



Original Article

Impact of Digitalisation: A Comprehensive Study in Karwar District (North Canara) Karnataka

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Abstract

Digitalisation has transformed service delivery, business operations, and citizen engagement across India. This study explores the impact of digitalisation in Karwar District (Uttara Kannada) by analysing changes in e-governance, digital payments, education, banking, healthcare, and local business practices. The paper presents an in-depth examination of drivers of digital adoption, challenges faced in rural and urban regions, and policy recommendations for inclusive digital growth. Introduction Digitalisation refers to the use of digital technologies to improve processes, enhance service delivery, and promote efficiency. In the context of Karwar District, digitalisation has influenced sectors such as administration, finance, education, healthcare, tourism, and retail. With expanding internet connectivity, increasing smartphone penetration, and government initiatives like Digital India, citizens have begun to adopt new digital platforms for government services, bill payments, communication, and commerce.

Keywords- Digitalisation, Digital India, E-Governance, Digital Payments, UPI, Online Banking, Digital Literacy, Internet Connectivity, Smartphone Penetration, Public Service Delivery, Rural-Urban Digital Divide, Financial Inclusion.

Objectives of the Study

1. To study the extent of digital adoption among citizens and businesses in Karwar District.
2. To examine the role of e-governance in improving public service delivery.
3. To assess the impact of digital payments and online banking usage.
4. To analyse the challenges faced by residents in accessing digital services.
5. To provide suggestions for strengthening digitalisation in the region.

Digitalisation Initiatives in Karwar District Karwar, being the district headquarters of Uttara Kannada, has implemented several digital initiatives. The district administration has introduced e-Governance services, digital payment systems, and online platforms for documentation, certificates, and grievance redressal. Public service centres such as e Seva Kendra and various government kiosks help citizens access services including Aadhaar updates, voter ID services, land records, PAN applications, and utility bill payments.

Research Methodology

This study uses both primary and secondary data.

Primary Data Collection

- Sample size: 300 respondents from Karwar, Kadra, Kaiga, Baad, Kodibag, and rural areas.
- Tools: Questionnaire, interviews, and field visits.

Secondary Data:

- Government portals, district administrative reports.
- Prior research studies on digital adoption in rural Karnataka.
- News articles, academic journals, and digital payment reports

Sampling Technique:

Stratified random sampling across urban and rural strata.

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Data Analysis

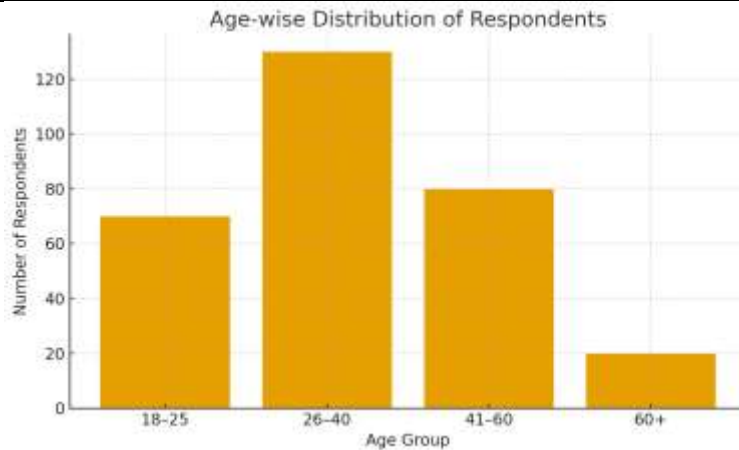
The data for this study was collected from **300 respondents** across urban and rural areas of Karwar District using a and comparative analysis between strata.

structured questionnaire. The responses were analyzed using percentages, tables, charts

Demographic Analysis

Age Distribution of Respondents

Age Group	Number of Respondents	Percentage
18-25	70	23%
26-40	130	43%
41-60	80	27%
60+	20	7%



