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Revolution in Data Market: A Study on Data Consumption in India

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ABSTRACT: India has been a developing country; in the process of development India has seen massive revolution in information technology. As information technology industry is growing in a fast phase that has enabled the people to use smartphones and computers extensively which has resulted in excessive consumption of data. Smart phones are not just phones now they have become an integral part of our life, as a result of which the data consumption has also seen an immense growth. In this article we will be discussing on how smart phones have replaced many elements and also how extensively data is being consumed in the name of entertainment, though India is in developing stage which has a lot of disparities in rural and urban region, but in urban and semi urban and also in rural some portion of society, terrain there is a community which is using the data enormously. Data consumption has grown a massive growth specially in the period of covid. The covid lock down has also contributed to the OTT platforms like amazon prime, Netflix, voot, zee5 etc are demanded by the middle income and high income group people. We will be comparing the average amount spent on data purchase and average amount of data consumed per head. In this article we have attempted to understand at what rate data is being consumed, what is the average amount of money spend on data per head.

KEY WORDS: Data, Data consumption, Data market, Internet.

INTRODUCTION

We are a population of roughly of **1,375,245,994 Cr**, per capita income is Rs 145,679, total number of schools 14,94,052, total number of hospitals 43,486 private hospitals 25,778 public hospitals, total number of two wheelers **221,270.000,** In the 2021 Global Hunger Index India ranks **101st** out of the 116 countries with sufficient data to calculate 2021 GHI scores. With a score of **27.5**, India has a level of hunger that is serious**.** As per the Women and child development ministry 33 lakh children are malnourished. Despite all these national issues to be addressed 1,515,971,713 cell phones are being used currently in India. That means the ratio of cellphones against population will be roughly 1.10. In simple words each citizen has 1.10 cell phones in India. The number indicates the extensive usage of cell phones in India. If you go back 15-20 years we can remember how was our social life without cell phones, we relied only on letter and telegrams and gradually landline phones for communication, specially landline was only for the high class and higher middle class, and we relied on TV and newspaper for news, calculators for calculations, calendars to refer the important dates and we also maintained a book for phone numbers. But after introduction of mobile phones and gradual developments in telecommunication network technologies it offered a lot of comforts.

In this article we will be focusing on how cell phones have created a platform to sell digital content effectively and at what rate are we consuming the digital content? And the data and how mobile phone has replaced many elements of our lives and how data consumption has increased drastically in the recent 5-10 years. The first phone call prices for both outgoing and incoming calls were Rs 8.4 per minute, with the cost rising to Rs 16.8 per minute during high mobile phone traffic hours. Even after projecting that their services would reach at least 10 lakh people in the near future, the Modi-Telstra JV network operator, which later became Spice, spent a fortune simply building the network after it debuted in 1995.

India's telecommunications sector has advanced tremendously since 1995. In India, there are approximately 450 million users of 'feature phones,' which are non-internet-enabled mobile phones, and over 400 million users of' smartphones,' which are sleek sheets of glass that put the world at your fingertips.

Our telecommunications prices are a fraction of what they were a decade ago: calling is free, and data costs less than Rs 4 per gigabyte. India has the highest mobile data consumption rate in the world, with 12 gigabytes (GB) per user per month, and the

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country is adding as many as 25 million new smartphone users every quarter, making it a fertile ground for launching digital initiatives and realizing Prime Minister Narendra Modi's ambitious Digital India vision.

According to Nokia's annual "Mobile Broadband Index (MBiT) Report 2022," India saw the fastest growth in mobile broadband data in 2021, with 4G mobile data up 31% and average monthly data traffic per user up 26.6 percent year on year. According to the study, more than 40 million subscribers will be added or upgraded to 4G services by 2021. "4G technology has considerably improved India's mobile broadband ecosystem."

