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Original Article

A Capability Approach to Understanding Digital Literacy and Women's Empowerment through PMGDISHA in Mufassil Belagavi

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Abstract

The Pradhan Mantri Gramin Digital Saksharta Abhiyaan (PMGDISHA) represents India's largest state-led digital literacy intervention aimed at bridging the rural digital divide, with a strong gender focus. More than 6.3 crore rural citizens have been trained under the scheme, of whom women constitute more than half of the certified beneficiaries. This paper adopts Amartya Sen's Capability Approach to conceptually evaluate the role of PMGDISHA in expanding women's capabilities in the mufassil (rural–semi-urban transitional) regions of Belagavi district, Karnataka. Relying exclusively on secondary sources such as government reports, Census data, policy documents, and peer-reviewed literature, the study examines how digital literacy functions as a resource that can potentially translate into enhanced economic participation, social agency, and informational empowerment for rural women. The analysis covers rural blocks such as Hirebagewadi, Kakati, Hindalaga, and Sambra, as well as semi-urban peripheral zones along Bailhongal Road and Kakati Road, highlighting spatial variations in digital capability conversion. The paper argues that while PMGDISHA has significantly expanded access and basic digital skills among women, structural and social conversion barriers continue to limit the realization of full empowerment outcomes. The study contributes to gendered digital policy literature by applying a capability lens to a district-level context and offers policy-relevant insights for strengthening usage-oriented and sustainability-focused interventions.

Keywords: PMGDISHA, Digital Literacy, Women's Empowerment, Capability Approach, Rural Karnataka, Belagavi.

Introduction

Digital transformation has emerged as a central pillar of contemporary development discourse, particularly in the Global South where access to digital technologies increasingly determines participation in economic, political, and social life. In India, despite rapid growth in digital infrastructure and internet penetration, significant disparities persist across gender, geography, and socio-economic status. Rural women remain among the most digitally excluded groups, constrained by lower literacy levels, limited mobility, patriarchal norms, and uneven access to technological resources. Recognizing digital exclusion as a development challenge, the Government of India launched the Pradhan Mantri Gramin Digital Saksharta Abhiyaan (PMGDISHA) in 2017 with the objective of making at least one person digitally literate in every rural household. The scheme explicitly prioritizes women, Scheduled Castes (SCs), Scheduled Tribes (STs), and Below Poverty Line (BPL) households, positioning digital literacy as an instrument of inclusive growth.

Belagavi district in Karnataka provides a particularly relevant context for examining the gendered impacts of PMGDISHA. Characterized by a predominantly agrarian economy, high dependence on Self-Help Groups (SHGs), and significant rural–urban disparities, the mufassil regions of Belagavi occupy a transitional socio-economic space. Rural blocks such as Hirebagewadi, Kakati, Hindalaga, and Sambra reflect traditional agrarian settings, while semi-

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urban peripheries along Bailhongal Road, Hindalaga, Sambra, and Kakati Road demonstrates increasing exposure to urban markets, services, and digital infrastructures. This paper applies Amartya Sen's Capability Approach to analyze how PMGDISHA contributes to women's empowerment in these contexts. Rather than treating digital literacy as an end in itself, the study conceptualizes it as a resource whose value depends on women's ability to convert skills into meaningful functionings such as economic participation, social agency, and informed decision-making.

Digital Literacy and Women's Empowerment in Rural India

The rapid expansion of digital technologies has fundamentally altered the landscape of development, governance, and social interaction in the twenty-first century. In India, digitalisation has been positioned as a transformative force through initiatives such as Digital India, Jan Dhan–Aadhaar–Mobile (JAM) trinity, and e-governance platforms. However, access to digital technologies remains uneven, particularly for rural women, who experience a layered exclusion shaped by gender, geography, education, and socio-cultural norms.

Digital literacy is increasingly recognised as a critical enabler of women's empowerment. It facilitates access to information, financial inclusion, employment opportunities, social networks, and state welfare mechanisms. For rural women, digital skills can potentially reduce dependence on intermediaries, enhance economic autonomy, and strengthen participation in public life. Yet, the mere availability of digital infrastructure does not guarantee empowerment. Structural inequalities often prevent women from translating digital access into meaningful socio-economic outcomes.

