

Impact of Internet Use during COVID LockdownRabi Narayan Subudhi*¹ and Debajani Palai²¹*School of Management, KIIT University Bhubaneswar, India.*²*Lecturer in Institute of Management and Information Technology, Cuttack, Odisha, India.***ARTICLE INFO***Article history***RECEIVED:** 26-Jun-20**REVISED:** 25-Sep-20**ACCEPTED:** 29-Sep-20**PUBLISHED:** 15-Oct-20***Corresponding Author**

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E-mail: rabisubudhi@gmail.com**Co-Author(s)**Author 2: debajani.palai@gmail.com**ABSTRACT**

The Internet is an immensely useful network, which allows people to communicate information and share their feelings. It is playing a very vital role, particularly during the Corona Virus Infected Disease (COVID-19) pandemic, as the entire world runs with the help of this digital device. It enables the people of every country to operate within the four walls. Rooms are converted into classrooms, offices, meeting halls and others with the help of the internet. The COVID-19 has shattered the economic backbone of almost all the nations of the world. Thousands of people have already died and millions have suffered, immensely. Even in developed countries like, USA, UK, France, Italy, a large number of human lives have become prey to this virus. As a preventive measure, the Governments have declared frequent lockdown and shutdowns. As a result, the economic activities like, consumption, production, exchange and distribution of goods and services are hampered severely, which have made the economy slow down.

During this lockdown period, the internet acts as a blessing, as it connects everyone with the entire world by maintaining social distance and staying at home. With the help of Internet Communication Tools, people easily connect with each other and the rest of the world which encourage smooth operation of both personal and professional activities. Work from home, flexible scheduling of working hours, etc. progress the flow of tasks and responsibilities. Online meetings through video-conferencing, tele-conferencing and online chat etc. pave the way to run offices, institutions and other business concerns. At the same time, the internet helps people to come closer to those who are away from their homes, families, relatives and friends by maintaining social distance with digital closeness.

Present paper studies the degree, importance and impacts of consumption of the internet during COVID period.

Keywords: COVID-19, Lockdown, Economic crises, Emotional stability, Social wellbeing.

Introduction

The recently identified new Coronavirus is called as Severe Acute Respiratory Syndrome Coronavirus-2 (SARS-COV-2), and COVID-19. According to the doctors the COVID-19 can be compared with common cold and

pneumonia which affects the respiratory tracts and gut of birds, mammals and human beings. Its outbreak in Wuhan of Hubei state in China came to the notice of the World Health Organization (WHO) on 1st December 2019 and it was declared as a Global Public Health emergency on 30th January, 2020. This virus has already spread to

over 200 countries in the world and was recognized as “Global Pandemic” by WHO on 11th March, 2020. By 12th July, 2020 there were affected cases of 12,552,765 and death cases were 561,617 globally.² In India the death of people due to Coronavirus was 1,886 and the active positive were 37,916 and 16,539 patients were recovered as on 8th May, 2020. But by the end of August, 2020, it steadily increased to over 50,000 deaths and over 4 million positive cases. As the disease continued to spread all over the country, the Government of India declared a lockdown first on 25th March, 2020 for 21 days. Then, the Government extended the 2nd phase lockdown from 15th April, 2020 to 3rd May, 2020, the 3rd phase from 4th May, 2020 to 17th May, 2020 and the 4th from 18th May, 2020 to 31st May, 2020. This lockdown was declared to put restrictions on unnecessary movement of people outside their houses and not to congregate in worship places and cultural organizations etc. It was further extended again during June and July, after which unlock process started gradually. During the phases of lockdown and maintenance of social distance, internet has played immense role in the operation of different sectors like, IT, banking, insurance, educational institutions and many other organizations. The online services have made the day-to-day life easy and smooth during Global Pandemic.