The next 5G spectrum auction, as well as the commercial launch of services later this year, will help India close the digital divide, according to Nokia's Sanjay Malik, SVP and Head of India Market. According to the report, Indian Gen Z spends an average of 8 hours a day online, with 90% preferring to consume content in their own language. With a compound annual growth rate (CAGR) of 53 percent over the last five years, India has one of the highest data usage rates in the world. (Source-news18 report)

If we observe the above report published by news18 we can understand the rate at which gadget obsession Indians have developed over a period of time. The addiction on social media sites like facebook, watsapp, instagram which has come to main stream now, and OTT platforms are playing a major role in the urban and semi urban places in data sale. OTT platforms have gained an immense popularity in the recent past due to covid-19, this was a result of lockdown which government had imposed in two rounds. Specially educated, urban population which was forced to stay home for 2 months in the covid time has forced these people to rely on the OTT platforms for their entertainment. Though the OTT platforms had a considerable market even before covid lockdown but it gained a phenomenal popularity at time of covid lockdown time, it was even found that a portion of people who were not into laptops and smartphones to watch movies, they also started to

There is a neck throat competition in telecom service providers like Airtel, Vodafone, reliance, BSNL. In order to survive these companies design data packs according to the needs of consumers and also to sustain the competition they offer various plans to consumers at competitive price. One of the popular telecom service provider Airtel offers in the range of 200MB to 2.5GB per day. Telecom giant Relaince revolutionized the data pack market by offereing the cheapest data to the consumers to cannibalize the market at 1.5 GB per day at lowest price, this enabled the competitors to reduce their pricing to sustain in the market. But Reliance has always had a competitive edge over others by being first mover in the market.

Hotstar. Hotstar (now Disney+ Hotstar) is India's most subscribed–to OTT platform, As of July 2020, there were about 300 million active users and over 350 million downloads. Star India is the company that owns it. Amazon Prime has 200 billion members worldwide, including 148.6 million in the United States. From 99.7 million in 2017, the number has increased by 49.05 percent. 74 percent of Amazon Prime subscribers are from the United States. According to eMarketer, by 2022, there will be 157.4 million Amazon Prime customers in the United States. (source- emarketer). SonyLiv has 45 million monthly active users (MAUs), while Zee5 has 72.6 million. According to Ormax Media, India's OTT user base is 353.2 million individuals, with 96 million paying subscribers. A close competitor Netflix with a market capitalization of $85.03 Billion also has a tremendous impact on data market. Netflix is ranked third in India, according to a recent report by a research agency, with roughly 5.5 million customers, With 46 million and 22 million subscribers, respectively, Disney + Hotstar and Amazon Prime Video are well ahead. And Netflix is one of the major players in OTT platforms. ZEE5 had 6.1 million daily active users as of March 2021. The above data is evident at what rate data is being consumed in India.

SCOPE OF THE STUDY

The study is conducted in Bangalore city and most of the data collected is from private employees, college students and It employees, Govt employees. And the sample size is 104. And the data has been collected randomly through a questionnaire which was sent through the Google form. The objective of selection of target population being the educated population and their awareness on usage of smart phones, growing popularity of OTT platforms like Netflix, amazon prime, voot, Zee five, sony live , Dizney hotstar, and obsession on the social media sites like Watsapp, instagram, youtube. And this is an era of apps, which has enabled public an addiction. The obsession on social media is not only in student community but it has encroached even to the mid age educated working and non-working population. According to a new estimate, India's mobile broadband customers have increased from 345 million to 765 million in the last five years, with average monthly mobile data consumption reaching 17GB per user.

