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A Study of Rural Telecommunication Services: Opportunities And Weakness

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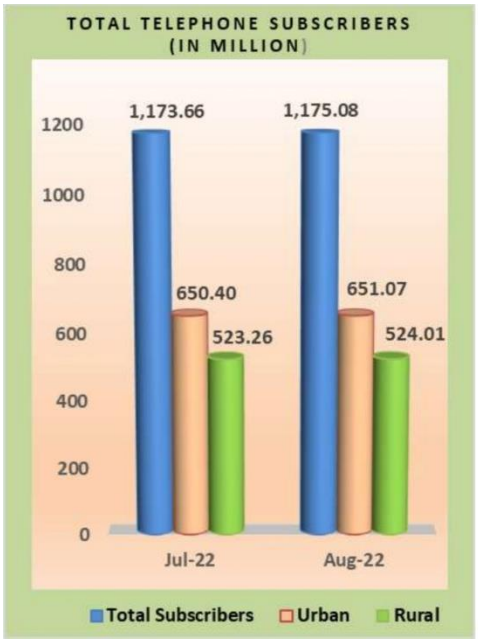
ABSTRACT

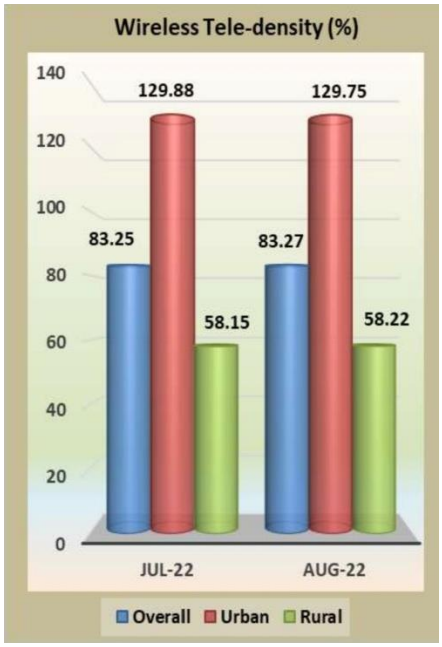
The expansion of the subscriber base in rural regions has lagged behind that in urban ones. This difference is mostly because people in rural areas don't have good infrastructure or easy access to cheap internet services. The way their networks are set up shows how sparse and disconnected rural areas are. This information shows that the telecom industry preferred to serve cities over rural areas. It must now study the true situation in isolated areas. The slow progress of wireless technology in the rural sector is mostly due to low per capita income and a low literacy rate. To make sure that customers in rural areas get the same level of service as those in cities, national policies should be put in place to increase competition and give businesses reasons to move into rural areas. People tend to look at putting phones in rural India as a business opportunity rather than as a necessary step in building a nationwide communications infrastructure. Reasonable prices for broadband communications services can't be offered in rural areas because of things like low population density, people living far apart, and harsh topography and weather. As a way to solve these problems, people have turned to new technology, such as wireless technology.

Key Words: Infrastructure, remote regions, dispersed population.

INTRODUCTION

The Indian telecommunications sector has seen impressive expansion over the previous several years. India presently has the second-largest network in the world, after China. Tele-density in urban areas was 137.26% by the end of February 2022, compared to 58.5% in rural areas. With over 658 million internet users in 2022, India will rank among the digital consumer markets with the greatest and quickest growth. Urban customers have been essential to the internet economy's explosive growth. Yet as a consequence of government initiatives to expand access to banking services, people in rural India are increasingly participating in the digital economy. According to a TRAI assessment, more over 38% of the country's internet customers lived in rural regions as of March 2020, an increase from about 32% in March 2017.





While there is a correlation between tele-density and degree of development, the sharp disparity between rural and urban tele-density is also a symptom of severe developmental gaps and should be given due governmental attention in terms of identifying the root causes and formulating solutions. Tele-density in rural India has increased as a result of the widespread use of mobile phone services. Due to fewer entry hurdles, such as cheaper handsets and per-minute calling prices, mobile telephony has swiftly taken off in rural India. The conventional step of a fixed connection is being abandoned by many rural customers nowadays in favor of using their mobile phone as their preferred method of communication. This research attempts to analyse the issues with rural internet access and provide potential solutions.

In order to improve online infrastructure, encourage citizen access to the internet, and enable the country to grow digitally, the Indian government launched the "Digital India" programme in July 2015. This initiative aims to link rural regions to high-speed internet networks. The initiative's primary objectives are as follows: Provide a dependable and secure digital infrastructure, offer digital services, and provide all residents with access to the Internet.