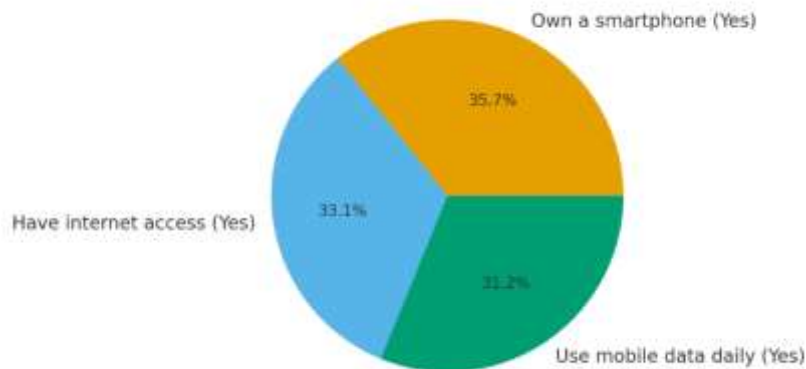
Interpretation:

Most respondents belong to the **26-40 age group**, showing that working-age individuals are the primary adopters of digital services.

Digital Device & Internet Usage

Particulars	Yes (%)	No (%)
Own a smartphone	94%	6%
Have internet access	87%	13%
Use mobile data daily	82%	18%

Digital Access & Usage - Yes Responses



Interpretation:

High smartphone penetration indicates strong potential for digital service expansion in Karwar.

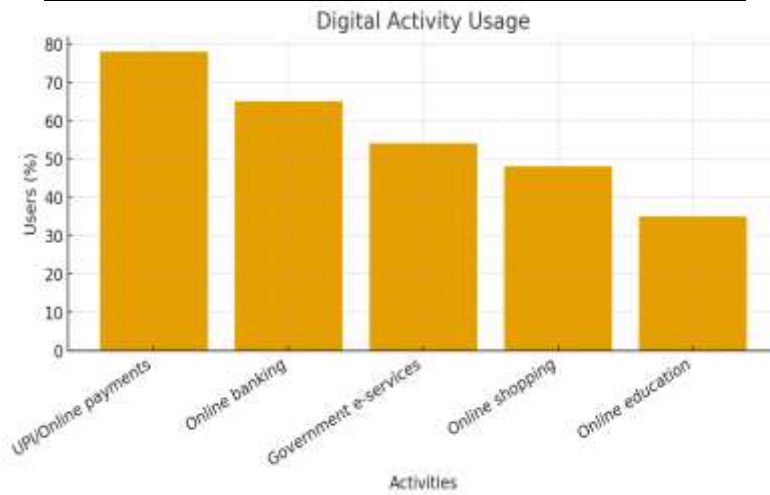
Usage of Digital Services

Popular Digital Activities

Activity	Users (%)
UPI/Online payments	78%
Online banking	65%
Government e-services	54%



Online shopping	48%
Online education	35%

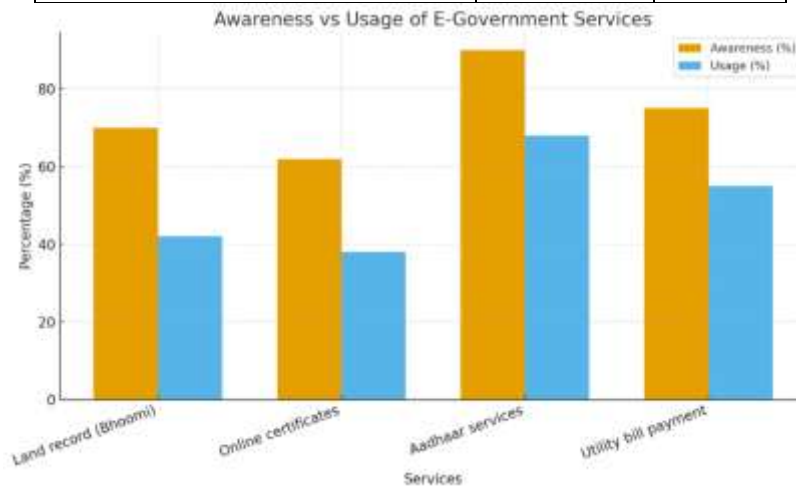


Interpretation:

UPI and digital payments emerge as the **most widely used digital service** in Karwar district.

