The Internet Effect

Timothy C Stockton II

Keene STATE COLLEGE

Abstract:

The internet is a technology used by billions worldwide. When the User Population Ratio (UPR) is compared to worldwide internet statistics, there is a relatively strong correlation between the UPR of the country and the average internet speed of the country. But perhaps internet usage is not just a technological construct, but a social one as well. To see how the this ratio correlates with the social and economic factors of a country, the UPR was compared to world wide social factors that are defined by the Happiness report (a survey that looks into a populations perceptions of their lives and society) as well as life expectancy and GDP. This resulted in the discovery of several other very strong UPR correlations including a very linear relationship with both social support and life expectancy as well as a non-linear relationship with corruption such that a country with a high ratio of internet users tends to have a lower perception of corruption. UPR was also found to have a positive correlation with percieved freedom of life choices. It is interesting that these societal factors are related to internet usage and it opens the door for questions about how the internet shapes (or is shaped) by our society.

DATA SOURCES:
Kaggle: users, population, number of plans, average price Gb, lowest price Gb, highest price Gb, average speed (2022)
World Bank: life expectancy, GDP (2020)
World Happiness Report: social support, freedom, corruption (2021) [opinion based poll]

User Population Ratio (UPR) [Users / Population]

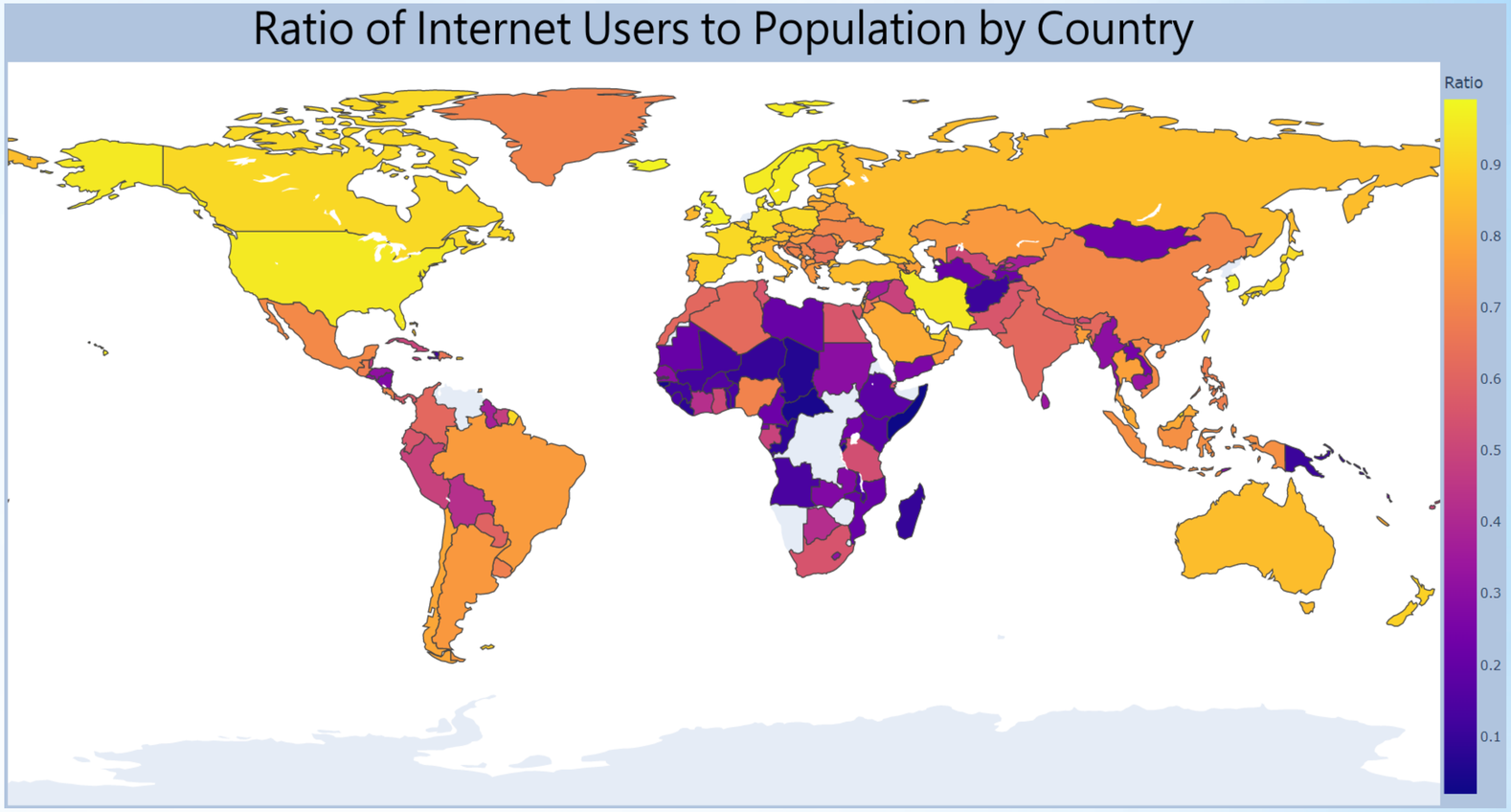
Top 5 Countries by User Population Ratio