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The rural sector accounts for over 46% of India's national revenue, which is a significant chunk of the economy of the nation. 66% of India's population, according to estimates, resides in rural regions, and despite the nation's rapid urbanisation, this proportion is anticipated to stay high due to the enormous and unexplored market. Telecommunications services must be made available in certain areas. The government has made multiple efforts up to this point to connect with rural areas, but over the next 10 years, rural tele-density is expected to increase.

Rural markets in India provide a level of availability for many products and services that are marketed to urban customers that is very low and can only be raised by the use of current and relevant technology as well as engagement from private operators.

Even with the growing number of internet users in rural India, there is still a large digital gap between urban and rural areas of the country. In contrast to 99% of Indians living in cities, just around 33% of rural Indians have access to the internet, according to the most current TRAI data. The fundamental reasons of this discrepancy are two factors, notably a lack of infrastructure and knowledge.

The poll found that some of the challenges were having trouble attracting rural customers because telecommunications services were expensive, had low average revenue per user (ARPU), lacked regionally relevant content, and had low literacy rates.

"Despite the inherent attraction of the rural market for telecom operators, various hurdles in going rural confront operators," according to a research issued jointly by the Federation of Indian Chambers of Commerce and Industry (FICCI) and global consultancy KPMG.

To narrow the gap, the Indian government has launched the "Digital India" initiative. One of the program's primary aims is to improve the nation's digital infrastructure, particularly in rural India. The efforts taken as part of this strategy to enhance rural digital infrastructure are highlighted in the following list.

Initiatives	Description
Bharatnet	Aims to provide broadband access to 250,000 Gram Panchayats (GPs) through a network of Optical Fiber Cable
Common Service Centers	CSCs are centers through which e-governance and related services will be made available to villages
Universal Access to Mobile	Aims to provide mobile access to more than 55,600 villages that do not have mobile coverage
Digitization of Post Offices	Digitization of post offices including setting up centralized data centers, networking of all post offices and enabling digital payments

REVIEW OF LITRATURE:

According to Gunasekaran and Harmantzis (2007), communities near bigger cities should take use of the fibre backbone; a distant hamlet may be linked through VSAT connection. WiMAX may be distributed locally throughout all rural community groups in a specific village via long distance Wi-Fi technology thanks to a point-to-point or point-to-multipoint WiMAX connection from the fibre backbone connecting one or more villages near the town. The technology side of delivering telecom services has not gotten as much attention as it may have from other writers due to the present study's emphasis on the marketing aspects of selling telecom services.

Deepak Kumar, Anupam, Bindu Aggarwal (2014); A nation's socioeconomic development has frequently been credited to the use of telecom and network connectivity.

Arunabha Mukhopadhyay1 and Rajesh K Aithal1 (2002); It has been made an effort to appreciate the marketing difficulties faced by telecom services in rural regions, as well as the reasons why private businesses have not expanded much in rural areas. Several concerns have been voiced over price, product features (both mobile and recharge), and the significance of using already-existing institutional infrastructure. As a result, for rural telecom to grow, service providers must be creative in both the goods they offer and the ways they solve the challenges provided by the rural business.

According to Watkins et al. (2012), who compared two studies done in urban and rural areas of India, low income levels, a lack of digital literacy, as well as specific social structures and cultural norms, may further hinder adoption. However, this comparison did not rule out the existence of new opportunities for adoption, so long as these obstacles are overcome.

According to YATISH MlSHRA (2001), a lack of available resources and affordable technology is the major cause of the low quality of rural telecom services. Rural telecommunications can boost efficiency, structural reforms, economic growth, and employment in most socio-economic activities. The TRAI should oversee the network's operations and set basic rules and regulations. Raising awareness of the usage of communications services for medical, educational, agricultural, tourist, and other purposes is necessary among rural communities.

Abhay Jain(2018), Rural and urban subscribers are both using mobile phone services for their work related calls and gaming services, but rural subscribers are using more mobile services for social calling than their urban counterpart. Urban subscribers are found to be using mobile internet more than their rural counterparts. The rural subscribers were found using agricultural prices and weather updates more than that of their urban counterpart. The complexity of the usage level is likely due to the expertise in operating the innovation system, whereas rural subscribers face problem in operating these new technological innovations.

OBJECTIVES AND METHODOLOGY

This study examines telecommunication services in rural India to understand the opportunities and challenges of telecom service providers. For this purpose secondary data has been collected through journals, reports, articles, and TRAI report.

WEAKNESS

Due to insufficient technical knowledge, people are not making effective use of their access to the internet and other communication networks. The average literacy rate in India is 74.04%, as reported by the 2011 Census. Yet, there is little information on digital literacy. Low levels of literacy are a major barrier to the expansion of internet use. As an added complication, the vast bulk of the web is written in English, making it difficult for those living in non-urban regions to access it.