Literature Review

According to Srivastava (2020), internet has played very crucial role during COVID period when the Government announced different phases of lockdown and people had to stay at home to maintain social isolation. Internet has moved forward the day-to-day lives of people in the sphere of IT, education and research, health, banking transactions, insurance, entertainment, shopping and other activities. Christenson (2020), has made study on how COVID-19 forced people to shift their habits towards online transactions which make the life normal. There are major changes in the consumption pattern of people as they prefer to online shopping and online spending with the help of internet. The e-commerce, online streaming and behaviour of social media heavily influence both industries and consumers. Madhukalya (2020), has studied on the increasing of online consumption during the Covid-19. It has increased to 13% from 9% in daily average consumption as people are locked in their homes and carried out both personal and official transactions by using social media. Udas (2020), states about the social distancing and the role of the internet which connects people and make them close to one another. Any form of outdoor is prohibited by the Government through lockdown

to be protected from Coronavirus. So, people have spent more time on social media through different platforms like: Facebook, Netflix, Hotstar and Prime to share feelings and avoid the feelings of loneliness. The author also differentiates the physical world from the digital world which sometimes become the source of misinformation. According to Sengupta (2020), if the lockdown exists for more period then the people will be more acquainted with digital media. Remote education, work-from-home and entertainment are being transitioned to home with broadband connection or through mobile connection. The author also suggests better infrastructure which enables people for smooth operation of online activities. BIK team (2020), has stated about the better internet for kids, children and young people which empowers them. The safer internet assists the adolescents to be creative and innovative. When they are playing games, communicating with online friends, gaining and sharing information and knowledge etc. they should be protected from hackers and bullies. According to Obisakin (2020), the internet is the only source of transmission of information during Covid-19, pandemic. It makes interactions smooth and communications active without which the people feel lonely and stressful. During the lockdown and social distancing people are forced to maintain social isolation and stop the outdoor activities. The Internet has played a very vital role as it helps to public and private sectors, households, women, urban-rural and remote populations to run their activities by maintaining social distance. Choudhary (2020), has made study on impact of Covid-19 on educational sectors in India. The pandemic has disrupted the higher education sector as the universities and schools also have closed and 285 million young learners are affected. During this period internet acts as a blessing and e-learning comes as a definite solution to make the education system on. Both students and teachers are connected with each other and share knowledge from their own destinations. Luech (2020), has suggested that the internet is the source of work-from-home and people should be adaptive with this digital technology. Even they can operate it whenever and wherever it is needed. People can be easily connected and production and distribution of goods and services will be transparent with the help of the internet. According to the news published on 2nd May, 2020 by HT Correspondent, Hindustan Times, New Delhi internet plays a very vital role to connect the devotees with their religious places and to perform the holy rituals. They can participate in religious rituals by connecting online. The pilgrims and tourists also prefer digital worship who have started their journey for Char Dham Yatra. The “Golden Temple” in Punjab, “Baba Balak Nath Temple” in Himachal, and other temples in India are now using digital worship strategy for their devotees.

Internet Consumption during COVID-19

The novel Coronavirus popularly known as COVID-19, is an infectious disease which spread all over the world. To fight with this many state Governments announced to maintain “social distancing” and “staying at home” (Király et al., 2020). COVID-19 pandemic has changed the way of living pattern of people. Due to Lockdown, most of the people are more dependent on the internet because many people are working from home, students are attending online classes regularly, and teachers are taking virtual classes. The people also use Netflix, amazon prime videos and any other apps or websites for entertaining purpose. Many people turn to telemedicine and use more communication tools to communicate with others. This shows a significant increase of internet Data during this COVID-19 outbreak (Cohen, 2020). According to the Telecommunication Department, India consumes the internet data on an average of 307,963 TB (Terabyte) or 308 PB (Tera Byte) of data on a daily basis of the first week, or beginning of the lockdown period (Madhukalya, 2020). According to Openvult’s Broadband Insight Report showed the first quarter of the 2020, the average broadband consumption increased to 402.5GB from the 273.5GB during the last year 2019 that’s around 47 percent. Due to lockdown the broadband usage increased to 233.6GB in the first quarter of 2020 from 190.7GB in the last quarter of 2019. Telecommunication department report also shows that the highest data 22.2 crore GB is consumed by the Jio users followed by Airtel 2.14 crore GB, whereas the Vodafone subscribers are used 1.60 Crore GB and BSNL users are exhausted with 63lakh GB. Speed test, a web page which that investigates the internet access performance over the globe, its latest report tracking Impact of COVID-19 on speed around the world which was updated in April 15, demonstrated a 4 percent increase in fixed line speed and 8 percent in portable device’s speed when we contrasted with the seven days stretch of March 2. According to this report, India’s present data consumption speed is normal of 36.17 Mbps and portable device speed is 9.67 Mbps (Ookla, 2020). According to Open vault report (Q12020), average consumption jumps to the 402.5 GB at the end of the 1st quarter of 2020, which has increased of 47% from the 1st quarter of 2019, the average data was 273.5GB and 17 percent rise over the 344.0 GB in 4thQ2019. The rate of increase in median growth has also accelerated to 122 in the first quarter 2020. According to COAI (Cellular operators association of India), the average rate of data consumption on a quarterly basis was 6900 Petabyte (PB) in the year 2019. But this pandemic drastically changed the consumption pattern of the internet, said Director General Rajan S Mathews from COAI. It was estimated