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REVIEW OF LITERATURE

1) **Sandeep Grover, Kaustav Chakraborty, and Debasish Basu** in the article :Pattern of Internet use among professionals in India: A critical examination of a startling poll result
The Internet has a variety of effects on users' lives. The wide variation in prevalence estimates of Internet addiction depending on the sort of criteria utilised demonstrates the construct's brittleness.While revising the nosological system to distinguish users from those who are dependent, caution should be exercised.
2) **P. Murugiah** in Internet Usage in India: The Global Analytics: Only educational and research communities were given access to the ERNET network. The Department of Electronics (DoE) in New Delhi launched ERNET with funding from the Government of India and the United Nations Development Program (UNDP), involving eight premier institutions as participating agencies: NCST Bombay; Indian Institute of Science; five Indian Institutes of Technology in Delhi, Mumbai, Kanpur, Kharagpur, and Chennai; and the Department of Electronics in New Delhi. According to estimates, India's internet users will number between 450 and 465 million by 2017. In India, close to 51 percent of urban internet users, or 137.19 million people, utilise the internet on a daily basis (at least once a day). On the other hand, 242 million people, or 90% of urban internet users, access the internet at least once a month. The 'everyday users' are found in both urban and rural India, according to the analysis.
3) **Dr. Arjun Waykar (2016)** A Study Of Mobile Internet Users In India : Wireless Internet connectivity via a portable modem, mobile phone, USB wireless modem, tablet, or other mobile devices is referred to as mobile broadband. The mobile Web refers to the use of browser-based Internet services via a mobile or other wireless network from handheld mobile devices such as smartphones or feature phones.Fixed-line services on laptops and desktop computers have traditionally provided access to the World Wide Web. You can now utilise a Wi-Fi or 3G connection to access the internet on your mobile phone. Mobile devices are vulnerable to a variety of threats that take advantage of the numerous flaws that are widespread in such devices. These flaws can be caused by a lack of technical safeguards, but they can also be caused by consumers' bad security habits. As the number of internet users grows in India, the rate of cybercrime has risen steadily over the last 8-10 years. For safe and secure mobile internet use, several security steps are recommended. Passwords must be updated on a regular basis, software must be downloaded from reputable websites, and excellent antivirus must be installed, to name a few vital security steps.
4) **Agarwal, A., & Dhir, A. (2019).** Understanding internet usage patterns in India: A review of literature. Computers in Human Behavior, 101, 441-453. This comprehensive review analyzes internet usage trends in India, covering factors such as demographics, socio-economic status, and technological advancements. It provides valuable insights into the evolving digital landscape and its implications for various sectors.
5) **Gupta, S., & Sharma, S. (2020).** Internet penetration in India: A critical review. Journal of Social and Economic Development, 22(1), 112-126. Examining the factors influencing internet penetration in India, this review assesses government initiatives, infrastructure development, and socio-cultural aspects. It highlights challenges hindering widespread access and suggests strategies for enhancing connectivity.
6) **Kumar, A., & Mittal, S. (2018).** Internet usage among Indian youth: A literature review. International Journal of Information Management, 42, 124-136. Focusing on the youth demographic, this review explores internet usage patterns, preferences, and behaviors. It discusses the impact of digital technologies on education, socialization, and employment opportunities among Indian youth.
7) **Pandey, S., & Singh, S. (2017).** Mobile internet adoption in rural India: A systematic literature review. Telematics and Informatics, 34(4), 114-125. This systematic review examines the adoption of mobile internet services in rural India, emphasizing factors such as affordability, accessibility, and digital literacy. It identifies barriers to adoption and suggests interventions for bridging the urban-rural digital divide.
8) **Reddy, P. N., & Prasad, S. (2021).** Internet usage and its impact on socio-economic development in India: A systematic review. International Journal of Community Well-Being, 4(2), 289-305. Evaluating the relationship between internet usage and socio-economic development, this systematic review synthesizes evidence on access, usage patterns, and outcomes. It discusses implications for policy-making and future research directions.

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RESEARCH GAP

The literature reviews on internet usage in India highlight several key research gaps. Firstly, there's a need for standardized criteria to classify internet addiction, as prevalence rates vary widely. Additionally, while urban internet usage is well-documented, there's limited understanding of rural internet patterns, hindering efforts to bridge the digital divide. Furthermore, there's a lack of research on effective security measures for mobile internet users amidst rising cybercrime rates. Longitudinal studies tracking internet trends over time are scarce, hindering the ability to assess evolving patterns. Addressing these gaps through focused research efforts could provide insights crucial for informed policy-making and interventions aimed at promoting digital inclusion and socio-economic development in India.

STATEMENT OF THE PROBLEM

Just like we the humans have the need for food, water, shelter, clothing, etc the new need has emerged that is Data. The prevalent study revolves around the lack of comprehensive understanding regarding data consumption in India. Firstly, there is a need to grasp the overall rate of data consumption to inform policymaking and infrastructure development effectively. Secondly, assessing data consumption per capita is essential for gauging individual engagement with digital services and its implications for access and socio-economic development. Finally, there's a critical gap in understanding the average expenditure on data usage, which is vital for ensuring equitable access and affordability of digital services. Addressing these gaps is crucial for fostering inclusive digital growth and development in India.

