginality and social inequality in the city.

5.1 Unequal Access to Digital Infrastructure

The study finds a pronounced inequality in access to digital infrastructure across socio-economic groups in Quetta. Survey results show that households with higher income levels enjoy significantly better and more reliable internet connectivity compared to low-income households. Respondents from affluent and middle-income areas reported access to broadband and stable 4G services, while those from low-income and peripheral neighborhoods experienced frequent network disruptions, slow speeds, and unaffordable data costs.

Low-income respondents largely relied on prepaid mobile data, which restricted prolonged or productive internet use. This limited their engagement with online education, job portals, and digital public services. In contrast, respondents with stable broadband access were able to utilize digital platforms for multiple socio-economic purposes. These findings indicate that infrastructural inequality forms the foundational layer of digital marginality in Quetta.

5.2 Digital Skills and Literacy Divide

Beyond physical access, the research identifies a substantial divide in digital skills and literacy. While smartphone ownership was relatively widespread, many respondents—particularly those with lower educational attainment—lacked the skills required to use digital technologies meaningfully. Their digital engagement was largely confined to basic communication and entertainment, with limited use for educational, professional, or civic purposes.

Interview data revealed that respondents with primary or no formal education often felt intimidated by online platforms such as job portals, government websites, and learning management systems. Conversely, individuals with higher education demonstrated greater confidence and competence in navigating digital environments, enabling them to translate access into tangible social and economic benefits.

This finding underscores that digital inclusion is not simply about access to devices, but about the capacity to use digital tools effectively.

5.3 Gendered Dimensions of Digital Marginality

Gender emerged as a critical determinant of digital access and autonomy in Quetta. Female respondents consistently reported lower levels of independent internet access compared to males. Cultural norms, family restrictions, and concerns regarding online safety significantly constrained women's digital participation, particularly in conservative and low-income households.

Many women indicated that they depended on shared devices controlled by male family members, limiting both privacy and frequency of use. This dependency restricted women's ability to pursue online education, digital employment, or independent information access. As a result, digital marginality among women was shaped not only by economic factors but also by deeply embedded social and cultural norms.

5.4 Digital Access, Employment, and Social Mobility

The findings reveal a strong association between digital access and socio-economic mobility. Respondents with reliable internet access and digital skills reported greater exposure to online employment opportunities, including freelancing platforms, remote work, and skill-development resources. Several interviewees emphasized that digital access enabled them to search for jobs beyond local labor markets.

In contrast, digitally marginalized respondents—particularly informal workers and low-income youth—relied heavily on traditional, offline employment networks. This dependence limited their chances of upward mobility and confined them to precarious and low-paying work. Digital exclusion thus directly translated into economic exclusion, reinforcing existing class hierarchies.

6. Discussion

This study set out to examine digital marginality as a sociological phenomenon embedded in urban inequality, power relations, and social stratification in Quetta. The findings provide strong empirical support for contemporary theories of digital inequality that move beyond access-based explanations and emphasize skills, usage, and outcomes (van Dijk, 2020). In line with these theories, the evidence from Quetta demonstrates that digital access alone does not guarantee inclusion; rather, digital benefits accrue unevenly across social groups depending on class position, gender norms, educational background, and spatial location.

From a sociological perspective, the results reinforce Bourdieu's (2022) argument that different forms of capital interact to reproduce inequality. Respondents with higher levels of economic and cultural capital were better positioned to convert digital access into tangible advantages such as employment opportunities, educational advancement, and enhanced social networks. In contrast, low-income respondents—despite owning smartphones—often lacked the digital skills, stable connectivity, and institutional support required to benefit meaningfully from digital platforms. This finding underscores the relevance of the concept of digital capital (Ragnedda, 2018), which helps explain how digital competencies function as a stratifying resource in contemporary urban societies.

The gendered dimension of digital marginality observed in this study is consistent with empirical research from other developing contexts. Women in Quetta faced multiple barriers to digital participation, including restrictive social norms, limited control over devices, and concerns about online surveillance and harassment. These constraints reduced women's autonomy and limited their ability to use digital tools for education, income generation, or civic engagement. Similar patterns have been documented in South Asian cities, where digital technologies often reflect and reinforce patriarchal power structures rather than challenge them (Gurumurthy & Chami, 2014). The findings thus highlight the need to view digital inequality through an intersectional lens that accounts for the combined effects of gender, class, and cultural norms.

