UNDERPINNING TRANSPARENCY IN RESEARCH:

IMPLEMENTING A TEMPLATE FOR A RESEARCH REPOSITORY

ALEX MARKS

SUPERVISORS : MARTIN VON RANDOW,
ROY LAY-YEE AND
GERARD COTTERELL

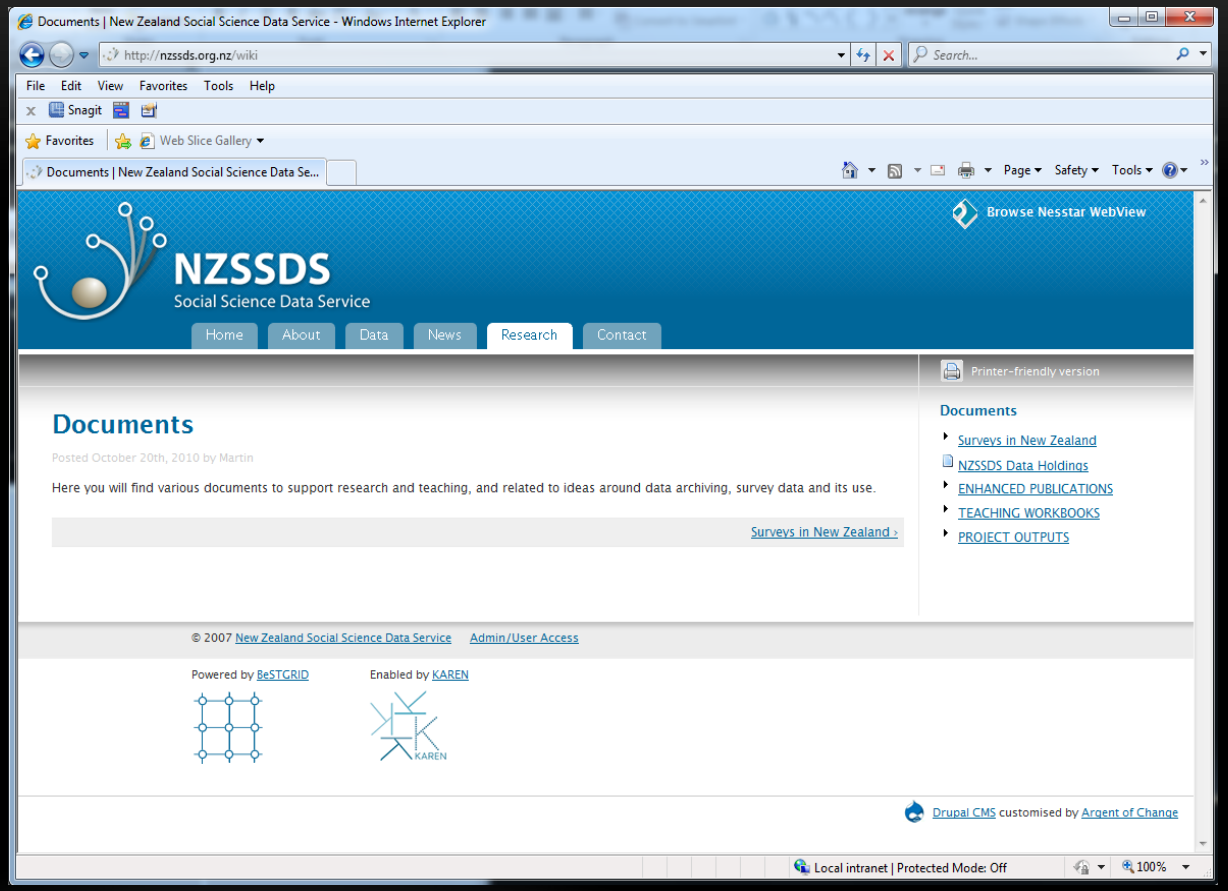
COMPASS RESEARCH CENTRE

FACULTY OF ARTS
THE UNIVERSITY OF AUCKLAND

Whare Wānanga o Tāmaki Makaurau
"serving research and policy"

Introduction to NZSSDS

- NZSSDS is the data archiving system administered by COMPASS.
- New Tab for storing additional resources changed to “Research” and linked from NZSSDS homepage.
- My uploaded content was added under enhanced publications and Teaching workbooks



My Project

The objective of my project was to contribute to the development of the NZSSDS website through the development and integration of various research materials.

