

A Result of Covid-19: New Internet Trends

As the world practices social distancing to fight the spread of the novel coronavirus, all our lives have begun to rely on technology more than ever before. Our graduations, birthdays, family gatherings, and so many other everyday activities have shifted to virtual formats. At the heart of our new virtual reality lies the internet. In our UCLA ASA Datafest project, our team studied the effect of the COVID-19 pandemic on the internet and its greatly heightened use in our everyday lives. In our project, we used data to analyze the effect of internet accessibility on social distancing, examined the profits of various internet providers, and investigated the change in internet use and increased burden on Internet services.

We began our analysis with internet performance changes in the United States since the beginnings of the spread of coronavirus using a dataset provided by the internet speed data aggregator Ookla.^[1] Relative to the rest of the world, the United States had higher internet speeds but experienced a drop around the time the stay-at-home orders began. The United States experienced a more significant drop in both internet and mobile download speeds than the rest of the world.

These findings are supported by data released by Verizon^[2], which indicate that the greatest percent change in internet usage occurred in the first four weeks of the stay-at-home orders. Afterwards, social distancing and stay-at-home resulted in relatively small percent change in internet usage as people were consistently staying at home. Furthermore, the Verizon statistics demonstrate that gaming platforms experienced the greatest increase in usage since the pandemic began.

To see how these changes in usage and performance affected major internet service providers (ISPs) economically, we studied how their stocks have fared. While a majority of the market suffered major losses from the virus-induced recession, the share prices of most ISPs remained relatively constant.^{[3][4]} Even large stocks like Spectrum have returned back to their pre-virus positions, despite taking major hits when the market initially crashed. As people interact with the internet more frequently, these stocks will grow further as the year goes on.

In addition to looking at the virus's effect on internet providers, we also wanted to see how people have been responding. We found a positive correlation between the percentage of people staying home^[5] and the internet access in each state^[6]. It seems better access to online tools and entertainment give people more of a reason to stay home; however, since the r-squared value is fairly low, we cannot make a definitive conclusion.

From this investigation, it is clear that the amount of internet usage has increased with the onset of quarantine. This increase brought with it a reduction in connection strength and has burdened our internet infrastructure. Also, online gaming and video streaming have greatly increased as people seek to entertain themselves in the monotonous routine of quarantine. Despite the recession, ISP stocks have actually grown as opposed to the rest of the market. People with scarce internet access have become less inclined to stay home despite the increased online presence of many.

Sources:

^[1]<https://ookla.d.pr/ZGmekI>

^[2]<https://www.verizon.com/about/news/how-americans-are-spending-their-time-temporary-new-normal>

^[3][Stock Prices](#)

^[4]<https://www.marketwatch.com/>

^[5]<https://www.safegraph.com/dashboard/covid19-shelter-in-place>

^[6]<https://internetassociation.org/internet-economy-state-by-state>

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