Spatial inequality emerged as another critical factor shaping digital marginality in Quetta. Peripheral neighborhoods experienced weaker infrastructure, frequent service disruptions, and limited access to broadband connectivity. These spatial disparities align with urban sociology literature that emphasizes uneven development within cities, where marginalized areas are systematically underserved by

public and private investment. Digital exclusion in such areas compounds existing disadvantages by restricting access to online education, job markets, and digital public services. As a result, spatial marginality translates into digital marginality, reinforcing cycles of exclusion.

The relationship between digital access and power relations is one of the most significant contributions of this study. Respondents with reliable digital access reported greater confidence in navigating institutional systems, accessing information, and making their voices heard through online platforms. Digital connectivity enhanced their sense of agency and participation, illustrating how digital technologies can function as instruments of empowerment under certain conditions. Conversely, digitally marginalized groups experienced feelings of dependency and exclusion, highlighting how the absence of digital access limits social and political agency.

These findings resonate with Castells' (2010) argument that power in the network society is exercised through control over information flows and communication networks. In Quetta, digital power was concentrated among educated and economically advantaged groups, reinforcing existing hierarchies rather than democratizing access to opportunities. This concentration of digital power raises important questions about the inclusivity of digital governance initiatives and the risk of creating new forms of exclusion through ostensibly neutral technological systems.

Comparatively, the findings from Quetta align with studies conducted in other peripheral urban contexts in the Global South. Research from Indian, African, and Latin American cities similarly demonstrates that digitalization often mirrors existing inequalities unless accompanied by targeted social interventions. However, the case of Quetta adds an important regional perspective by highlighting how political marginalization, security concerns, and infrastructural neglect interact with digital inequality in a peripheral provincial capital. This context-specific analysis strengthens the argument that digital marginality must be understood within broader political and institutional frameworks.

Overall, the discussion underscores that digital inequality in Quetta is not a temporary transitional problem that will disappear with increased connectivity. Rather, it is a structural issue rooted in long-standing patterns of social exclusion. Addressing digital marginality therefore requires more than technological solutions; it demands sociologically informed policies that engage with power, inequality, and inclusion.

7. Conclusion and Policy Implications

7.1 Conclusion

This study examined digital marginality and social inequality in Quetta through a sociological lens, focusing on access, power relations, and social exclusion. The findings demonstrate that digital inequality in Quetta is multidimensional and deeply embedded in existing structures of class, gender, education, and spatial marginality. While digital technologies have expanded in the city, their benefits remain unevenly distributed, reinforcing rather than reducing social inequalities.

The research shows that digital access alone is insufficient to ensure inclusion. Meaningful digital participation depends on a combination of reliable infrastructure, digital skills, social support, and institutional responsiveness. Groups lacking these resources—particularly women, low-income households, and residents of peripheral neighborhoods—remain digitally marginalized, with limited access to education, employment, and civic participation. Digital marginality thus emerges as a sociological condition shaped by power relations and structural exclusion.

Importantly, the study highlights the role of digital access as a form of power. Those with digital skills and connectivity were better positioned to navigate opportunities, access information, and engage with institutions, while digitally excluded groups experienced dependency and reduced agency. These dynamic underscores the risk that digitalization, if left unregulated and socially unaddressed, may deepen existing inequalities in peripheral urban contexts.

7.2 Policy Implications

Based on the findings, several policy implications emerge for promoting inclusive digital development in Quetta and similar peripheral cities:

1. Infrastructure Expansion with Equity Focus: Digital infrastructure investments should prioritize underserved and peripheral neighborhoods to reduce spatial inequalities in connectivity and service quality.
2. Affordable Access Initiatives: Policies aimed at reducing the cost of internet services and digital devices are essential for enabling low-income households to participate meaningfully in digital life.
3. Digital Literacy and Skills Development: Targeted digital literacy programs, particularly for women and youth, can help transform access into meaningful usage and improved social outcomes.
4. Gender-Sensitive Digital Policies: Digital inclusion strategies must address gender-specific barriers by promoting safe, accessible, and culturally sensitive digital spaces for women.
5. Inclusive Digital Governance: Government digital platforms should be designed to accommodate users with varying levels of digital literacy, ensuring that digital governance does not exclude marginalized populations.
6. Community-Based Digital Centers: Establishing community digital access points can provide shared resources, training, and support in low-income and peripheral areas.