Gendered Digital Divide: A Structural Concern

India's digital gender divide remains significant. National surveys consistently indicate that women are less likely than men to own smartphones, access the internet, or use digital services independently. Rural women face compounded disadvantages due to lower literacy levels, restricted mobility, unpaid care burdens, and patriarchal control over technology use. These barriers raise critical questions about the effectiveness of large-scale digital literacy programmes in addressing deeper gender inequalities.

In this context, evaluating digital literacy initiatives solely based on enrolment or certification figures risks obscuring the lived realities of rural women. There is a growing need for analytical frameworks that foreground freedom, agency, and choice, rather than focusing narrowly on skill acquisition.

PMGDISHA: Promise and Paradox

Launched in 2017, the Pradhan Mantri Gramin Digital Saksharta Abhiyaan (PMGDISHA) aims to digitally literate at least one person in every rural household. The scheme explicitly prioritises women, Scheduled Castes, Scheduled Tribes, and Below Poverty Line households. With over 6.39 crore individuals trained nationwide and women comprising approximately 52–57% of certified beneficiaries, PMGDISHA represents a landmark intervention in digital inclusion.

However, emerging evaluations suggest a paradox: while certification rates are high, post-training usage of digital skills among women remains relatively low. This raises a fundamental question does PMGDISHA merely provide digital skills, or does it genuinely expand women's freedoms and life choices? Evaluations of PMGDISHA highlight its extensive outreach through Gram Panchayat-level training centres and partnerships with NGOs and Common Service Centres (CSCs). In Karnataka, the scheme has been implemented in synergy with SHG networks and rural development programmes, enhancing women's participation.

Why Mufassil Belagavi?

Belagavi district in Karnataka presents a compelling case for examining digital empowerment in a mufassil context. Characterised by an agrarian economy, strong Self-Help Group (SHG) networks, and moderate female literacy levels, rural Belagavi occupies a transitional space between traditional rural structures and emerging digital modernity. Government programmes, cooperative movements, and SHGs play a crucial role in women's socio-economic participation, making the district an ideal site for capability-based analysis.

Belagavi is one of the largest districts in Karnataka, with a predominantly rural population and an economy heavily dependent on agriculture and allied activities. According to Census 2011, female literacy in the district lags behind male literacy, particularly in rural areas. SHGs play a central role in women's socio-economic participation, especially through microfinance and livelihood initiatives. Rural blocks such as Hirebagewadi, Kakati, Hindalaga, and Sambra are characterized by agrarian livelihoods, limited public transport, and uneven digital infrastructure. Semi-urban corridors along Bailhongal Road and Kakati Road exhibit transitional characteristics, including better connectivity and exposure to urban services. PMGDISHA training centres at the

Panchayat level serve as key nodes for digital skill dissemination in these areas, often supported by NGOs involved in women's empowerment and digital inclusion.

Despite Karnataka's relatively strong digital infrastructure compared to many Indian states, disparities persist at the district and village levels. Mufassil areas often experience inconsistent connectivity, limited digital handholding, and socio-cultural resistance to women's independent technology use.

Objectives of the Study

1. Examine PMGDISHA as a digital literacy intervention for rural women.
2. Analyse women's empowerment outcomes through the lens of the Capability Approach.
3. Identify key conversion barriers affecting capability realisation in mufassil Belagavi.
4. Contribute a theoretically grounded, non-empirical evaluation to the literature on digital inclusion and gender.

Significance of the Study

By focusing on secondary data and theoretical analysis, this study avoids methodological limitations associated with short-term impact assessments. It provides a deeper conceptual understanding of digital empowerment and offers insights relevant to policymakers, development practitioners, and scholars working on gender, technology, and rural development.

Conceptual and Theoretical Framework: The Capability Approach

Amartya Sen's Capability Approach reconceptualizes development as the expansion of substantive freedoms that individuals have reason to value. Unlike resource-based or utility-based frameworks, the capability approach distinguishes between resources, capabilities, and achieved functionings. Resources such as income, education, or digital skills do not automatically translate into well-being; their effectiveness depends on personal, social, and environmental conversion factors.

