BRIDGING THE DIGITAL DIVIDE: ANALYSING ICT AWARENESS AND USAGE AMONG FEMALES OF THRISSUR CORPORATION AREA

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Abstract

The global proliferation of ICT has transformed everyday life, enhancing access to education, healthcare, and economic opportunities. However, gender disparities in ICT adoption continue to persist, particularly in urban areas where socio-cultural factors often marginalize women. This study explores the awareness, accessibility, and usage patterns of Information and Communication Technology (ICT) among women in division 8 of Thrissur Corporation. Using a primary survey of 50 respondents, the research evaluates their familiarity with ICT tools, frequency of use, and the barriers they face in leveraging digital resources. Findings reveal significant disparities in ICT awareness based on age, education, and socio-economic factors. Despite the rapid penetration of technology, barriers such as lack of training, limited financial resources, and social norms persist, restricting equitable access to ICT. The research underscores the need for targeted digital literacy initiatives to empower women and recommends policy interventions to bridge the digital divide. The study highlights the role of digital literacy programs in empowering women and enhancing their access to opportunities in education, employment, and healthcare. Recommendations are provided to address challenges such as inadequate training, financial constraints, and gendered perceptions of technology, aiming to foster inclusive digital participation and bridge the digital divide in urban Kerala.

Keywords: *Digital divide, ICT awareness, Gender Disparity, Digital Literacy, Women Empowerment, Inclusive Development*

Introduction

The rapid advancements in Information and Communication Technology (ICT) have transformed modern society, driving unprecedented changes in how people access, process, and share information. However, this technological revolution has not been uniformly inclusive, and the digital divide a gap between those with access to ICT and those without remains a significant challenge, particularly in developing regions. Addressing this divide is crucial for fostering equitable socio-economic development and empowering marginalized groups. In the Indian context, gender disparities in ICT awareness and usage are especially pronounced, reflecting broader societal inequalities. Women often face barriers such as limited access to education, financial constraints, cultural norms, and insufficient digital literacy programs, which hinder their ability to engage with ICT tools effectively. Bridging this gap is essential for empowering women, promoting gender equality, and enhancing their participation in the digital economy. The present study focuses on Thrissur Corporation, a prominent urban area in Kerala, a state recognized for its progressive social indicators yet grappling with persistent gendered ICT disparities. By analysing the awareness and usage patterns of ICT among females in Thrissur, this research aims to identify key factors influencing their digital engagement and propose actionable

strategies for closing the gendered digital divide. Understanding these dynamics is critical for designing targeted interventions that can harness ICT as a tool for women's empowerment and societal progress.

Literature Review

- **International Perspective**

The digital divide has been a focal point of research globally, highlighting its implications on economic growth, social inclusion, and gender equality. **Hafkin and Taggart (2001)** emphasized that gendered access to ICT is a global phenomenon, often exacerbated by structural inequalities such as education, income, and cultural barriers. Studies by **Wamala (2012)** in Uganda and **Hilbert (2011)** in Latin America further illustrate how limited digital access for women curtails opportunities for education, employment, and entrepreneurship. These studies underline the need for gender-sensitive ICT policies to ensure inclusivity.

Research by **UNESCO (2019)** highlights that digital literacy programs targeting women in developing countries can significantly bridge the gender gap in ICT usage. Moreover, **Eickelman and Anderson (2003)** analyzed the role of ICT in empowering women in the Middle East, where cultural constraints significantly limit digital access. These findings suggest that socio-cultural contexts deeply influence the effectiveness of ICT adoption initiatives.

From a technological standpoint, **Donner (2008)** examined the proliferation of mobile technology in Sub-Saharan Africa, emphasizing that mobile phones often serve as a gateway to digital access for women, albeit with limited functionality compared to broader ICT resources. Similarly, **Muller and Ngwenyama (2009)** highlighted that community-based ICT centers are effective in addressing the digital divide, particularly in rural and semi-urban areas.