7.3 Directions for Future Research

Future research should adopt longitudinal designs to examine how digital inequality evolves over time in peripheral urban contexts. Comparative studies across multiple cities would also help identify common patterns and context-specific dynamics. Additionally, further research is needed to explore the relationship between digital marginality and political participation, particularly in regions characterized by historical marginalization.

In conclusion, addressing digital marginality in Quetta requires a holistic approach that integrates technological development with social policy, institutional reform, and inclusive governance. Only through such an approach can digitalization contribute to reducing, rather than reproducing, uarban inequality.

8. References

Bourdieu, P. (2008). The forms of capital. In J. Richardson (Ed.), Handbook of theory and research for the sociology of education (pp. 241–258). Greenwood Press.

Castells, M. (2010). The rise of the network society (2nd ed.). Wiley-Blackwell.

DiMaggio, P., & Hargittai, E. (2001). From the "digital divide" to "digital inequality": Studying Internet use as penetration increases. Princeton Center for Arts and Cultural Policy Studies Working Paper, 15.

DiMaggio, P., Hargittai, E., Celeste, C., & Shafer, S. (2004). Digital inequality: From unequal access to differentiated use. In K. M. Neckerman (Ed.), Social inequality (pp. 355–400). Russell Sage Foundation.

Foucault, M. (1980). Power/knowledge: Selected interviews and other writings, 1972–1977. Pantheon Books.

Giddens, A. (1984). The constitution of society: Outline of the theory of structuration. Polity Press.

Graham, M. (2011). Time machines and virtual portals: The spatialities of the digital divide. Progress in Development Studies, 11(3), 211–227. https://doi.org/10.1177/146499341001100303

Gurumurthy, A., & Chami, N. (2014). Gender and digital inclusion in South Asia. Economic and Political Weekly, 49(43), 61–68.

Hargittai, E. (2022). Second-level digital divide: Differences in people's online skills. First Monday, 7(4). https://doi.org/10.5210/fm.v7i4.942

Helsper, E. J. (2012). A corresponding fields model for the links between social and digital exclusion. Communication Theory, 22(4), 403–426. https://doi.org/10.1111/j.1468-2885.2012.01416.x

Norris, P. (2001). Digital divide: Civic engagement, information poverty, and the Internet worldwide. Cambridge University Press.

Qureshi, S. (2021). Digital divide and regional inequality in Pakistan. Journal of Asian Development Studies, 10(2), 45–60.

Ragnedda, M. (2018). Conceptualizing digital capital. Telematics and Informatics, 35(8), 2366–2375. https://doi.org/10.1016/j.tele.2018.10.006

Robinson, L., Cotten, S. R., Ono, H., Quan-Haase, A., Mesch, G., Chen, W., Schulz, J., Hale, T. M., & Stern, M. J. (2015). Digital inequalities and why they matter. Information, Communication & Society, 18(5), 569–582. https://doi.org/10.1080/1369118X.2015.1012532

Sen, A. (1999). Development as freedom. Oxford University Press.

Sassen, S. (2001). The global city: New York, London, Tokyo (2nd ed.). Princeton University Press.

Selwyn, N. (2004). Reconsidering political and popular understandings of the digital divide. New Media & Society, 6(3), 341–362. https://doi.org/10.1177/1461444804042519

Thompson, J. B. (2015). The media and modernity: A social theory of the media. Polity Press.

UNDP. (2019). Human development report 2019: Beyond income, beyond averages, beyond today. United Nations Development Programme.

van Deursen, A., & van Dijk, J. (2014). The digital divide shifts to differences in usage. New Media & Society, 16(3), 507–526. https://doi.org/10.1177/1461444813487959

van Dijk, J. (2020). The digital divide. Polity Press.