that there is a hike around 20% after covid-19 outbreak in monthly data consumption, which is around 8980 petabyte (PB). Excitel claims that 3 lakh customers from India recorded an average data consumption of 15.56 GB per day. With this additional data the average data usage per month was 400 GB in the month of March 2020. According to Excitel Broadband, the average data consumption for the 3rd week in the month of March was 16.8GB per day. But it increased in the month of April to 17.6GB per day during this outbreak.

Internet Service providers (ISP) in India during this COVID-19 Lockdown

During this pandemic, almost all the ISPs in India are trying their best possible way to provide unlimited internet service to their customers and companies. It is also challenging for those as there is heavy competition. In India, ISP (Internet Service Provider) provides broadband speed which is growing during this time. According to the Testmy.Net demonstrated that ACT (Atria Convergence Technologies) provides the highest download and upload speed as compared to other networks. The following table shows the speed of download and upload file by different networks:

Company	Download Speed (In Mbps)	Upload Speed (In Mbps)
ACT	40	36
Tata sky broadband	34	35
Airtel	25	13
Excitel	18	29
Tikona	18	3
Hathway	17	12
You Broadband	17	6
MTNL	10	5
JIO	9	3
Bsnl	8	5
Vodafone	5	4

Source: <https://inc42.com/features/as-coronavirus-quarantines-test-networks-isps-keep-india-online-24x7/> (Naik, 2020)

Data Consumption by Different applications during this Outbreak

People are stuck at home during this outbreak situation, movie theatres are closed, no restaurant to dine in, offices and other business concerns are closed. So many people are engaged with work-from-home, various entertainment apps, food apps, shopping apps from their correspondent place respectively. These habits

significantly increase the consumption pattern of internet use (Koeze, & Popper, 2020). With this respective, Infinera is a telecommunications network, who has an instructive infographic that clarifies about the online propensities that have expanded our aggregate information use. According to its observations, 50,000 years' worth of media was gushed in only one day, on 4th April, 2020. There is also expansion of spilling administrations Netflix and Peloton users rose 22 percent and 66 percent, individually, year over year. Disney+ is likewise four years in front of its client projections, with 54 million paid supporters as of now. Use of social media also has risen continuously during this pandemic, leading a 27 percent expansion in Facebook traffic and a 26 percent growth in quarterly meetings on LinkedIn. TikTok has seen a 25 percent rise in monthly downloads, and informing applications, for example, WhatsApp are handling twice the same number of video and voice calls. Social video applications have additionally observed a flood in fame, with Bunch getting 1 million downloads in only seven days and House-party seeing a 70 percent expansion in month to month information exchanges. According to Sensor Tower Report, for the first time the data consumption has increased because of the installation of 250 mobile apps from the Google play store or app store. As per the report, 596 million gigabyte or 596 Petabyte of data is used for nearly 56 million hours for 4k streaming content during this COVID-19 lockdown. This report also states that there were 33.6 billion new apps installed from the play store and app store during the 1Q 2020. According to TechCrunch report, during this Covid-19 outbreak, Whats app has increased 40% its usages whereas Facebook usages has increased 37% (Parez, 2020). Kantar, organised a global survey to understand the customer's attitude and social media use and expectations during this outbreak. This survey was conducted by 25,000 consumers across the 30 markets during the 14th-24th in the month of March. Survey result shows that Whats app use has been increased 40% from the earlier data consumption 27%. Because of heavy dependence on internet use and quick speed, gigabit internet subscribers expanded by 97%. This percentage was 1.9% from the starting year of 2019 and it was increased 2.8% by the end of the year 2019. It was increased 3.75% at the 1Q of 2020. According to Digital Information World. In business application Microsoft Team has established a precedent of 2.7 billion total meeting minutes in a single day. Slack has been 80% hike in new paid customers in the 1Q 2020. In gaming applications, Nintendo has seen 41% a flood in the yearly benefits, while for social gaming applications, Bunch lives 1 million growth of users in a one week. There were 70% users sign-in social gaming applications like: Pubg, fortnite etc. Microsoft also has increased 775 percent in its

