Report:

Exploring the relationship between the literature rate and non internet user rate globally in 2011
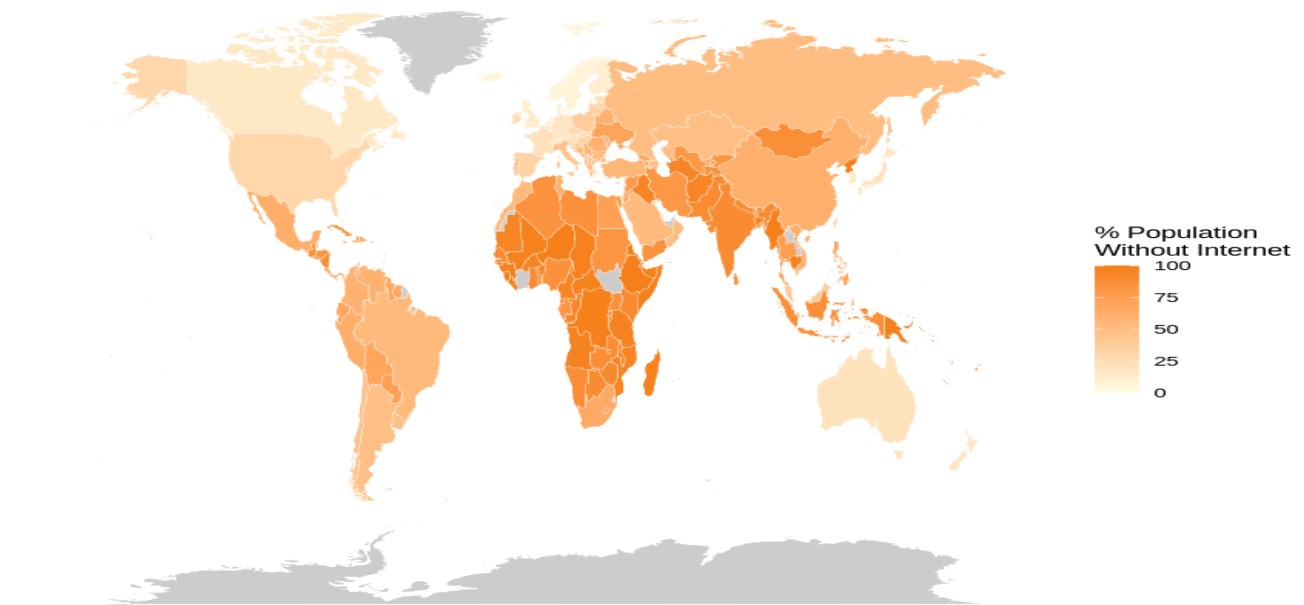
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For the literature rate data set, 2019 is the year with the most complete coverage (195 countries) and for the non-internet user rate data set, 2011 has the highest coverage (84 countries.

I have chosen the year 2011 with data coverage of 84 countries for both indicators.

Data Overview (see annex for more details)

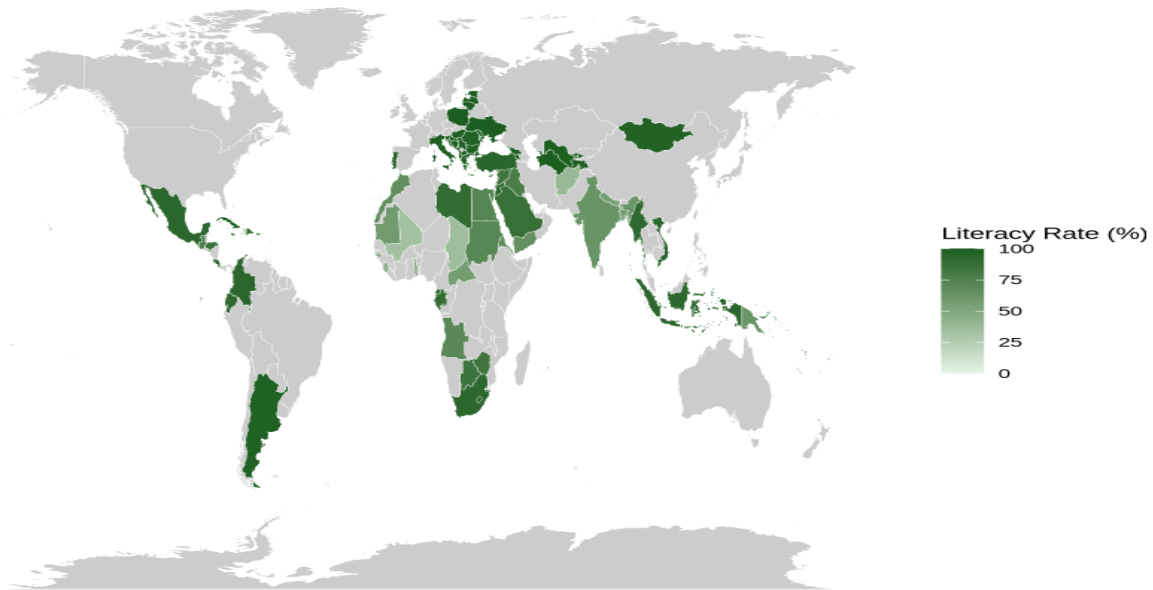**Percentage of Population Without Internet Access (2011)**
Darker yellow areas indicate higher percentages of population without internet access

