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Impact Of Net Neutrality On Internet Users In India

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ABSTRACT:

Net Neutrality was formally known as the Open Internet Order, and it is modelled after the concept of fair use. It stands for no blocking, no throttling, and no paid prioritization. It ensured that all internet traffic is treated equally based on the content of the traffic (not its origin). The current paper deals with the impact of Net Neutrality on the common internet Users in India. It deals with the following objectives: a. to find out whether Net Neutrality ensures consistent internet speed across different Indian telecom operators at different locations in the MMR (Mumbai Metropolitan Region), b. To check whether normal internet users have felt that 4G data services have become unaffordable and c. To examine the impact of Net Neutrality on the overall internet browsing experience of Indians. The results of the study indicate that-after net neutrality was implemented, internet speed across different Indian telecom operators was consistent. The affordability and quality of the browsing experience of 4G service still holds good across different service providers.

Keywords: Net Neutrality, Open Internet Order, internet Users in India, 4G data services

1. INTRODUCTION

The two major pillars of Net Neutrality were transparency and non-discrimination. This meant telecom operators like Airtel, Vodafone, Reliance Jio etc had to treat all websites equally when it comes to speed, cost or data. Affirmatively, they could not block or throttle content or they would be heavily sanctioned by the government. It also ensured that each consumer has equal access to information on the internet. This was especially important during the transition of Broadcast Television to Digital TV. Broadcasters face greater challenges when trying to deliver content on a new platform.

What was being missed was the transparency part of this equation. Without this, it could be possible for companies like Airtel and Vodafone to throttle content. Also, even though

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telecom operators cannot block or throttle, they can charge more/differentially for content if they find it suitable for their subscribers.

The current paper deals with the impact of Net Neutrality on the common internet Users in India. It deals with the following objectives:

1. To find out whether Net Neutrality ensures consistent internet speed across different Indian telecom operators at different locations in the MMR(Mumbai Metropolitan Region).
2. To check whether normal internet users have felt that 4G data services have become unaffordable.
3. To examine the impact of Net Neutrality on the overall internet browsing experience of Indians.

2. Review of Literature

India is the second largest country when it comes to internet usage and growth. The number of Indians logging on has increased in the past few years. It leads to a drastic rise in time spent and money spent online. However, India's Internet users still spend less than any other country when it comes to online shopping, despite there being a huge market for it in the country.

India has more than 316 million internet users which is more than that the total population of the United States. It also accounts for almost 10% of global web users from mobile devices alone, this clearly shows how India is becoming a major player when it comes to internet usage (Statista, 2016).

India has ARPU which is average revenue per user for its telecom operators. ARPU is the amount that one user spends on making calls or using data in a month or in any other period of time instead of paying over and above the minimum amount each month to their phone companies. This is done to ensure that the telecom companies have a larger amount of revenue from their users so that they can provide better services.

India is ranked fourth globally in terms of internet speed, with an average connection speed of 2.4 Mbps, according to a report released by Ookla in 2014. This shows the huge growth in Internet usage and speed in India over the past few years, which is being helped by the increasing smartphone penetration in the country.

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According to a report released by TRAI, there are around 100 million new mobile subscribers added annually in India. This means that by 2020, there would be more than 700 million mobile subscribers in India alone.

According to another report released by TRAI, there are over 536 million mobile subscribers in India as of January 2015. This is an increase of about 9% in the past year.

According to a report released by TRAI, there are more than 200 million wireless subscribers in India, and the number of local and national calls made by them exceeds 1 billion per day. The total number of telephone subscribers in India is over one billion. This shows the huge growth in the field of telecommunications in India.

India accounts for almost 10% of global web users from mobile devices alone, this clearly shows how India is becoming a major player when it comes to internet usage.

A neoliberal threat to net neutrality was defeated by digital activism, independent regulation, and mass media, according to Shahin (2017). With early praise, internet.org/Free Basics was finally rejected in India, and net neutrality was formalised in the process. These crucial junctures in time were identified by topic modelling of articles (N = 1752) published in 100 media sources during two-and-a-half years. Then, critical discourse analysis analyses the causative variables and contingent contexts that generated the new policy. An understanding of technology as social constructions and technological development as a social process is advanced through the research. It also highlights how social actors' language affects the prevailing worldview and organises these interactions. The study also shows how to integrate algorithmic and interpretative research methodologies for longitudinal textual data analysis.

“Ascendant India, digital India: how net neutrality supporters thwarted Facebook's Free Basics” was written by Prasad (2017). A privileged position in an India that imagines itself high tech and global is the focus of this piece. Advocates for net neutrality in the United States, mostly IT workers, formed Save the Internet (STI). According to STI, their pleas mobilised unprecedented public opinion. As a ‘recursive public,' STI engaged in technopolitics that reflected the present governing party's technocultural nationalism. That dominating narrative finally pushed regulators to restrict all zero-rating proposals, including Free Basics.

The first and most important argument against the repeal of net neutrality is the impact it may have on the underprivileged who cannot access modern technology. India's internet

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penetration rate is around 33% as of 2016. They are those who still don't have a phone and those who live in remote areas without broadband access. With this new change to the FCC, those people will be at risk of losing their connection altogether.

The second is the possibility of telecom operators being able to charge more for certain content. This is especially important in a country like India where 4G data costs are still very high, and usage is still restricted with most prepaid plans.

If the telecom companies are able to charge more for 4K HD videos or high-quality streaming, then it will increase the burden on customers who must already pay expensive data prices. They could also charge extra for VoIP services like Skype, which would make it difficult for callers even in rural areas to make affordable calls when they need it most. Net neutrality also guarantees internet speed consistency which may not be possible if telecom companies start charging differently based on content or time of day.