OBJECTIVES

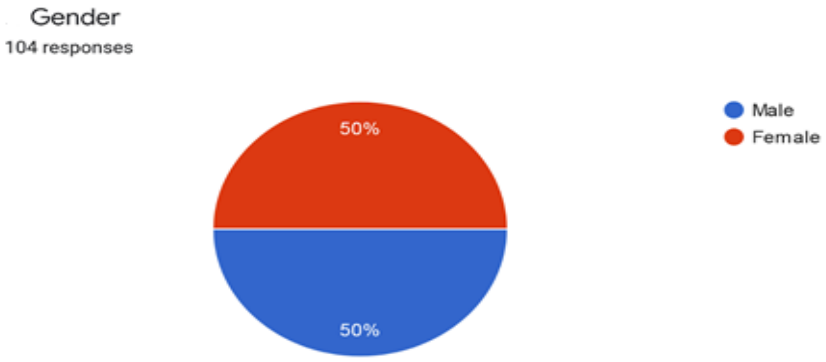
1) To understand the rate of Data consumption in India
2) To assess the data consumption per head
3) To understand the average money spent on data usage.

RESEARCH DESIGN

This study explores data consumption patterns in India, investigating a potential revolution in the data market. We will employ a mixed-methods approach. Quantitative surveys will assess demographics, data access methods, and consumption habits. Qualitative interviews with consumers and industry experts will delve deeper into user attitudes, motivations, and perceived changes in the data landscape. This multi-faceted approach will provide a comprehensive understanding of data consumption trends in India. A questionnaire of 15 questions was circulated to different age groups through google form. The sample size is 100 with different age group to include the different pattern in usage.

DATA ANALYSIS

Total number of samples collected was 104, of which 50% was male respondents and 50% was female.



The data was collected through a questionnaire which was sent through Google form. We could collect the data from 104. Out of 104 50% was male and rest was female.

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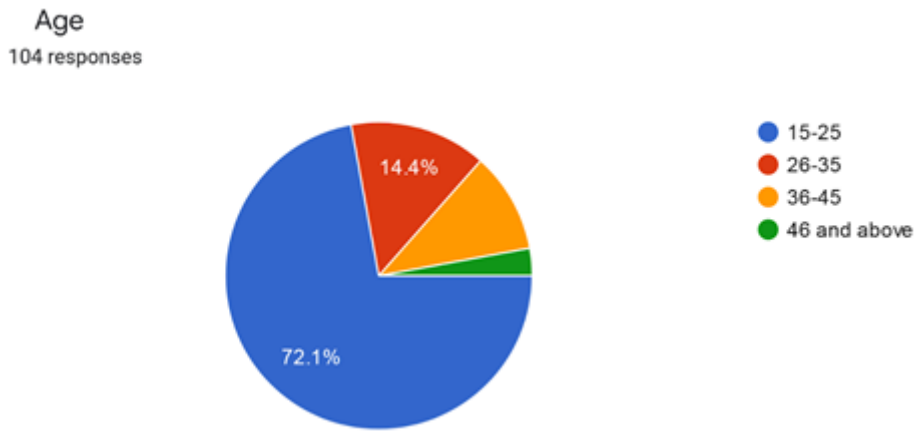
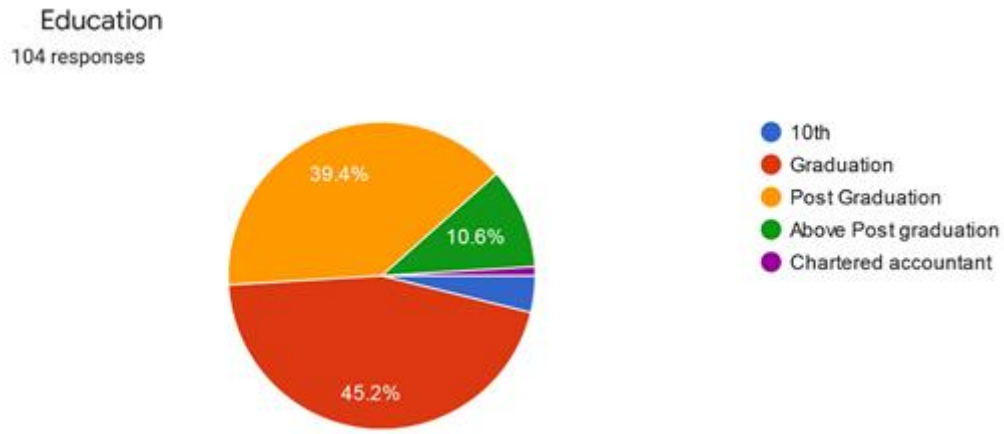
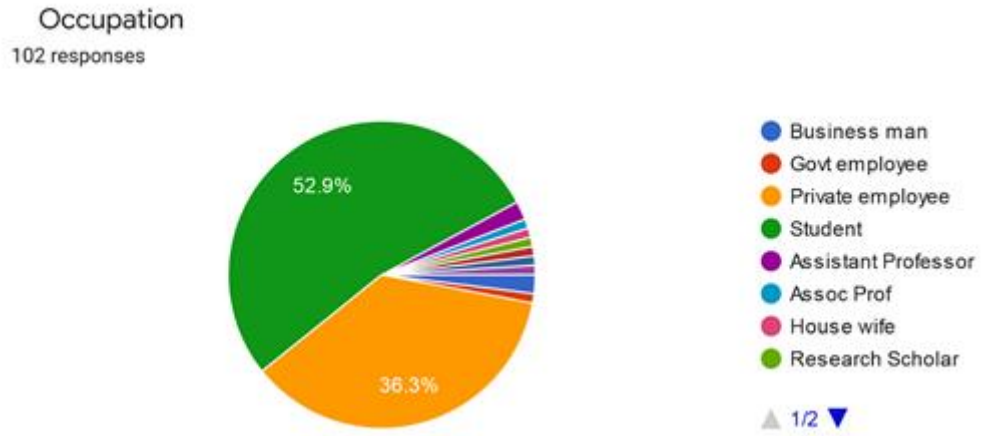
1. The age group of the respondents was divided in to 15-25, 26-35, 36-45, and 46 and above. Majority of respondents i.e 72% were in the age group of 15-25, 26-35 were 14.4%, 36-45 were 10.6%, 46 above are 2.9%. we can observe