In the context of digital literacy, the capability approach allows for a nuanced understanding of empowerment. Digital devices, training, and internet access constitute resources. Capabilities emerge when women can meaningfully use these resources to pursue valued goals, such as accessing government services, participating in digital financial systems, or enhancing livelihoods. Functionings refer to the realized outcomes, such as regular use of digital payments, online market access, or increased participation in community decision-making. For rural women in Belagavi, conversion factors are shaped by gender norms, household responsibilities, educational attainment, infrastructure quality, and institutional support systems like SHGs and Panchayats. The capability approach is therefore particularly suitable for evaluating PMGDISHA, as it shifts attention from mere certification numbers to actual empowerment outcomes.

Review of Literature

Existing literature consistently highlights a pronounced gender digital divide in India. According to national surveys, women are significantly less likely than men to own digital devices, access the internet, or possess functional digital skills. Scholars attribute this divide to intersecting factors such as education gaps, socio-cultural norms, and safety concerns. Studies on rural digital literacy initiatives suggest that basic training can enhance confidence, reduce technology-related anxiety, and facilitate access to information and services. However, several authors caution that training alone is insufficient to ensure sustained usage or empowerment.

While there is growing scholarship on digital inclusion, relatively few studies explicitly apply the capability approach to digital literacy programmes in India. Existing capability-based analyses emphasize that empowerment outcomes depend on contextual factors such as institutional support, social norms, and opportunities for meaningful usage. The present study addresses this gap by synthesizing secondary data to apply a capability lens to PMGDISHA in the specific context of mufassil Belagavi.

Methodology

This study adopts a qualitative, non-empirical research design and relies exclusively on secondary data to examine the relationship between digital literacy and women's empowerment under the PMGDISHA scheme. The analysis draws upon a wide range of authoritative sources, including Government of India reports and official policy documents related to PMGDISHA and the broader Digital India initiative. In addition, Press Information Bureau (PIB) releases are used to contextualize national-level trends in digital literacy and gender inclusion. Demographic and socio-economic insights are derived from the Census of India 2011 and district statistical handbooks specific to Belagavi, while academic journal articles, working papers, and independent evaluation reports provide theoretical and analytical depth on issues of digital literacy, gender, and empowerment.

The spatial focus of the study is maintained on the mufassil regions of Belagavi district, encompassing rural blocks such as

Hirebagewadi, Kakati, Hindalaga, and Sambra, as well as semi-urban peripheral areas surrounding Belagavi city. These semi-urban zones, particularly along major corridors such as Bailhongal Road and Kakati Road, are included to capture transitional socio-economic contexts where rural characteristics intersect with emerging urban influences. Information on Panchayat-level training centres and the role of non-governmental organizations involved in PMGDISHA implementation and women's digital literacy initiatives is drawn from programme reports and Karnataka state-level implementation documents.

A thematic analytical approach is employed to interpret the collected secondary data through the lens of Amartya Sen's Capability Approach. The analysis focuses on three interrelated dimensions: access to digital resources, patterns of digital usage, and empowerment-related outcomes. By emphasizing the conversion of digital literacy resources into capabilities and functionings, the study moves beyond input-based assessments and provides a nuanced understanding of how PMGDISHA contributes to women's empowerment in rural and semi-urban settings.

Findings and Analysis

Secondary data at the national and state levels indicate substantial female participation in the Pradhan Mantri Gramin Digital Saksharta Abhiyaan (PMGDISHA), with women consistently accounting for more than half of the certified beneficiaries. This trend reflects the scheme's explicit prioritization of women as key agents of digital inclusion in rural India. In Karnataka, women's enrolment under PMGDISHA has been further facilitated through the involvement of Self-Help Groups (SHGs), Panchayat institutions, and local implementation partners, which have played an important role in mobilization, awareness generation, and trust-building at the community level.