Electricity alone is inadequate. Since rural and urban areas are not connected in the same way, poor connection in rural areas not only causes everyday problems for inhabitants but also leads to missed opportunities. Difficulties in remote work and using telecommunications services are only two examples of how slow Internet may impact daily life. Businesses in rural locations cannot grow as much as they do in urban ones without a stable internet connection.

Slow or nonexistent connection occurs because less populous rural regions lack pricey infrastructure. Many rural locations lack appropriate internet access because the terrain of rural places raises installation costs and lower popular density reduce economic returns for service providers and lower subscriber numbers surpass maintenance expenses.

Broadband installation in these areas is more costly since the 0ptic fibre cables must be physically moved through fields and roads before being put in underground pipes or beneath overhead power lines. This requires the construction of trenches, which might cause traffic jams and other annoyances in addition to significant civil engineering costs.

In rural places, gender disparities in internet usage are greater. In India, there is a significant gender gap in terms of labour force participation, income, and educational entertainment. Moreover, this makes it more difficult for them to access, own, and utilise the internet and smart gadgets, expanding the digital divide. According to the 2012 Intel Women and the Web Report, one in five Indian women feel that the internet is not "appropriate" for them. Ten percent of the women who don't use the internet say their significant others and families would be against it.

In spite of the many legal measures that have been made, the digital gap in our nation is still rather significant. There are only one-third of connections in rural regions, and the growth of telecommunications there has been slower than in metropolitan areas. In order to enhance the "Right to Broadband," the National Telecom Policy 2012 designated broadband access as a fundamental requirement. Yet, government initiatives did not considerably increase the engagement of commercial service providers in increasing rural connectivity. Not enough has been done to improve digital literacy, either**.** Income disparities indicate to another problem.

Rural Broadband Development, Due to the poor ROI (return on investment) for mobile service providers, the growth of telecommunications in rural regions has been considerably slower than in metropolitan areas. Due to inadequate mobile telecommunications coverage and the general poor economic standing of rural residents, there is a low teledensity in rural regions. For the rural region, a whole ecology must be constructed. For the growth of telecom services in rural regions, the government, telecom service providers, and equipment makers must work together.

OPPORTUNITIES

The many infrastructural problems have mostly been fixed. Almost 90% of settlements have electricity, and efforts are still being made to increase road connection. The density of regional telephones has expanded by 300 percent during the last decade.

The current rural literacy rate is 73.5 percent. As of 2019-20, there were 1.5 million schools in India, with 1.26 million of them facilities located in rural regions. Since a substantial section of the population lives in rural regions, the majority of schools in India are located there. According to statistics, over 83% of all schools in India are located in rural areas. (From the Department of Education and Literacy)

Customers from urban and rural areas are growing increasingly comparable, particularly young consumers who have almost identical goals. In this approach, telecom companies may reach out to a certain demographic of rural customers in the same way they do to customers in metropolitan areas. Community antennas and optical fibres are two further technologies that may help bring the internet to rural regions, in addition to satellites and fixed mobile wireless technology.

As an alternative to satellites and fixed mobile wireless technologies, community antennas and optical fibres may bridge the digital divide in remote places.

Connectivity to the online world may have a positive effect on those living in remote areas.

Household income in rural areas has grown significantly. According to the RMAI (Rural Marketing Association of India), rural households are becoming more well-off. Hence, the market would practically triple in value. Compared to now, spending in rural regions would grow by a factor of six in only 20 years. The percentage of families living below the poverty line also fell, from 46% to 27%.

Since there are so many potential connections in rural India, it will ultimately define the industry's core strength. Adding customers from rural areas will strengthen the network and allow it to expand its offerings to areas with limited connectivity. As the price of wireless communications and telephones has dropped, both initially and on a continuing basis, more people can afford to use these technologies.

Rural marketers in India have access to vast client bases and commercial prospects due to the fact that 700 million people live in 600,000 villages throughout the country. This accounts for 12.5% of the total population of the planet.

SUGGESIONS

The service providers will need to coordinate with the manufacturers of mobile handsets to create tools that assist users in navigating complex services. Except for brochures in regional languages, special training initiatives and customer care service provider in rural areas. The most important idea is to increase awareness programs in rural areas to encourage people to pursue new technology and growth. Telecommunication services in rural regions should be designed to provide telephone service on demand, using network technology that can be updated as needed and reduce cost and tariffs rates. The usage of telecommunications services for health, education, agriculture, tourism, agro-industries, etc. must be made known to the rural population. The network should operate with uncomplicated policies, programmes, regulations, and procedures under the direction of TRAI.

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