Source: non_net_users_prc.csv

Adult Literacy Rate (2011)
Percentage of people ages 15 and above who can read and write

Source: literacy_rate_adult_total_percent_of_people_ages_15_and_above.csv

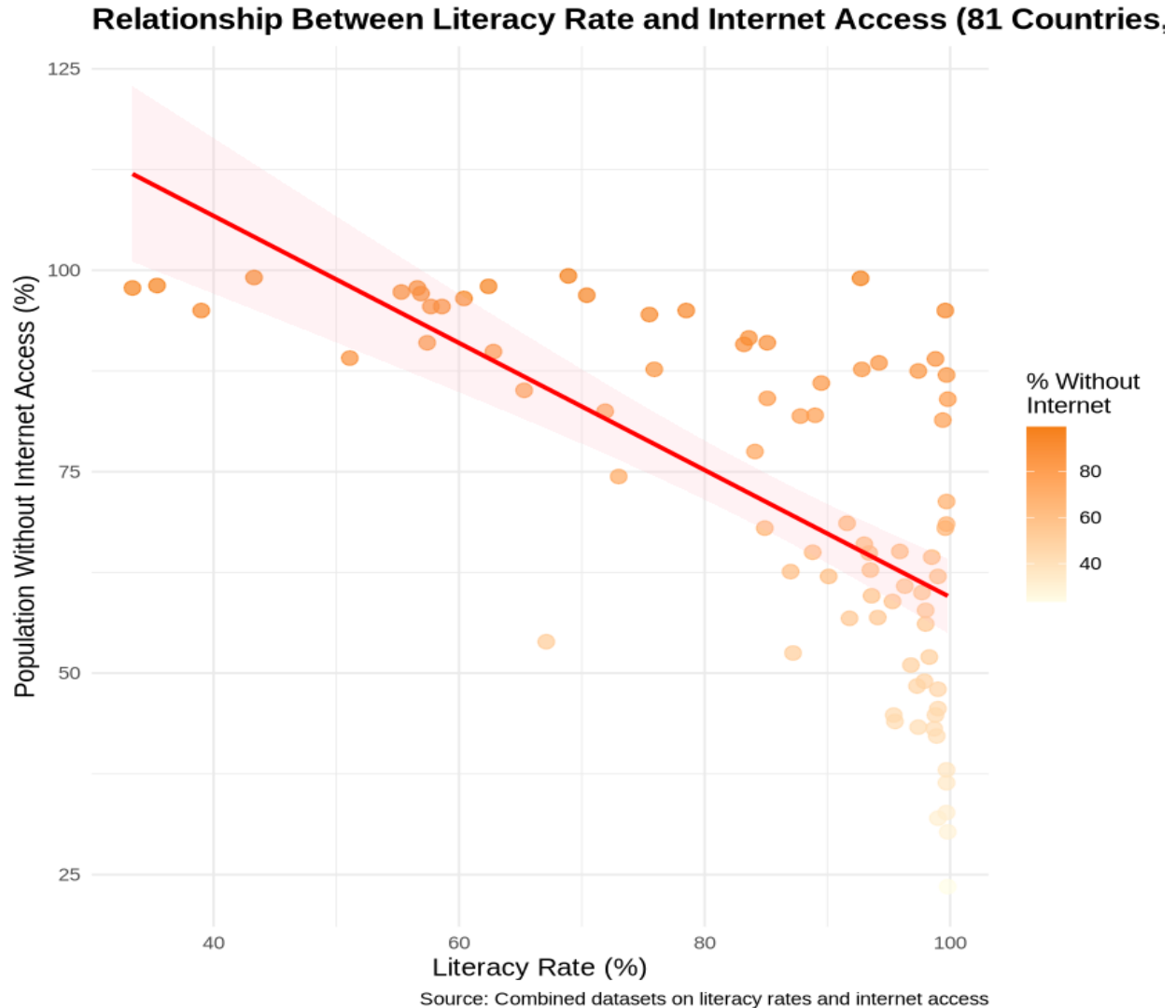### Relationship Between Literacy and Internet Access