3. Research Method

1. The study focused to find out whether Net Neutrality ensures consistent internet speed across all the Indian telecom operators. It was also done to check whether normal internet users have felt that 4G data services have become unaffordable. The third major objective of the research was to examine the impact of Net Neutrality on the overall internet browsing experience of Indians.

2. Total 210 Individuals were chosen for the purpose of the study, using convenience sampling (70 from each – Jio, Airtel and Vodaphone).

The researcher designed and validated a 10-point each questionnaire for assessing the impact of Net Neutrality on:

a. Internet speeds (4G) in Mbps– on mobile devices across different telecom service providers in the MMR (Jio, Airtel, Vodafone)
b. Affordability of 4G Data Services (poor to best)
c. Overall Browsing experience (website blocking, speed, time to load content, buffering issues etc. – poor to best)

3. Checked the questionnaire for validity using Cronbach's Alpha.

4. Seek responses on a 5-point Likert Scale to gauge the quality and affordability of 4g services (From "poor" to "best") (1-Poor, 2. Bad, 3. Average, 4. Good, 5. Best),

5. Conducted the survey

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6. Summarized the responses, and analysed the results

Hypothesis

H1: After net neutrality was implemented, internet speed across different Indian telecom operators was consistent.

H2: Net Neutrality has resulted in a good internet browsing experience.

H3: The affordability of 4g services holds good, even after the introduction of Net Neutrality.

Scheme for testing the hypothesis:

a. Responses were collected under 3 sections:
    a. Internet speeds (4G) in Mbps– on mobile devices across different telecom service providers in the MMR (Jio, Airtel, Vodafone)
    b. Quality of overall internet browsing experience of Indians
    c. Affordability of 4G data Services.
b. The Likert responses were considered for calculating the mean values and a One sample T Test was used to compare the actual mean with the hypothesized mean.
c. Since the researcher has used non-parametric data for a parametric test (One Sample T test), a more stringent alpha level of 0.01 was chosen (Murray, 2013).
d. In order to check the internal validity of the questionnaires, Cronbach alpha values were calculated.

4. Results

Table 1. Reliability Statistics

Cronbach's Alpha	N of Items
.891	25

The above table shows that the Cronbach's Alpha is above 0.7, which indicates that there is a good deal of internal consistency in the Questionnaire.

Table 2. Questionnaire Analysis

Particulars	Service provider				Std. Dev
	Airtel	Jio	Vodaphone	Grand Average	
Number of Respondents	70.00	70.00	70.00	70.00	0.00

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Mean Age (Years)	24.3	25.40	28.10	26.75	1.91
Average Income per yr. in lakhs	3.90	3.40	3.84	3.71	0.27
Speed in Mbps					
Average	3.72	4.12	3.68	3.84	0.24
Maximum	19.20	12.30	14.10	15.20	3.58
Minimum	1.02	1.23	1.68	1.31	0.34
Browsing Experience	4.12	4.12	4.10	4.11	0.01
(1 for poor, 5 for Best)					
Affordability	4.23	4.10	3.94	4.09	0.15
(1 for poor, 5 for Best)					

The above table shows that average age of the respondents was 26.75 years, and the standard deviation was 1.91 years. This shows that the study has considered the sample of the people who are expected to be most active on the internet regarding the use of online shopping, media consumption and social media networking.

The table also shows that the Standard deviation among minimum and average speeds are very negligible. This exhibits consistency across various service providers in performance as far as speed in concerned. However, maximum speeds vary. One must note that there are several factors that finally contribute to the sped that is enjoyed by the subscriber (such as processing power of the mobile device, the line of sight of the 4g tower etc).

The data more or less supports the null hypothesis that "After net neutrality was implemented, internet speed across different Indian telecom operators was consistent."

Table 3. One sample T test results for Affordability and Overall Browsing Experience

One-Sample Test						
	Test Value = 4					
	t	df	Sig. (2-tailed)	Mean Difference	95% CI of the Difference	
					Lower	Upper
Affordability	1.243	209	0.215	0.09333	-0.0544	0.2410

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Overall Experience	Browsing	1.512	209	0.132	0.11333	-0.0342	0.2609

The above table shows that the assumed mean and actual mean are not different ($p>0.05$). The test value was 4 (as 4 is for Good). The mean difference is negligible. Therefore, we can conclude that

- Net Neutrality has resulted in a good internet browsing experience.
- The affordability of 4g services holds good, even after the introduction of Net Neutrality.

5. CONCLUSION

The concept of net neutrality was introduced as a counterargument to internet fast lanes. The companies that came up with the idea of fast lanes proposed that telecom operators could consider legal agreements with specific content providers and charge premium rates for providing better speed and data plans. This would allow ISPs like Airtel and Vodafone to make extra cash on the back of content providers like Netflix and Amazon Prime. One major concern with this concept is that it violates the principle that all internet traffic is treated equally based on its content. However, the results of the study suggest that net neutrality in general has had no negative impact on the affordability, speed and quality of the browsing experiences.

Net neutrality ensures that each consumer has equal access to information on the internet. This was especially important during the transition of Broadcast Television to Digital TV. Broadcasters face greater challenges when trying to deliver content on a new platform. The first and most important argument against the repeal of net neutrality is the impact it may have on the underprivileged who cannot access modern technology. India's internet penetration rate is around 33% as of 2016. They are those who still don't have a phone and those who live in remote areas without broadband access.

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