My project included:

- The collating and uploading of all pertinent Metadata for three Enhanced publications.
- The uploading of the NZES SPSS Teaching Workbook – and the creation of another SPSS Teaching Workbook using ISSP Social inequality data from 2009.
- The investigation of methods and possible improvements to the NZSSDS system, focusing on the investigation of the Dataverse Network Project.
- The beginnings of uploading the filtering code for data from the Hospital restructuring project, previewing the inception of the “observatory”.

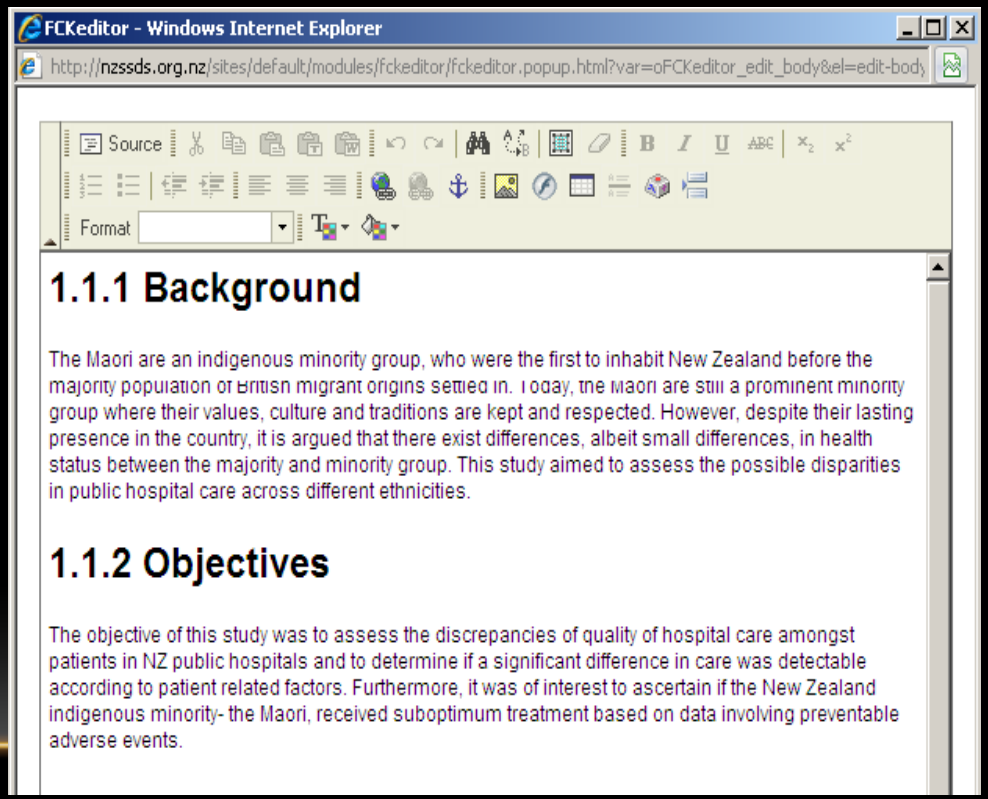
Uploading Process

<h1>HTML code</h1>

Involves directly writing the contents of the page into the website, using code for formatting.