cloud service use for the work purpose, particularly, in the areas where lockdown and social distancing were strictly implemented. In the 1Q of 2020 Amazon Web service has 70% of growth in revenue generation. Digital Consumption during this COVID-19 outbreak has been seen as a beneficiary for the entire world. This Digital Media consumption provides opportunities to build a faster and more refined profile of users.

Different Categories of Users

The whole world is now totally dependent on the Internet. COVID-19 lockdown has forced every individual to complete their assigned work from home. But, In India there is a digital divide in terms of digital literacy which is the most vulnerable section of our society. According to Pew Research Centre, 57% use the internet from the 18-29 age group, whereas 35% people are from the 30-49 group and only 18% people are above the 50 age group. Survey results also show that lower educational people use less internet than educational people. Particularly in India, 69% of educated people use the internet whereas 23% uneducated people use the internet. This survey also resulted in 49% people using social media between the age group of 18-29, whereas 29% are from the 30-49 age group and 11% are from the above 50 age group (Schumacher, & Kent, 2020). During the COVID-19 many people use internet for entertainment, shopping and chatting etc. because of leisure time and free time. This Pandemic has forced the people to stay at home in past few weeks and it is very difficult for the kids, school going, young generation and senior citizens. The education of kids and adults is converted into e-learning where they are engaged for a little period of time and they are engaged in online playing, home makers use internet for shopping and gossiping, seniors for banking, health purpose and a large portion of young mass spend more time on entertainment purpose (Goyal, 2020).

Internet Consumption during COVID-19 in Odisha state of India

According to NSS (National Sample Survey organization of India), Odisha is at the lower position among all states regarding computers and the internet use. The report demonstrated that the household having a computer facility 6.4% less than the national average 10.7% and the household having internet facility 13.8% less than the national average of 23.8%. But During this COVID-19 Lockdown, the Odisha Government has provided service over online. If any Individual wants to travel for medical

reasons or for any important activities then he/she will take permission from the collector, DCP, Police commissioner. The Odisha is the first state to prepare a blueprint for the migrant workers and it has additionally reported new online rules for e-Passes while facilitating the travel limitations in Covid-19 green and orange zones. For applying, Odisha Government has two different websites to log in.

1. For COVID-19 ePasses in Odisha, people can visit <http://covid19.odisha.gov.in>
2. Migrant Workers can visit <https://covid19regd.odisha.gov.in/migrant-registration.aspx> for ePasses which is provided by the Government of Odisha.

Not only e-passing but also Odisha Government provides telemedicine to fight against coronavirus. Subsequently it has prepared seven exceptional COVID-19 emergency clinics in various districts of Odisha. The state Government has chosen to dispatch COVID-19 telemedicine helpline 14410 to give clinical help to individuals showing coronavirus symptoms. They can register themselves (www.bit.ly/IndiaTeleMed,) in this website. Due to this COVID-19 outbreak, AIIMS Hospital located in Bhubaneswar (Odisha) has launched to provide telemedicine to their patients. As per the report, patients can provide their signed prescription and e-prescriptions through WhatsApp to their respective service providers. Here we specially attached the contact numbers with their respective departments.

