A Comparative Study to Understand the Digital Divide Prevalent in the Rural Areas: An Analysis of the Factors

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Abstract

The research is a comparative study to understand the digital transformation gaps among the rural and urban areas in India. Though a large amount of gap exists between the developed and developing nations in terms of accessibility, usage and the speed at which digital technological means are available and utilized. The research paper is an attempt to compare the overall growth of digital transformation within the country and comparison of the same with digital accessibility in the rural areas. The purpose is to understand the correlation between the factors and the gaps which have been inherent between the accessibility of digital technology within the country. The research paper also covers the various factors attributable to the gaps comprising mainly of infrastructural development which have led to slow progression towards digital transformation and its adoption.

Keywords: *Digital Divide, Social Inclusion, Barriers to Digital Accessibility, Tele Density etc.*

Paper Type: *Descriptive, Analytical*

Introduction

Digital divide is the gap that exists between the access and usage of digital means to access of information and others means of communication. It is the gap which has demarcated the boundaries between the developed and developing nations. Developed nations have access to digital means of communication with a much faster access as compared to developing nations and the poor nations. Within the nation also the digital divide exists in terms of different factors contributing towards enhancing the differences. The various factors adding to the gaps between the access and usage of digital means of information and communication technologies have been inherent since many years, such as the geographic factors, demographic aspects, sociological features and so on. Digital divide can be eradicated with the help of social inclusion goals. A social inclusion is the inclusion of every member in the society and encompasses them for the social welfare and development. The true periphery of any development effort and its success lies in its reach and coverage. Digital divide has created two different parameters for the urban and rural population. Whether it is about tele density, wire line, wireless or internet technologies the statistical figures show a vast amount of discrepancy and consequently lead to rural and urban divide. Even the areas which have been accessing technological transformation in the form of digitization, there the speed of internet leads to various other issues by hampering the proper usage of technology. Social inclusion creates a platform for equality and equitable growth and development structure. Well framed and systematic policy efforts are required so as to ensure that the

benefit of each and every policy covers the entire circumference of the nation so as to fulfill the growth agenda of the country. The sustainability policy framework of Millennium Development Goals (MDG) by United Nations (UN) has also been emphasizing on proper and faster internet accessibility. The changing innovations from 2G, 3G, 4G and 5G will truly materialize if they are targeted for each and every strata of the society. The success lies if this is carried out without any kinds of discrimination based on demographic, social, psychological or geographical factors. Mahatma Gandhi also said that the true sense of any development effort is when it reaches out to the last person in the nation.

Review of Literature

(Panda, et.al, 2013) discusses the concerns associated with the gaps existing in the digital outreach. Most of the libraries have been now operating online. The benefits associated with the availability and accessibility of usage of information anytime and anywhere could not be reaped by many who are still struck with the lack of digital transformation.

(Singh.S. 2010) analyses the measurements and challenges involved in addressing the issues related with digital divide. The issue of multiple divides with respect to the coverage of digital technology such as among men and women, young and old, rich and poor and so on.

(Singh.N. 2017) highlights the digital initiatives taken by the government such as Gyandoot, Card and E-Sewa,etc to provide digital information to the users. A large amount of efforts have been made by the government, private and non-government organizations to bridge the gap present in the digital technology.

(Baveja, 2005) presents the snapshots about the World Summit on Information Society Thematic Meeting for bridging the digital divide. He is the Director, Department of Information Technology (DIT) Ministry of Communications and IT Government of India. The repost shares the vision for India to transform the nation with the help of IT industry and thus bridging the digital divide.

Rationale of the Paper

A large number of attributable factors which have contributed towards the digital divide include electrification, cost, lack of infrastructural development, inaccessibility and so on. A large number of villages in India are still not fully electrified. Either there is no electricity at all or there is partial electrification. The electricity reaches out to them for limited number of days and limited number of hours. A well laid out program for electrifying these villages and solar installation initiatives could be the first step towards digital transformation. Proper infrastructural development acts as a sound base for any plans and policy initiatives. Proper connectivity through roads, bridges, information and awareness outreach through strong base of schooling, higher education, other learning and awareness creating platforms, communication networks through wire line, wireless, tele density and so on will all collectively enhance the functioning for a proper network and a planned development. The accessibility of vast amount of pool of knowledge through these systems will foster transformation in creating entrepreneurs and build the seeds of Make in India, Developed India, Start up India and a vast array of success stories.

Objectives of the Study

- To understand the relationship between the digital divide existing in the rural areas and the factors responsible for digital divide

- To analyse the correlation between digital divide existing in the rural areas and the factors responsible for digital divide
- To assess the impact of the dependent variables on the digital divide in the rural areas

Research Hypotheses of the Study

- **H1:** There is a significant association between the digital divide existing in the rural areas and the factors responsible for digital divide
- **H2:** There is a significant association between digital divide existing in the rural areas and the barriers contributing for the same

Methods of Data Collection

Data collection is the most essential stage of any research, since it entails the core of any research paper. Data collection provides a clear direction and the pathway for the research. Based on the data collected, analysis is undertaken and the true analysis leads to drawing of conclusions. The data was collected from secondary resources. Secondary data or second hand data is the data which has been already collected by other agencies for some other purposes, therefore, there is big responsibility associated while handling secondary data. Secondary data was collected from the Census Survey Reports of Census of India, statistical survey annual reports of Telephone Regulatory Authority of India (TRAI), journal articles and various other research papers.