Country	Users	Population	Ratio
Faroe Islands	48,097	48,865	0.991
Andorra	76,095	77,265	0.988
Liechtenstein	37,201	38,137	0.981
Kuwait	4,053,797	4,270,563	0.979
Iceland	329,196	366,463	0.977

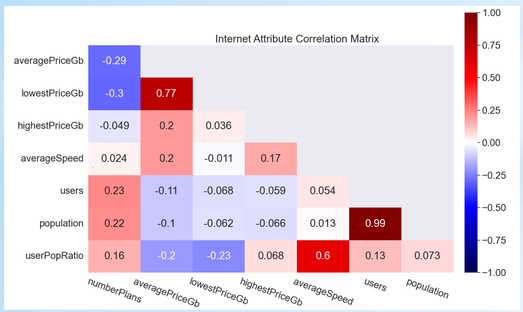
Bottom 5 Countries by User Population Ratio

Country	Users	Population	Ratio
Somalia	294,851	15,893,219	0.019
Guinea-Bissau	73,148	1,967,998	0.039
Central African Republic	202,204	4,829,764	0.043
Burundi	607,311	11,890,781	0.054
Chad	968,500	16,425,859	0.062

All of the bottom five countries are in Africa

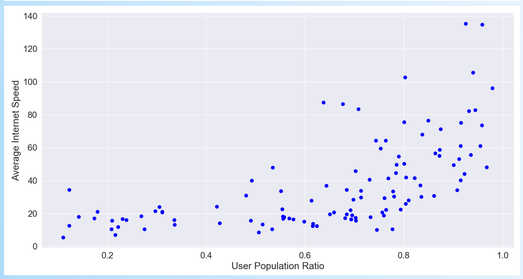


How is UPR Related to Internet Attributes?



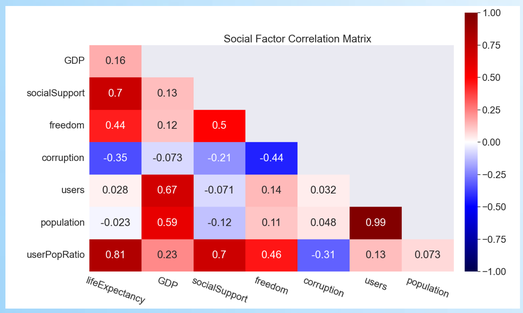
Population v Users (.99) is a very strong correlation and makes sense because the larger the *Population* of a country, the more potential internet *Users* there are. *HOWEVER user population ratio does not show any correlation to population or users*

The *Lowest Price (.77)* has a MUCH stronger correlation to the *Average Price* than the *Highest Price (.2)* does.



UPR v Average Speed (.6) exhibits a non-linear relationship such that as *UPR* increases it has more effect on the speed, and countries with a higher *UPR* tend to also have a higher *Average Speed*.
It is speculated this is because when more people pay for a service, that company then has more money it can invest in improving its service which in turn may attract more customers.

How is UPR Related to Social Factors?