AIIMS BHUBANESWAR
TELEMEDICINE FACILITY FOR PATIENTS
 MONDAY TO SATURDAY (9 AM TO 1PM)

General medicine 8280346621	Paediatrics 8280346657	Orthopaedics 8280346648
General surgery 8280346626	Dermatology 8280346608	Pulmonary medicine 8280346663
Obstetrics & Gynaecology 8280346642	ENT 8280346613	Urology 8280346675
	Cardiology 8280346686	Psychiatry 8280346660

Patients may contact through
 Whatsapp voice call & Whatsapp video call

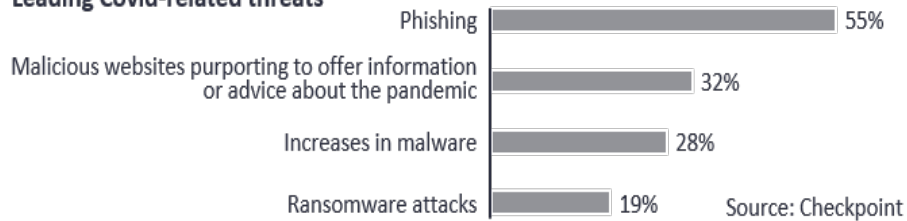
Source: <https://aiimsbhubaneswar.nic.in/covid.aspx20-07-2020>

Threats of Excess use of internet during COVID-19 Lockdown

COVID-19 lockdown and social distancing are the major precautions to reduce the spread of coronavirus. Hence, it promotes staying at home and self-isolation, but in some instances it is also forced to stay in quarantine.

The fearness of this corona virus and also the consequences of lockdown increases the stress, anxiety and mental illness which affect the individual, families and society as a whole (Ahorsu et. al., 2020). To avoid these problems, peoples are engaging themselves in Internet, which may give them some relaxation, but the excessive internet use may increase their psycho-active substance. Other fortifying practices like betting, video gaming, T.V series watching and enjoying their lives in different social media, watching pornography, continuously using internet or virtual life may decrease their pressure and uneasiness and additionally mitigate discouraged temperament. These continuous addictive behaviours help to overcome such psychological illness or escape themselves from the issues and negative thoughts, which people are suffering during this COVID-19 lockdown (Blasi et. al., 2019). Thus, the continuous use of such practices and taking part in the previously mentioned practices as a putative to cope with this crisis, like COVID-19 outbreak, increase significantly and may it develop into a practice which will be difficult to handle or hard to break it (King, Delfabbro, Billieux, & Potenza, 2020). ICT and the Internet became a “rescuer” during this pandemic. Because it contributes indispensable dispersing information about the outbreak situation to the world wide and in some it is never possible without ICT (Király et. al., 2020). But on the other hand, the excessive utilization of internet carries a risk factor, while thought about the health condition. Because excessive involvement in a specific online activities such as gambling, watching pornography, addicted with games (For instance, nowadays especially youngsters are addicted with Pubg game), video game, social media, watching web series may lead to serious issues, which may cause to rise the threats or the addictive use and increase the cyber-chondria disease (Vismara, et. al., 2020). Overuse of internet develops the anxiety and excitement for more use of the respective field because respective industries (e.g. - gambling, video game, watching web series and pornography video) may motivate their respective customers to spend more time with these activities (Rumpf et. al., 2018).

Excessive internet increases the security threats or attacks during this COVID-19 pandemic because many people are working from home, so IT and security are facing different challenges in providing and securing mass connectivity. According to Checkpoint, Security professionals have noticed that 71% increase the security threats and attacks from the beginning of the COVID-19. The main danger cited was phishing 55% followed by malicious websites who claimed to offer the information during this outbreak is 32% and 28% increase in malware and ransom ware assault 19% which was noticed during

Leading Covid-related threats

Source: <https://iot-analytics.com/the-impact-of-covid-19-on-the-internet-of-things-part-2/> (Luith, 2020)

this COVID-19 lockdown. Indian Computer Emergency Response Team (CERT-In) also announced the increase of phishing attacks during this COVID-19 lockdown because of excess use of the internet.