Rich editor

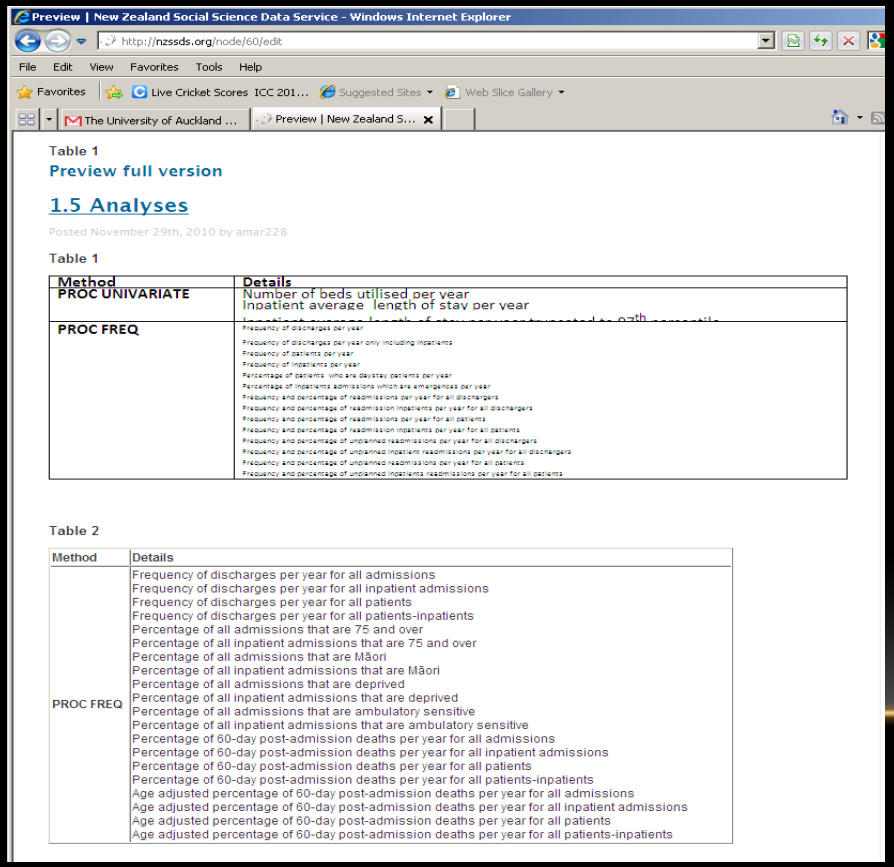
Involves writing the contents of the page into a basic word editor.