To contextualize programme reach and implementation dynamics, the analysis focuses on selected rural and semi-urban locations within Belagavi district that represent distinct socio-economic settings. Rural blocks such as Hirebagewadi, Kakati, Hindalaga, and Sambra are considered to understand PMGDISHA's functioning in predominantly agrarian environments, where women's livelihoods are closely tied to agriculture, allied activities, and SHG-based financial practices. In contrast, semi-urban areas along the Belagavi city periphery—particularly the Bailhongal Road, Hindalaga, Sambra, and Kakati Road regions—are included to capture transitional socio-economic contexts characterized by relatively better connectivity, increased exposure to urban markets, and greater interaction with digital services. This spatial differentiation highlights variations in access conditions and conversion opportunities across rural and semi-urban settings.

Programme-related documentation indicates that Panchayat-level training centres serve as the primary institutional nodes for PMGDISHA implementation in these areas. Information pertaining to eight such training centres is drawn from official reports and state-level implementation records, underscoring their role in reducing physical access barriers for rural women. Proximity to training locations is particularly significant in mufassil regions, where mobility constraints and domestic responsibilities often limit women's participation in skill development programmes. From a capability perspective, the availability of local training infrastructure expands women's freedom to acquire basic digital competencies.

Digital literacy acquired through PMGDISHA has the potential to enhance women's economic capabilities, especially in agrarian and semi-agrarian contexts such as Belagavi. Secondary evidence suggests that digitally literate women are better positioned to access digital banking services, direct benefit transfer (DBT) mechanisms, and SHG-linked financial platforms. In rural economies where income security is often uncertain and seasonal, familiarity with digital payments, mobile banking applications, and online market-related information can contribute to improved financial inclusion and transactional autonomy. These outcomes represent the conversion of digital skills from mere resources into economically meaningful functionings.

Beyond economic dimensions, PMGDISHA-related digital literacy contributes to the expansion of social and informational capabilities. Women exposed to digital training demonstrate increased confidence in using mobile phones, accessing online information, and engaging with institutional platforms. Enhanced digital awareness supports greater participation in community activities, improved communication with local governance structures, and heightened awareness of welfare schemes and entitlements. In capability terms, such developments reflect an expansion of agency, enabling women to exercise greater voice and choice in social and civic spheres.

Digital capabilities also extend into the educational domain at the household level. Women's digital skills support children's access to online educational resources, facilitate school-related communication, and enable engagement with digital learning platforms. This

intergenerational spillover effect underscores the broader social value of women's digital literacy, particularly in rural and semi-urban contexts where formal educational support systems are limited.

Despite these positive capability expansions, secondary studies consistently identify persistent barriers that limit the full realization of empowerment outcomes. Time poverty resulting from unpaid domestic and care responsibilities remains a significant constraint on sustained digital engagement. Infrastructural challenges such as intermittent internet connectivity, limited device ownership, and affordability issues further restrict regular usage. Additionally, entrenched gender norms, concerns related to safety, and household-level control over technology use continue to mediate women's digital freedoms. These factors operate as conversion barriers, preventing digital resources from being fully transformed into stable and enduring capabilities.

Overall, the findings suggest that while PMGDISHA has been successful in expanding access to digital literacy and foundational skills among women in mufassil Belagavi, the translation of these gains into sustained empowerment remains uneven. A capability-based analysis reveals that policy effectiveness cannot be adequately assessed through enrolment and certification figures alone. Instead, attention must be directed toward the social, institutional, and infrastructural conditions that shape women's ability to convert digital literacy into meaningful and lasting freedoms.

Discussion

Applying the capability approach reveals that PMGDISHA has been effective in expanding basic digital resources among rural women in Belagavi. However, empowerment outcomes remain uneven due to conversion constraints. Certification-focused evaluation metrics overlook these contextual challenges. Comparative evidence from other regions suggests that sustained handholding, integration with livelihoods, and community-level support mechanisms are critical for converting digital skills into lasting capabilities.

Conclusion

This paper demonstrates that PMGDISHA holds significant potential for enhancing women's capabilities in mufassil Belagavi. While access and participation achievements are notable, policy emphasis must shift towards enabling sustained usage and addressing structural barriers. A capability-oriented evaluation framework offers valuable insights for designing gender-responsive digital literacy interventions.

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Conflicts of interest

The authors declare that there are no conflicts of interest regarding the publication of this paper

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