Suggest strategies to curve the threats

During this COVID-19 outbreak, it is very important to control the above behaviours and problems facing every individual. The multidisciplinary and group of experts provides some practical recommendations which may help to decrease the risk of excess utilisation of the internet.

- Use analogue technical watch
Analogue technical watch is very much popular in digital generation as it consists of specific format of time and sources of digital power. At the same time, it is more precise and reliable in creation of “ticking” motion and smooth movement of seconds, minutes and hours. It is helpful for the user to make self-restrictions on use of the internet and as the time changes, the hands move around the face which makes analogue watches different from digital watches (Arslan, 2020).
- Keep contacts with friends, family and relatives
Spending enough time with Facebook, chat room friends, game zones etc. take away the user from the family members and relatives. The user uses virtual association of friends and play rooms which invites internet addiction in the young mass. To overcome addiction the user should temporarily block certain websites and develop better habits of spending time with family, friends and relatives actually rather than virtually. Wasting time by remaining online for hours and hours it is advisable to spend time with nearer and dearer with the social set-up (Boeddeker, 2019).
- Consult health professionals
The internet addiction disorder is also known as Compulsive Internet Use (CIU) or Problematic Internet

Use (CIU) or iDisorder which hampers both psychological and physical status of health of the victim. The victim must have gone through the therapy prescribed by the health professors. Both medication and meditation are advisable to reduce anxiety and depression faced by the heavy user of the internet. The addiction may resolve with Cognitive behavioural Therapy (CBT) and minimum or limited use of internet or only use for productive purposes (Gregory, 2019).

- Focus on goal oriented life with self-concentration
It is always advisable to focus on own goals and impose restrictions by self while using internet. Preparation of whitelist or blacklist on certain sites will help the user to keep concentration on needed aspects rather than blocking the entire internet. The goal oriented aspects like: writing, social media management and event planning etc. help the user to remain away from Facebook or Twitter etc. To avoid excess use of internet or to be addicted by it, just focus on self-awareness and task oriented aspects on a single time. Being aware of self-observing and managing one’s screen time. Individuals need to control themselves by observing the spending time on the internet. Block yourself from the websites and put the phone somewhere, where it can’t be easily accessed. The time out reminder is also helpful for the user to take a break to keep the focus sharp (Glei, 2010).
- Proper Utilisation of digital apps.
It is very important for the user to use specific apps which have usefulness rather than utility. Internet should be used for meaningful purposes like: to be connected with family members and peers, completion of assigned tasks, update with world activities etc. rather than making friendship with unknown people and gossip with strangers. To be protected from hackers and bullies the user should concentrate on specific apps which are developed to control time and used for productive purposes. At the same time, the user should record the time which is spent on apps (WikiHow, 2019).

Conclusion

The COVID-19 has turned out to be the most disastrous crisis of the century, for the entire world. Present preventive of social distancing, which every Government has applied, is the main option today. But economy and also general public have suffered heavily. There is already signs of recession and heavy slowdown of the economy. Because of loss of job, unemployment problem and lack of income, there is reported increase in personal stress, anxiety and domestic violence. The call of the day is to accept the 'new-normal' of doing all possible activities on digital platform. To revive the economy Government has to come out with a big spending plan, and also strengthen and extend the ICT infrastructure. Government intervention would play a very vital role during this crisis period of people. During this period, internet acts as a blessing to human being and the overall world. Almost all the activities related to consumption, production, exchange and distribution are being done on digital platforms. The apps related to entertainment, shopping, teaching, banking, game, health, fashion, beauty, yoga etc. are very helpful for the people, making the life bit normal. They spend their time happily and fight social isolation during Corona pandemic lockdowns. But excess use, or the abuse has its negative impact, too.

Competing Interest Statement

All authors have read and approved the manuscript and take full responsibility for its contents. No potential conflict of interest was reported by the author(s).

Acknowledgements

The authors would like to thank the reviewers and editors of this manuscript. Authors also acknowledge receipt of financial support from ICSSR – IMPRESS fund of Govt. of India.

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