Uploading complications

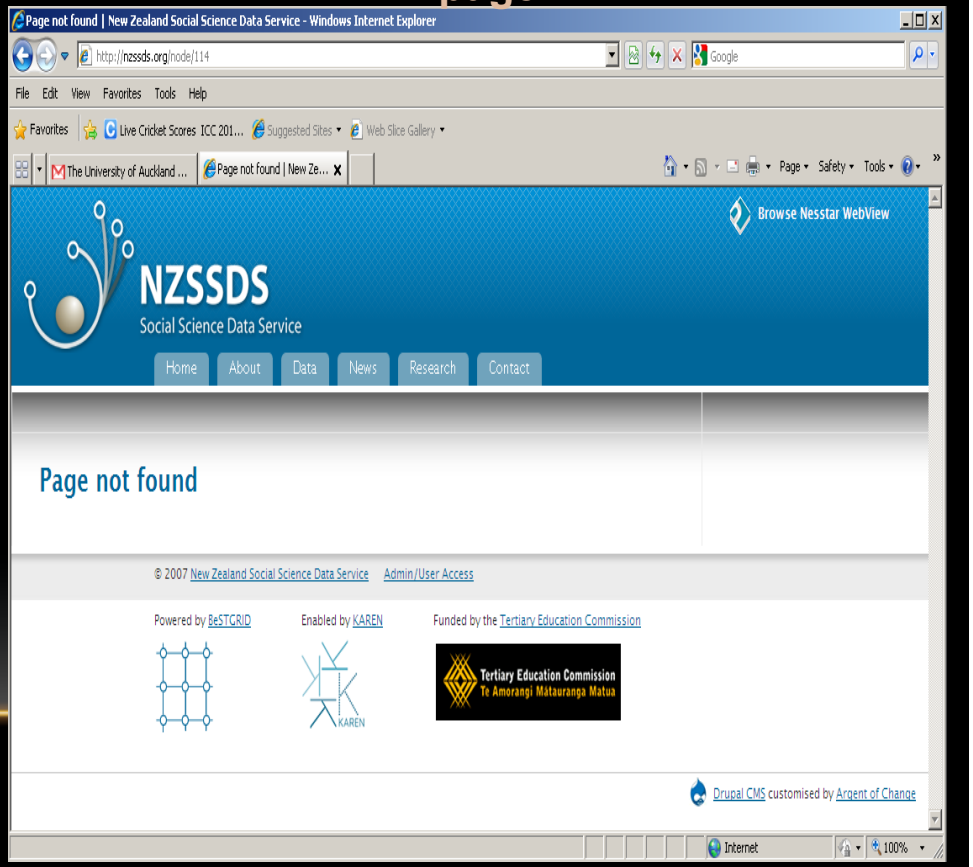
Formatting

Random changes in font size and style, usually a result of copying from outside sources



Exceeding webpage capacity

Removes editing capabilities, resulting from trying to upload too much information to one page



Enhanced Publications

Used to pool together pertinent Metadata and other publications related to the data sets and journal articles, to aid in the transparency of research materials.

The three Enhanced publications uploaded were:

- Early sex and its behavioural consequences in New Zealand
- Quality of hospital care for Māori patients in New Zealand
- Do hospital bed reduction and multiple system reform affect patient mortality

The Template

Due to the vast array of materials available it was necessary to decide on a template of what information to include, with the purpose of making all pertinent metadata readily available without having to sift through a large amount of content to find it.

Resources available:

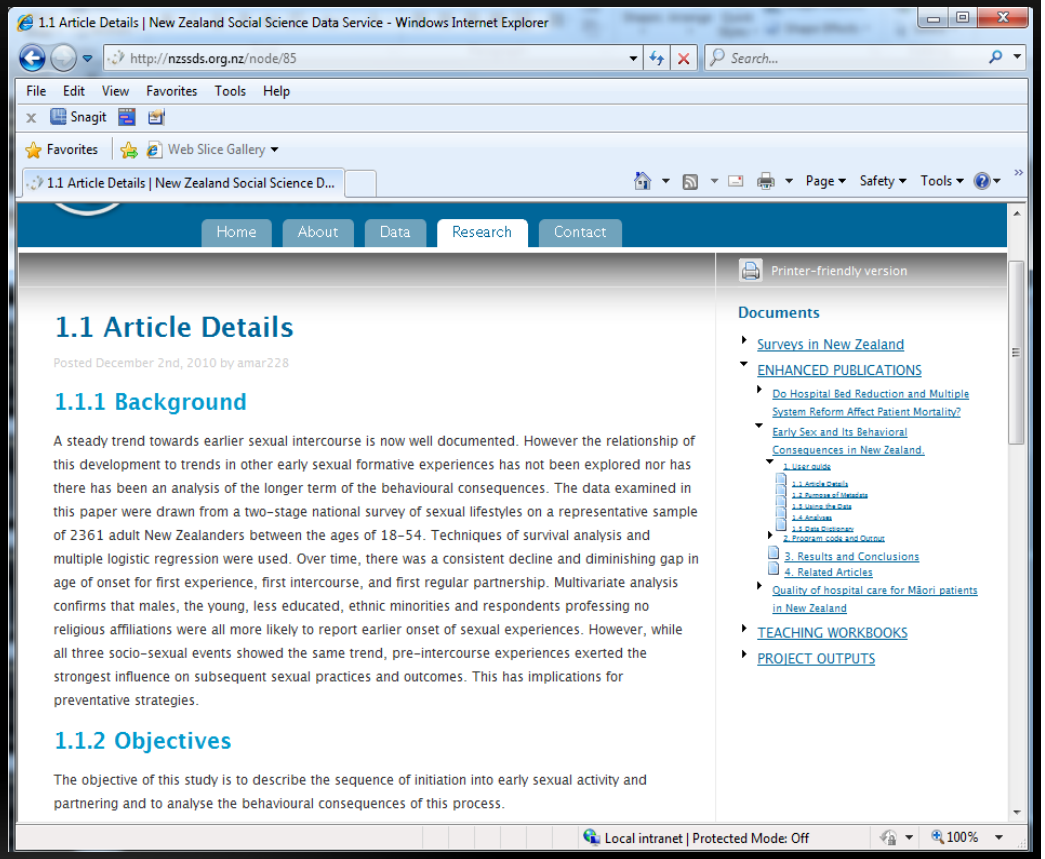
- SAS program code and output, provided table by table
- User guide & Master file
- Supporting documents; journal articles and original questionnaires
- Metadata and information available through Nesstar