Data Analysis and Interpretation

The growth of Tele density as per Telephone Regulatory Authority of India (TRAI) has depicted gradual progression in the spread of digital transformation in the country. But the differences in the statistical data with respect to urban and rural areas are still largely present. The outreach of Tele density with respect to wireless and wire line is 57.30 percentage and 80.73 percentage respectively in the urban areas. Whereas the Tele density statistical data for wireless and wire line with respect to rural areas is 47.78 percentage and 0.59 percentage respectively. The spread of Tele density in the country has been from 70.89 percentage to 83.36 percentage from the year 2011 to 2016. The magnificent growth has been majorly from the urban areas and the lesser representativeness is from the rural areas. From the review of literature and the statistical reports it can be interpreted that due to large amount of barriers in the rural areas there is a gap in the reach of digital transformation. The different factors include lack of electrification, inadequate infrastructural development and lack of education.

Therefore, we fail to accept the null hypothesis and thus accept the alternative hypothesis that there is an association between the gaps in digitization in the rural areas due to the factors responsible for the same.

Table 1 : Overall Subscriber Base and Tele Density

Particulars	Wireless	Wire line	Total Wireless + Wire line
Total Subscribers (Million)	969.89	26.59	996.49
Urban Subscribers (Million)	555.71	21.47	577.18
Rural Subscribers (Million)	414.18	5.12	419.31
Overall Tele density	77.27	2.12	79.38
Urban Tele density	143.08	5.53	148.61
Rural Tele density	47.78	0.59	48.37
Share of Urban Subscribers	57.30%	80.73%	57.92%
Share of Rural Subscribers	42.70%	19.27%	42.08%
No. of Broadband Subscribers (Million)	83.68	15.52	99.20

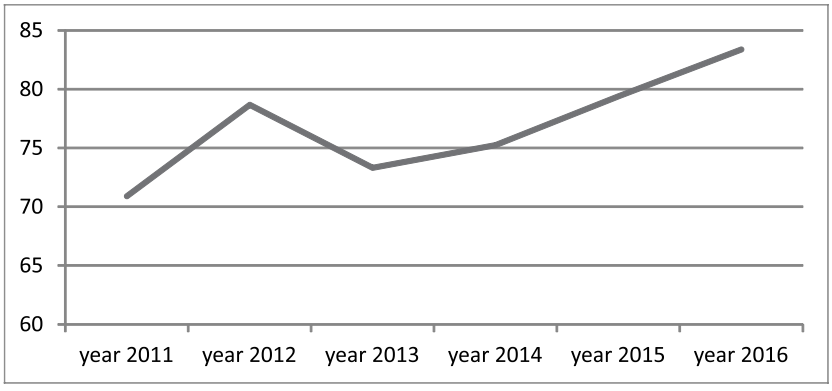
Source: TRAI Annual Report 2014-15

Table 2 : Growth of Tele Density

Year	Tele Density
2011	70.89
2012	78.66
2013	73.32
2014	75.23
2015	79.38
2016	83.36

Source: TRAI Annual Report 2016-17

Graph 1 : Growth of Tele Density



Source: TRAI Annual Report 2016-17

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Table 3 : State-wise Rural - Urban and Total Literacy Rates in India, 2011

States	Rural (%)	Urban (%)	Literacy (%)
Andhra Pradesh	61.14	80.54	61.11
Assam	70.44	88.88	64.28
Bihar	61.83	78.75	47.73
Gujarat	73.00	87.58	69.75
Haryana	72.74	83.83	68.59
Himachal Pradesh	82.91	91.39	77.13
Jammu & Kashmir	64.97	78.19	67.76
Kerala	92.92	94.99	90.92
Karnataka	68.86	86.21	75.60
Madhya Pradesh	62.29	84.09	64.11
Maharashtra	77.09	89.84	77.27
Orissa	70.78	86.45	73.45
Punjab	72.45	83.70	69.75
Rajasthan	62.34	80.73	61.03
Tamil Nadu	73.80	87.24	73.47
Uttar Pradesh	67.55	77.01	57.36
West Bengal	72.97	85.54	69.25
Delhi	82.87	86.43	81.82

Source: Census of India, 2011

Conclusion

A systematic and careful analysis will help in taking small leaps towards eradication of the gaps present in the digital transformation among the rural and urban areas. The factors responsible for the same could be studied and a factor analysis will help to strategize and arrange the factors in the order of the impact they have been causing for the successful implementation of digital transformation.

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Further Readings

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