Awareness and Usage of E-Governance Services

Service	Awareness (%)	Usage (%)
Land record (Bhoomi)	70%	42%
Online certificates (Caste, Income, Residence)	62%	38%
Aadhaar services	90%	68%
Utility bill payment	75%	55%



Interpretation:

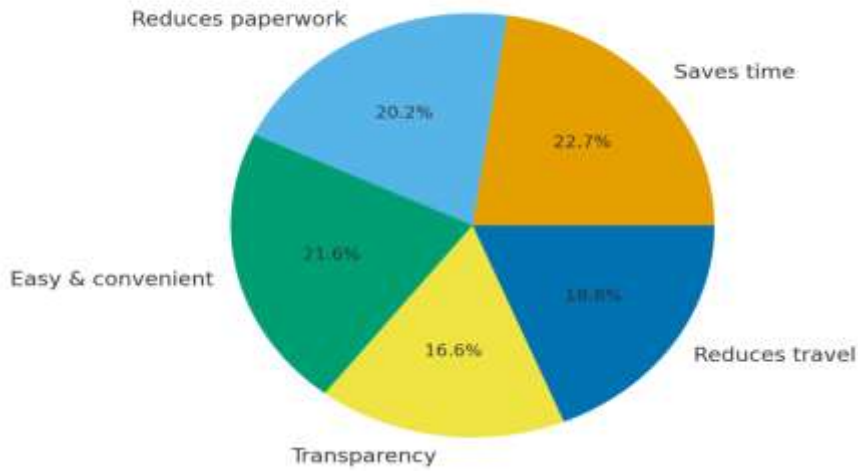
Though awareness is high, **actual usage is comparatively lower**, indicating adoption barriers.

Benefits Experienced by Respondents

Benefit	Respondents (%)
Saves time	82%
Reduces paperwork	73%
Easy & convenient	78%
Transparency	60%
Reduces travel	68%



Benefits - Respondents (%)



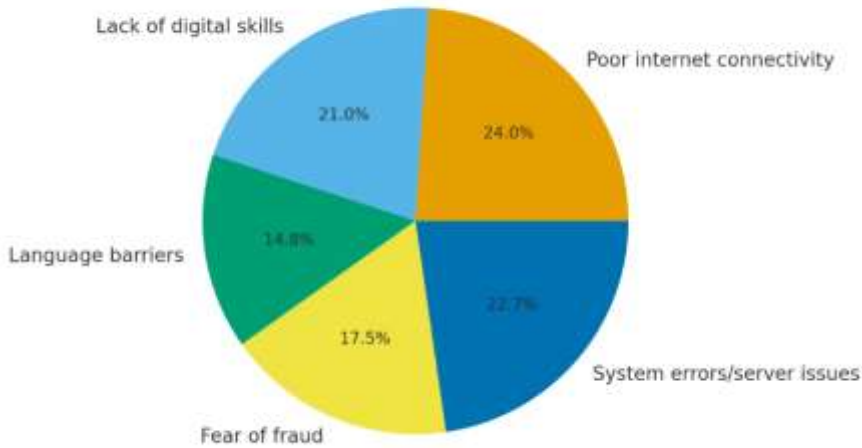
Interpretation:

Most respondents feel that digitalisation has increased **convenience and efficiency**.

Challenges Faced by Users

Challenge	Respondents (%)
Poor internet connectivity	55%
Lack of digital skills	48%
Language barriers	34%
Fear of fraud	40%
System errors/server issues	52%

Challenges - Respondents (%)

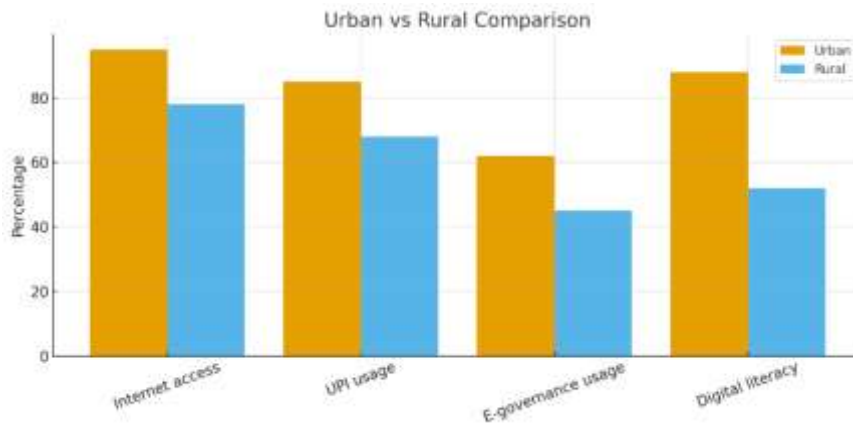


Interpretation:

Infrastructure and literacy issues remain major barriers, especially in rural areas.