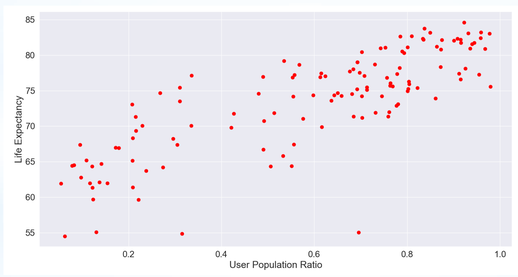


GDP v Life Expectancy (.16) is not as strong as expected.

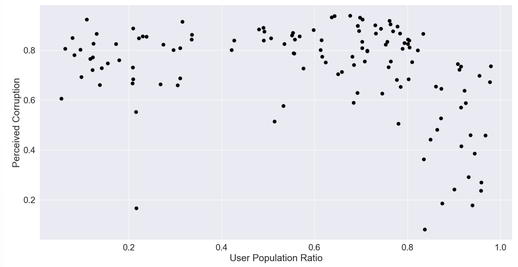
Users v GDP (.67) as well as *Population v GDP (.59)* are both relatively strong correlations.

UPR v GDP (.23) is also not as strong as expected.

Population v Corruption (.04) interestingly has no correlation.

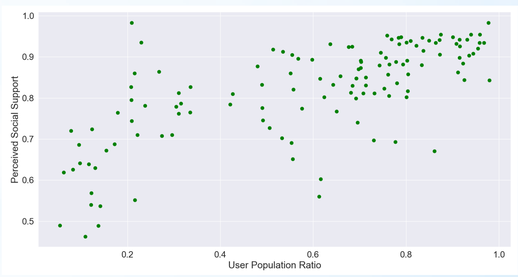


UPR v Life Expectancy (.81) is interestingly strong and linear such that countries with a higher UPR tend to have a higher life expectancy.
Social Support also correlates positively with *Life Expectancy (.7)* as does *Freedom (.44)*
Corruption, however, has a negative correlation with *Life Expectancy (-.35)*.

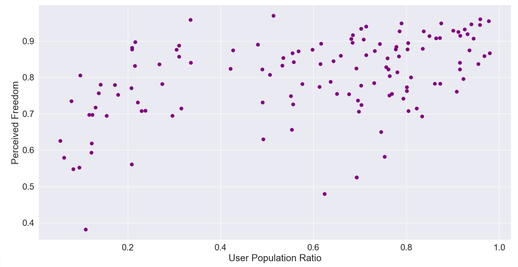


UPR v Corruption (-.31) is surprisingly negative and non-linear such that countries with a *UPR* above .8 tend to have a lower perception of corruption.

Social Support also has a slightly negative correlation with *Corruption (-.21)*.



UPR v Social Support (.7) is relatively strong and linear such that countries with a higher *UPR* also tend to have a higher perceived amount of *Social Support*. This is speculated to have influence from the fact that you can instantly communicate with friends and loved ones over the internet even if they do not live nearby.



UPR v Freedom (.46) also presents a relatively linear positive correlation such that countries with a higher *UPR* tend to also have a higher percieved *Freedom* of life choices.

Social Support also correlates positively with *Freedom (.5)*, and *Corruption* has a negative correlation with *Freedom (-.44)*.

Summary:

- The top five countries by UPR (greater than .97) include Faroe Islands, Andorra, Liechtenstein, Kuwait, and Iceland
- The bottom five countries by UPR (less than .07) are all in Africa and include Somalia, Guinea-Bissau, Central African Republic, Burundi, and Chad
- UPR has no correlation to Users or Population
- Countries with a higher UPR tend to have a higher Average Speed
- GDP has a weak positive correlation with Life Expectancy
- Both Users and Population have a relatively strong correlation with GDP
- UPR does not have a very strong correlation with GDP
- Population has no correlation with Corruption
- Countries with a higher UPR tend to have a higher Life Expectancy
- Social Support and Freedom both positively correlate to Life Expectancy
- Corruption negatively correlates with Life Expectancy
- Countries with a higher UPR tend to have a higher percieved amount of Social Support
- Countries with a higher UPR tend to have a lower perception of Corruption
- Social Support has a slightly negative correlation with Corruption
- Countries with a higher UPR tend to have a higher percieved Freedom of life choices
- Social Support correlates positively with Freedom
- Corruption correlates negatively with Freedom