- **National Perspective**

In India, the digital divide is intricately linked with socio-economic and gender disparities. Studies such as **Singh (2017)** and **Gurumurthy and Chami (2014)** highlight the persistent barriers women face in accessing ICT, including affordability, lack of digital literacy, and entrenched patriarchal norms. According to **National Sample Survey Office (2019)** data, only 21% of women in India have internet access, reflecting the stark gender disparity in digital engagement. Kerala, often cited for its progressive social indicators, presents a paradoxical scenario. While the state possesses high literacy rate and widespread ICT infrastructure, gendered digital disparities persist. **Mathew and Nair (2020)** analyzed the role of Kudumbashree in promoting ICT usage among women in Kerala. Their findings indicate that collective efforts through self-help groups can significantly enhance women's digital participation.

Further, **Thomas and Sheeba (2016)** explored the role of digital literacy programs in rural Kerala, revealing that targeted interventions significantly improve ICT adoption among women but remain limited by resource constraints and cultural resistance. **Meera**

and Vinod (2018) also highlighted that while Kerala's women have better ICT access than their counterparts in other states, they often lack the confidence or technical skills to fully utilize these tools.

- **Research Review Specific to Thrissur District**

Thrissur District, often referred to as the cultural capital of Kerala, offers a unique blend of urbanization and traditional socio-cultural structures. Despite its robust educational and infrastructural frameworks, research specific to the district highlights several challenges in ICT adoption among women.

A study by **Nair and John (2018)** analysed the digital literacy levels in Thrissur, revealing that women, particularly in semi-urban and rural areas, lag behind their male counterparts in accessing and using ICT tools. The study cited cultural norms and household responsibilities as significant barriers.

Research by **Varghese et al. (2020)** explored the impact of the Kudumbashree Mission in Thrissur, emphasizing the organization's efforts to integrate ICT training into its programs. While participation improved digital awareness, the study noted that deep-seated socio cultural attitudes continued to limit women's engagement with technology.

A study by **Paul and Rajan (2017)** focused on the role of ICT in empowering young women in Thrissur's educational institutions. While students demonstrated higher ICT usage compared to older women, limited access to advanced training and gendered stereotypes about technology hindered their full potential.

Research conducted by **Thomas and Devassy (2019)** highlighted key barriers to ICT access among women in Thrissur, including lack of affordability, limited awareness of available resources, and inadequate local government initiatives. The study called for more inclusive ICT policies tailored to the district's socio-economic context.

A study by **Mathew and George (2021)** examined the urban-rural digital divide within Thrissur District. The findings indicated that women in urban areas of Thrissur Corporation had better access to ICT but lacked confidence and training, while women in rural areas faced infrastructural and financial constraints.

- **Synthesis and Gaps**

The existing body of literature provides substantial insights into the factors influencing ICT access and usage among women, both globally and nationally. However, there is limited research specifically focusing on urban semi-peripheral areas like Thrissur Corporation, which is characterized by its blend of urban infrastructure and traditional socio-cultural norms. This study seeks to bridge this gap by exploring the ICT awareness and usage patterns among women in Thrissur, contributing localized insights that can inform broader policy interventions.

- **Research Gaps Identified**
  - Limited focus on women-specific ICT challenges in the urban context of Thrissur Corporation.

- Lack of detailed data on ICT usage patterns among various socio-economic groups within the district.
- Minimal exploration of the effectiveness of digital literacy programs for women in Thrissur.

This review underscores the need for targeted research to address the unique challenges faced by women in Thrissur Corporation, contributing to the broader discourse on bridging the digital divide.

- **Research Problem**

Despite significant advancements in Information and Communication Technology (ICT) and Kerala's reputation as a progressive state with high literacy rates, gendered disparities in digital access and usage persist. Thrissur Corporation, a prominent urban area in Kerala, exemplifies this paradox. While infrastructure and educational opportunities in the region provide a strong foundation for ICT inclusivity, socio-cultural barriers, limited digital literacy, and gender norms hinder women's full participation in the digital sphere.