2. The following chart shows that 45% are graduates, and nearly 40% are post graduates. Through this chat We can understand that educated community is the target respondents**.**



3. The following chart shows that 53% are students, 36% are private employees, rest of the percentage is shared by govt employees, housewives, research scholars, etc.



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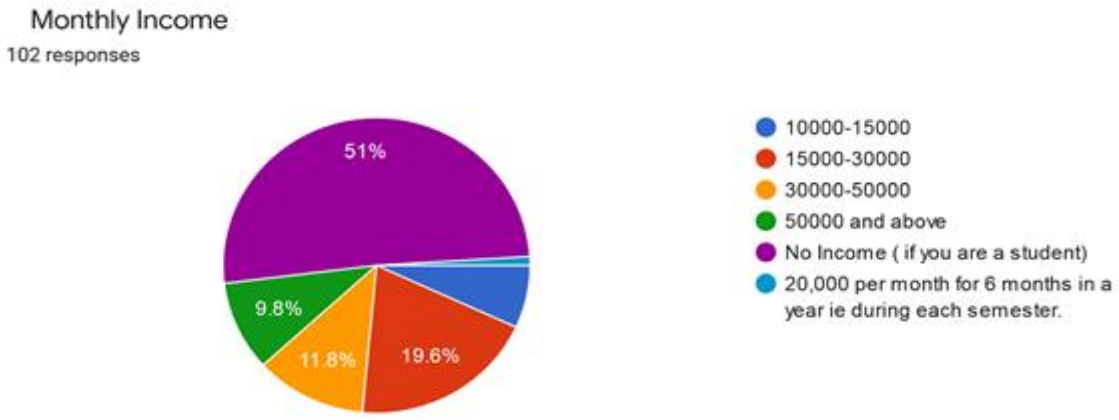
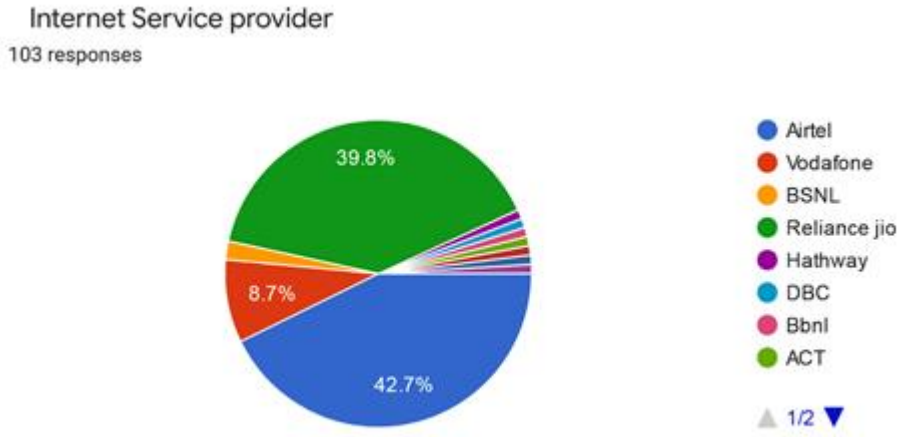
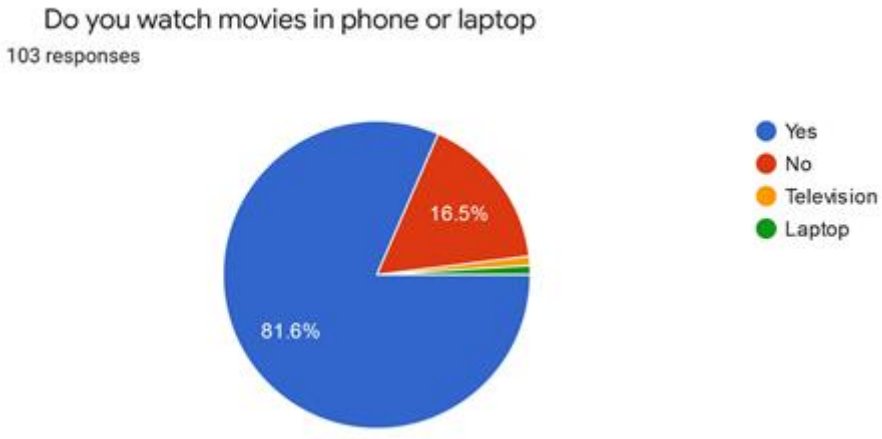
4. According to the following chart out of 102, 51% of respondents monthly income ranges between 10000-15000, 19% of population has monthly income is 15000 to 30000, 30000-50000 is occupied by almost 10%,



5. The following picture indicates that amongst internet service providers Airtel 42.7%, and almost 40% Reliance, these two organizations have lion share in data selling. Followed by Vodafone , BSNL, etc.



