



ARISTOTLE
UNIVERSITY
OF THESSALONIKI

Figure 1.A.U.Th. logo. Retrieved from
<https://www.auth.gr/en/logo>

Research Methods

Andrei Volodin
March 2020

Research Methods

Overview

- Data gathering, e.g. surveying, pools, observations, data scraping, composing own datasets
- Data analysis
- Predictions

Terms and Definitions

Survey

- “an investigation of the opinions, behaviour, etc. of a particular group of people, which is usually done by asking them questions” source:Oxforddictionaries online *from Wikipedia*

Data Analysis

- “is the process of systematically applying statistical and/or logical techniques to describe and illustrate, condense and recap, and evaluate data. *From office for Research Integrity [ORI]m*

Sources of information

<http://libguides.mit.edu/ssds>

Data.gov: Datasets generated by the executive branch of the US government

<http://www.data.gov/>

- IPUMS : censuses from the US and many more! <https://www.ipums.org/>
- International IPUMS <https://international.ipums.org/international/>
- ICPSR <http://www.icpsr.umich.edu/icpsrweb/ICPSR/>: A data repository with many data sets on lots of subjects
- Harvard-MIT Data center and Harvard Data verse <https://dataverse.harvard.edu/> where many researchers archive their data
- Amazon dataverse <http://aws.amazon.com/public-data-sets/> source edx.org

From edx MIT course

Steps for collecting own data

- Obtain the funding you may need
- Prepare a data management plan : how will you keep the data safe? will you share it?
- Obtain Human Subjects Approval •
- Design your data collection instrument
- Pilot your data collection instrument
- Implement!

Software & Tools

- R & rstudio allows to import scraped data in e.g. form of csv files or to run scraping.
- Stata has versatile tools for data analysis
- SPSS allows to operate with tables in various forms
- Python works as a wrapper for running scrapping scripts

References:

1. Oxford Dictionaries Online. Survey. Retrieved from https://www.oxfordlearnersdictionaries.com/us/definition/english/survey_1
2. Office of Research Integrity. Data Analysis. Retrieved from <https://ori.hhs.gov/>
3. Edx.org. Retrieved from https://courses.edx.org/assets/courseware/v1/fd388540140a77a52c31ad8bb8db46d5/asset-v1:MITx+14.310x+1T2020+type@asset+block/14310x_Lecture4_New_ToUpload.pdf