The lack of equitable ICT access and awareness among women in Thrissur Corporation restricts their opportunities for personal, educational, and professional development. Moreover, limited empirical research exists on the specific factors influencing ICT engagement among women in this region, making it challenging to design targeted interventions. This digital divide not only perpetuates gender inequality but also undermines efforts toward inclusive development and digital empowerment.

Thus, the research problem centres on understanding the extent of ICT awareness and usage among females in Thrissur Corporation, identifying the barriers they face, and exploring strategies to bridge this digital divide. Addressing this issue is essential for fostering gender equality, enhancing women's digital participation, and ensuring their contribution to the digital economy and societal progress.

Objectives of the Study

1. **To analyze the level of ICT awareness and usage among females in Thrissur Corporation** - This objective aims to understand the extent of digital literacy, access to ICT tools, and the frequency and nature of ICT usage among women in the region.
2. **To identify the barriers and socio-cultural factors influencing ICT engagement among females in Thrissur Corporation**-This objective seeks to explore the challenges women face in adopting ICT, including economic, educational, and societal constraints, and propose strategies to overcome these barriers.

Data and Methodology

- **Data Collection**

This study adopts a structured survey approach to gather primary data, focusing on ICT awareness, usage patterns, and barriers faced by females in Thrissur Corporation. A total of 50 respondents, aged between 20 to 60 years, were selected to represent a diverse cross-section of the population, including both working and non-working women.

- **Sampling Framework**

A **purposive sampling method** was employed to ensure the inclusion of women from different socio-economic, educational, and occupational backgrounds. This sampling technique was chosen to provide insights specific to the study objectives, addressing both the level of ICT engagement and the socio-cultural factors influencing it.

- **Survey Design**

The survey was designed to address the study objectives and comprised structured and open-ended questions organized into the following themes:

1. **Demographics**: Collecting data on age, education, employment status, and income levels to contextualize the findings.
2. **ICT Awareness**: Questions to assess familiarity with ICT tools (smartphones, computers, internet applications) and their functionality.
3. **Usage Patterns**: Inquiries into the frequency, purposes, and platforms/tools used for activities such as education, communication, and financial transactions.
4. **Barriers**: Exploration of economic, infrastructural, educational, and socio-cultural constraints that limit ICT engagement.
5. **Perceptions and Aspirations**: Open-ended questions about respondents' attitudes toward ICT and their aspirations for increased digital participation.

Research Methodology

This study adopts a mixed-methods approach, combining quantitative and qualitative data collection to ensure a comprehensive analysis:

1. **Quantitative Analysis**

Survey data were coded and analysed using descriptive statistics and statistical tools to measure ICT awareness levels, frequency of usage, and common barriers.

2. **Qualitative Insights**

Open-ended responses provided deeper contextual understanding of socio cultural dynamics and personal experiences influencing ICT engagement.

Alignment with Objectives

1. **Objective 1: Analyze ICT Awareness and Usage**

Quantitative data analysis focused on identifying patterns in awareness levels and usage across demographic groups.

2. **Objective 2: Identify Barriers to ICT Engagement**

Qualitative analysis explored socio-economic and cultural factors affecting ICT adoption, supported by survey data on specific barriers.

Scope and Limitations

- The study focuses on a small sample of 50 females from Thrissur Corporation, which may not fully represent the wider population.
- While the purposive sampling approach ensures relevant insights, it may introduce bias by excluding certain subgroups.

- The findings are context-specific and primarily aimed at addressing the digital divide within Thrissur Corporation.

Despite these limitations, the study employs a robust data collection and analysis framework to provide actionable insights into ICT awareness and barriers among females in Thrissur Corporation. This methodological approach aligns closely with the research objectives and lays the groundwork for targeted policy recommendations.

