Activity_3

Introduction

In this activity, I want to implement the data management process for the article I am currently working on. This article is taken from my master's thesis.In addition, this activity gives me the opportunity to change my article into a reproducible research.The article aims to *explore the relationship between accessibility through the transport networks and the spatial structure of population and activity in Iran.*

Project Data Analysis

1.List the data that you expect to use, collect or create in your project

he data used in this study include population, employment, employment rate, Potential accessibility, road network, railway lines, and railway stations.

Data	Description
Population	the data on the Population for 1996, 2006 and 2016 were obtained from the Statistical Center of Iran.
Employment	the data on the employment for 1996, 2006 and 2016 were obtained from the Statistical Center of Iran.
Transportation network	The road network of Iran was obtained from Iran Road Maintenance & Transportation Organization (RMTO), and the railway lines and station shapefiles were obtained from Iran's Railway Company (IRC) over the three periods of 1996, 2006, and 2016.
Employment rate	The employment rate has been calculated using the growth rate formula for the two periods 1996-2006 and 2006-2016.
Accessibility	the potential accessibility method was applied to calculate the accessibility at the county scale using two measures of population attractiveness and activity.

2.Are there legal or ethicial restrictions that you will need to address?

As some of the data in this article, such as the rail network and railway stations across the country, may pose security risks, I am not allowed to share this data publicly.

3.Go through the Quick Hits for Data Management and identify possible strategies to build and protect the value of your data

* *keep raw data and Back up*   Raw data received from various organizations were all first organized. Then they were saved as a zip file in a cloud space called *Mega* and A copy of the files was also saved on my hard external drive and laptop.

* *File Format*   All files were saved in .shp, .Mxd, .doc, .pdf and .xlsx formats, but for now, I am changing all the files to .Rmd format.I also plan to save the new files in a new private repository in GateHub.

* *Create a File naming*   All files with different formats were named using the following: XXXXX_YYYYMMDD_v00

Which XXXX means filename, YYYYMMDD means file creation time, and v00 indicates the version of files.