Urban vs Rural Comparison

Parameter	Urban (%)	Rural (%)
Internet access	95%	78%
UPI usage	85%	68%
E-governance usage	62%	45%
Digital literacy	88%	52%



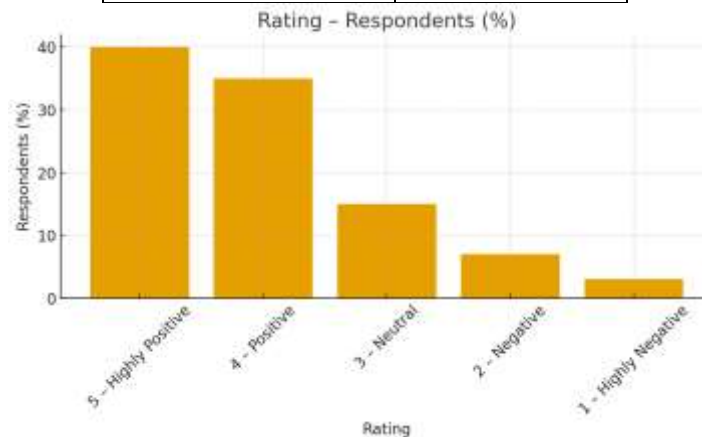
Interpretation:

Urban areas show higher digital adoption, highlighting a **significant digital divide**.

Overall Impact Score

Respondents were asked to rate the overall impact of digitalisation on a scale of 1–5.

Rating	Respondents (%)
5 – Highly Positive	40%
4 – Positive	35%
3 – Neutral	15%
2 – Negative	7%
1 – Highly Negative	3%



Interpretation:

A combined **75%** of respondents report a positive impact of digitalisation.

Summary of Data Analysis

- Digitalisation has significantly improved payment systems, convenience, and access to government services.
- Younger and urban populations show higher adoption rates.
- Barriers like poor connectivity, low digital literacy, and fear of cyber fraud persist in rural areas.
- The overall perception is **strongly positive**, indicating a successful digital transformation in Karwar district.

Major Findings of the Study

1. E-Governance Adoption Digital public service centres such as e Seva Kendras have increased citizen access to certificates, documents, and online applications. Many

residents use digital platforms for property tax, land records (Bhoomi), and utility payments.

2. Growth of Digital Payments UPI (Unified Payments Interface) and mobile wallets such as Google Pay and PhonePe have become widely used. Local businesses and markets in Karwar town now accept QR-based payments, increasing transparency and reducing cash dependency.

3. Internet and Mobile Connectivity Internet access is strong in town areas but weaker in interior villages. Network fluctuations and limited broadband coverage remain challenges in remote areas of Karwar Taluk.

4. Impact on Education Schools and colleges increasingly use online learning tools, digital classrooms, and WhatsApp-based communication. During the COVID19 pandemic, digital platforms played a critical role in continuing education.

5. Digital Healthcare Services Telemedicine services and online appointment systems are gradually being adopted in



Karwar Government Hospital and private clinics. Digitised health records are improving service efficiency.

Challenges Identified

- Limited digital literacy among rural citizens.
- Poor network coverage in interior regions.
- Resistance to using online banking due to fear of fraud.
- Language barriers in understanding English-based interfaces.

Recommendations

1. Establish digital learning centres in rural areas to improve literacy.
2. Strengthen last-mile connectivity through government-private collaborations.
3. Promote awareness campaigns on cyber safety and secure digital usage.
4. Encourage local shops and markets to adopt low-cost digital payment tools.
5. Create multilingual mobile applications to support Kannada speaking users.
6. Provide training for farmers on digital crop insurance, PM Kisan app, and e NAM trading.

Conclusion

Digitalisation is significantly transforming Karwar District by improving service delivery, promoting financial inclusion, and encouraging economic development. While urban regions show rapid adoption, rural areas need support in terms of digital literacy and connectivity. With the right interventions, Karwar can achieve a fully inclusive digital ecosystem.

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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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1. Government of Karnataka e Governance reports.
2. Ministry of Electronics & IT publications.
3. Research papers on rural digital adoption in Karnataka.

4. Local administrative and district portals.
5. Academic journals and news articles on digital payments and e learning.