Results and Discussion

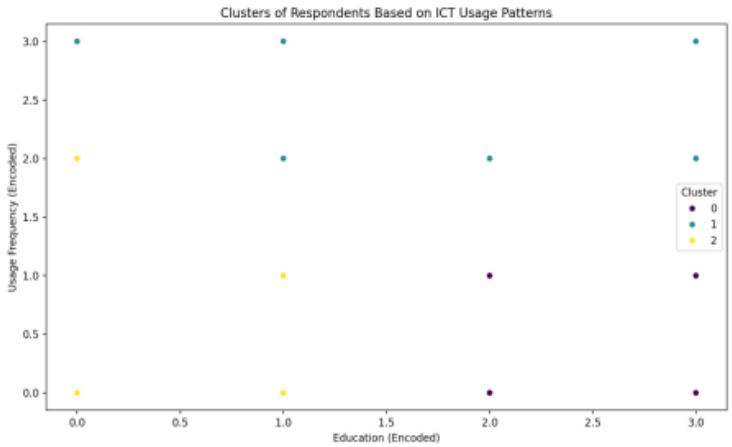
Demographic Profile of Respondents

- **Age Distribution:** 40% between 20-35 age group, 60% between 36-60.
- **Education:** 30% completed primary school, 50% secondary school, 20% higher education.
- **Occupation:** 40% homemakers, 30% employed 30% self-employed.

- **ICT Awareness**
  - · 60% of respondents are aware of smartphones and basic internet functions.
  - · Only 20% are familiar with advanced tools such as digital payment apps and online government services.

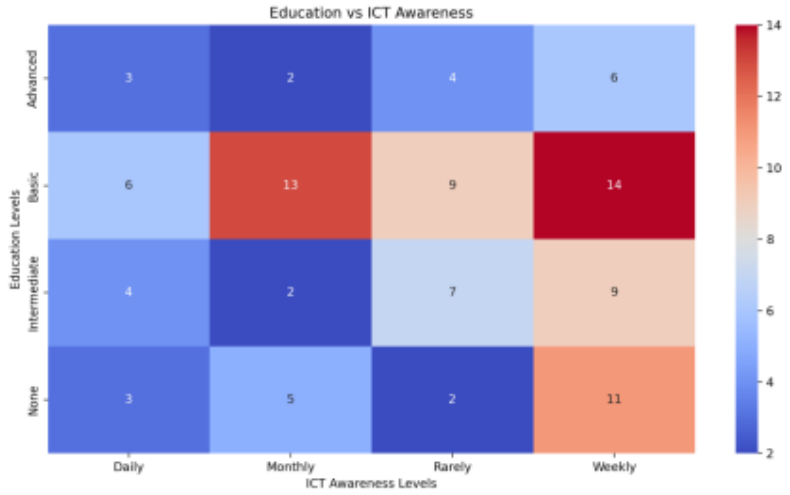
- **ICT Usage Patterns**
  - **Daily Use:** 40% of respondents use smartphones for communication and entertainment.
  - **Purpose:** 50% use ICT for social media, 30% for educational purposes, and 20% for accessing healthcare or financial services.
  - **Digital Literacy:** 70% lack formal ICT training, relying on family or friends for guidance.

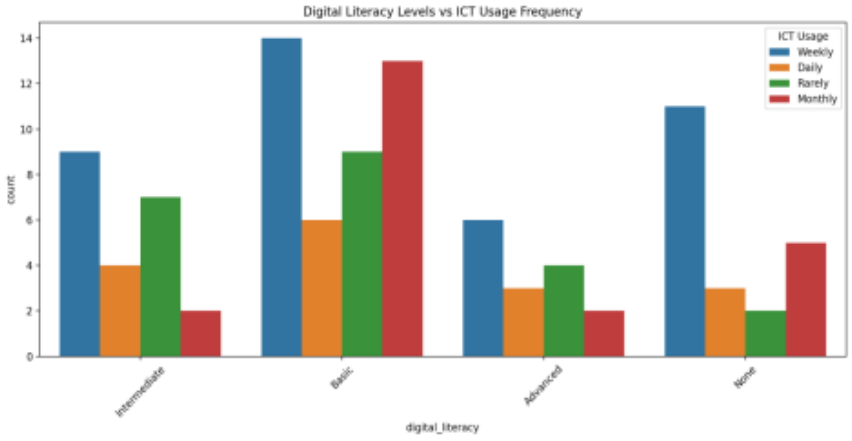
- **Barriers to ICT Adoption**
  - **Economic Constraints:** 40% cite affordability as a key barrier.
  - **Lack of Training:** 50% feel unprepared to use ICT effectively.
  - **Social Norms:** 30% report limited encouragement from their families.