6. The following picture states that nearly 82% of respondents have the habit of watching films or videos in their laptop or mobile phones.



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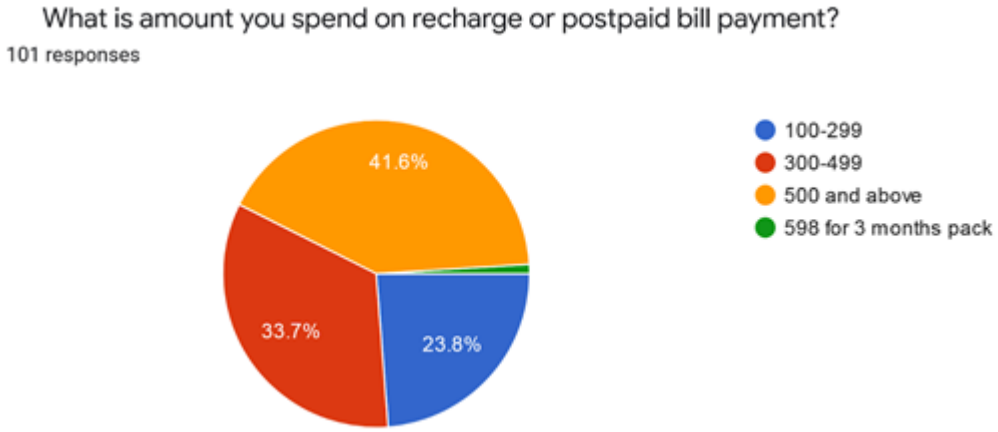
7. The money spent on data ranges between 100 to 600 and if we consider the median we can take average of 300 Rs per month, but the majority of the respondents i.e 41.6% are spending 500 and above. 33% of respondents are spending 300 to 499, and almost 24% of respondents are spending 100 to 299. This indicates that a considerable portion of their income is being invested to purchase the data. We can also assess that every individual is spending a certain portion of their income to purchase the data like any other daily requirements like fuel, travel, etc.