Statistical Analysis

The Pearson correlation coefficient between literacy rate and percentage of population without internet access is:

$literacy_rate_pctandmerged_data$non_internet_users_pct t = -7.8499, df = 79, p-value = 1.709e-11

 alternative hypothesis: true correlation is not equal to 0 95 percent

confidence interval: -0.7691466 -0.5185764 sample estimates: cor -0.6619703

The scatterplot below shows the relationship between literacy rate and percentage of population without internet access

Relationship Between Literacy Rate and Internet Access (81 Countries)

Source: Combined datasets on literacy rates and internet access

Interpretation

There is a strong negative correlation (r = -0.66) between literacy rate and the percentage of population without internet access. This correlation is statistically significant (p < 0.001).

This means that countries with higher literacy rates tend to have lower percentages of people without internet access. The scatterplot clearly shows this negative relationship, with the trend line sloping downward. Countries with literacy rates above 90% generally have less than 60% of their population without internet access, while countries with lower literacy rates (below 70%) often have more than 80% of their population without internet access.

In other words, as literacy increases, internet adoption also tends to increase.

This relationship suggests that literacy may be an important factor in internet adoption, possibly because:

1. Reading and writing skills are necessary to effectively use many internet services. Those who can read and write also are likely to search for more information and read more, which drive the demand of access to the internet.

2. Both literacy and internet access may be related to overall development and educational infrastructure

3. Countries that invest in education may also invest in technological infrastructure

However, correlation doesn't imply causation, and other factors like economic development, infrastructure, and government policies likely influence both variables.

Observation:

There should be some suggestions to select the data of the same year.

I don't agree with the analysis point that countries invest in education may invest in technology infrastructure – as the latter are more profit driven while education is social development.

It has been a good exercise for this. My first attempt was with python and R creates nicer report. This is very helpful for a non-analytic person.

Annex:

country	non_internet_users_pct	literacy_rate_pct
Afghanistan	95	39
Albania	51	96.8
Angola	96.9	70.4
Antigua and Barbuda	48	99
Argentina	49	97.9
Armenia	68	99.6
Bangladesh	95.5	57.7
Bosnia and Herzegovina	56.1	98
Botswana	91	85.1
Brunei	44	95.5
Bulgaria	52	98.3
Cape Verde	68	84.9
Central African Republic	97.8	56.6
Chad	98.1	35.4
Colombia	59.6	93.6
Comoros	94.5	75.5
Costa Rica	60.8	96.3
Cote d'Ivoire	97.1	56.9
Croatia	42.2	98.9
Cuba	84	99.8
Cyprus	43.1	98.7
Dominican Republic	62	90.1
Ecuador	68.6	91.6
Egypt	74.4	73
Equatorial Guinea	88.5	94.2
Eritrea	99.3	68.9
Estonia	23.5	99.8
Eswatini	81.9	87.8
Gabon	82	89
Gambia	89.1	51.1
Georgia	68.5	99.7
Greece	48.4	97.3
Guatemala	87.7	75.9
Guinea-Bissau	97.3	55.3
Honduras	84.1	85.1
Hungary	32	99
India	89.9	62.8
Indonesia	87.7	92.8

Iraq	95	78.5
Italy	45.6	99
Jamaica	62.6	87
Jordan	65.1	95.9
Latvia	30.3	99.8
Libya	86	89.5
Lithuania	36.4	99.7
Mali	97.8	33.4
Mauritania	95.5	58.6
Mauritius	65	88.8
Mexico	62.8	93.5
Moldova	62	99
Mongolia	87.5	97.4
Montenegro	64.4	98.5
Morocco	53.9	67.1
Myanmar	99	92.7
Nepal	91	57.4
North Macedonia	43.3	97.4
Palestine	58.9	95.3
Papua New Guinea	98	62.4
Poland	38	99.7
Portugal	44.8	95.4
Romania	60	97.7
Samoa	89	98.8
Saudi Arabia	52.5	87.2
Serbia	57.8	98
Seychelles	56.8	91.8
Sierra Leone	99.1	43.3
Slovenia	32.7	99.7
South Africa	66	93
Sudan	82.5	71.9
Syria	77.5	84.1
Tajikistan	87	99.7
Togo	96.5	60.4
Trinidad and Tobago	44.8	98.8
Turkey	56.9	94.1
Turkmenistan	95	99.6
Ukraine	71.3	99.7
Uzbekistan	81.4	99.4
Vanuatu	90.8	83.2
Vietnam	64.9	93.4
Yemen	85.1	65.3
Zimbabwe	91.6	83.6