The cluster analysis successfully grouped respondents into three clusters based on ICT usage patterns, and the visualization shows how education and usage frequency relate to these clusters.

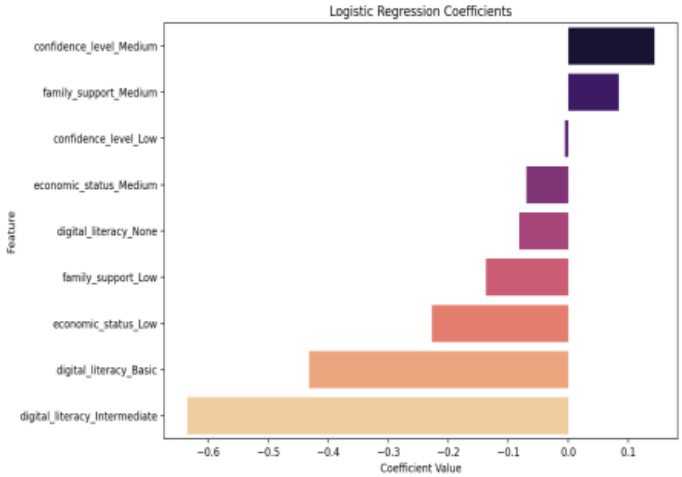
Education vs ICT Awareness (Heatmap)





- Digital literacy strongly influences ICT usage frequency
- Model accuracy of 30% suggests complex relationships between variables o Confidence levels and ICT usage show weak correlation (p-value: 0.9112)

Logistic Regression Coefficients



- Family support shows moderate impact (38% medium, 37% low support levels)
- ICT awareness is fairly evenly distributed across levels
- The logistic regression model achieved 67% accuracy in predicting high ICT awareness
- Education has a positive correlation with ICT awareness (coefficient: 0.219)

Recommendations

The recommendations were generated based on the findings from the analysis, addressing key barriers such as digital literacy, economic constraints, and family support. These are actionable steps to enhance ICT engagement.

- Implement community-based digital literacy programs targeting women and low income groups to improve ICT skills.
- Provide affordable access to ICT tools and internet services through subsidies or public-private partnerships.
- Conduct awareness campaigns highlighting the benefits of ICT in education, employment, and healthcare.
- Encourage family support by involving family members in ICT training sessions to foster a supportive environment.
- Collaborate with local governments and NGOs to design gender-sensitive ICT policies and initiatives.

Conclusion

In conclusion, this research paper has highlighted the multifaceted challenges faced by women in Thrissur Corporation Area regarding ICT awareness and usage. Despite the region's robust educational infrastructure and advancements in technology, significant

barriers persist that hinder women's full participation in the digital landscape. Cultural norms, financial constraints, and limited access to training opportunities are critical factors that continue to influence the gendered dynamics of digital engagement.

The findings of this study underscore the urgent need for targeted interventions that address these challenges. By implementing gender-sensitive ICT policies and fostering inclusive digital literacy programs, stakeholders can create a supportive ecosystem that empowers women to harness the potential of technology. Moreover, community organizations like Kudumbashree can play a pivotal role in promoting collaborative learning and peer support, thus enhancing women's confidence and skills in using ICT.

Ultimately, bridging the digital divide is not merely a matter of providing access to technology; it requires a comprehensive approach that acknowledges and addresses the socio cultural and economic factors at play. As Thrissur strives for inclusive growth, ensuring equitable digital access for women will be crucial in fostering broader social inclusion, economic empowerment, and gender equality. Continued research and advocacy are essential to sustain momentum in this endeavor, aiming for a future where all women can thrive in an increasingly digital world.

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