8. In this chart we have tried to understand the time spent on their electronic gadgets, the responses are ranging from 30 minutes to more than 4 hours a day. Whopping 33% of the respondents are spending 2 hours a day, 15.5% are spending 3 hours a day, and 21% are spending 1 hours of their time. There are 14.6% of the respondents who say that they just use their phones whenever they are free which indicates that it is like they are just occupied at any time which may even be higher than 4 hours.

Watching a youtube video for 1 hour in a normal quality will take 260MB where as if you watch it in full HD it will take 1.6GB per hour. If we go by the same consumption pattern the person who spends more than 4 hours will be spending approximately 1040 MB in a normal quality. We can also say that on an average if he is spending 2 hours in a day that amounts to 60 hours in a month per head. 60 hours and that will result in 99GB per month per head. And the internet service providers are charging somewhere around 6-7 Rs per GB that means Rs594 will be the average amount spent on purchase of data.

9. In this last chart we are analyzing how many films they watch in a month. 30% of respondents said they watch 1 film in a month, 25.5% said they two films, 9.2% are watching 3 films, 11.2% watch four films in a month and whopping 23% of the respondents are watching more than 4 films in a month. If we take the median it may be around 2.5 films in a month.

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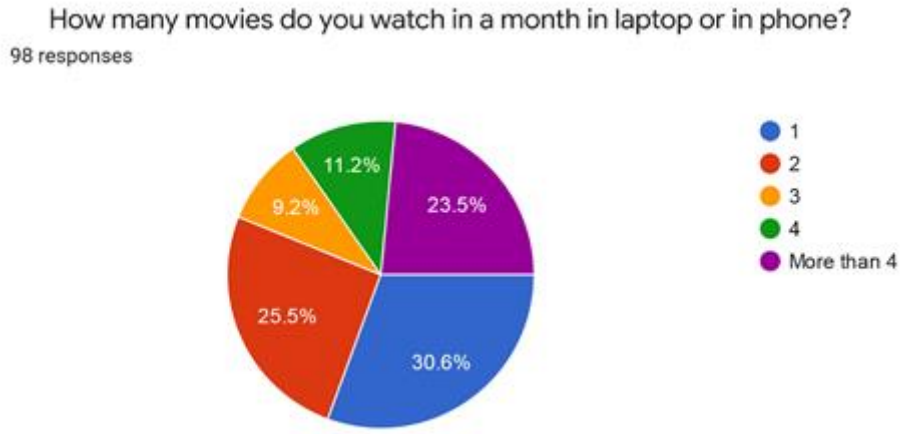
That means for a films it consumes 1.65GB and for 2.5 films 4.12 GB is spent every month only on watching films excluding the daily videos.



From the above tables and interpretation we can say that there is a considerable amount of money, and time is being invested data. The data has become a daily need like any other basic needs to consumers.

SUGGESTIONS

1) Data consumption pattern has to be regularly monitored so that we can trace on how money is being spent on data, so that consumer buying behavior can be assessed.
2) The OTT platforms like Amazon prime, Netflix, Voot, etc. have been able to reap the advantage of obsession on internet, which has enabled the companies to advertise their products on OTT platforms.

CONCLUSION

On an average of 2.5 hours per day of time is being spent on internet in watching videos on the Watsapp, Instagram, youtube , or Netflix, amazon prime, Voot, Zeefive, Sony liv. It shows that it is an obsession in the data market but at the same time it a lucrative market to sell data. Every day the consumer is spending Rs 17.5 and Rs 525 every month on watching videos, which may vary from person to person. These internet service providers have also fetched a considerable amount of profit due to data market. Because of neck throat competition they offer the consumers at a competitive price, and it has also enhanced the amount of data consumed by the people.

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