The User Guide

The User Guide provides an overview and guide to the analyses.

It includes: the background to the article, objectives, data collection method and instructions for understanding the data.

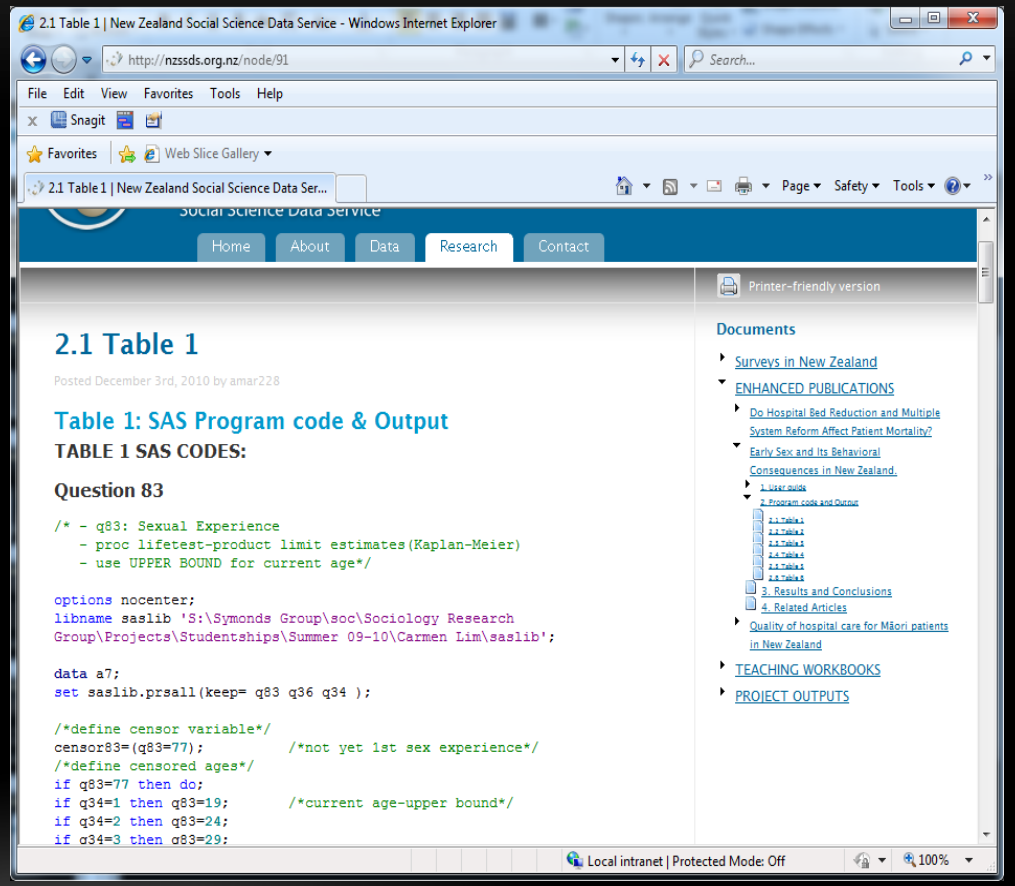
It is an essential starting point for understanding the analysis, and the most logical item to include first.



Program code and output

Consists of all the SAS program code and output needed to rerun the original analysis, provided in SAS formatting.

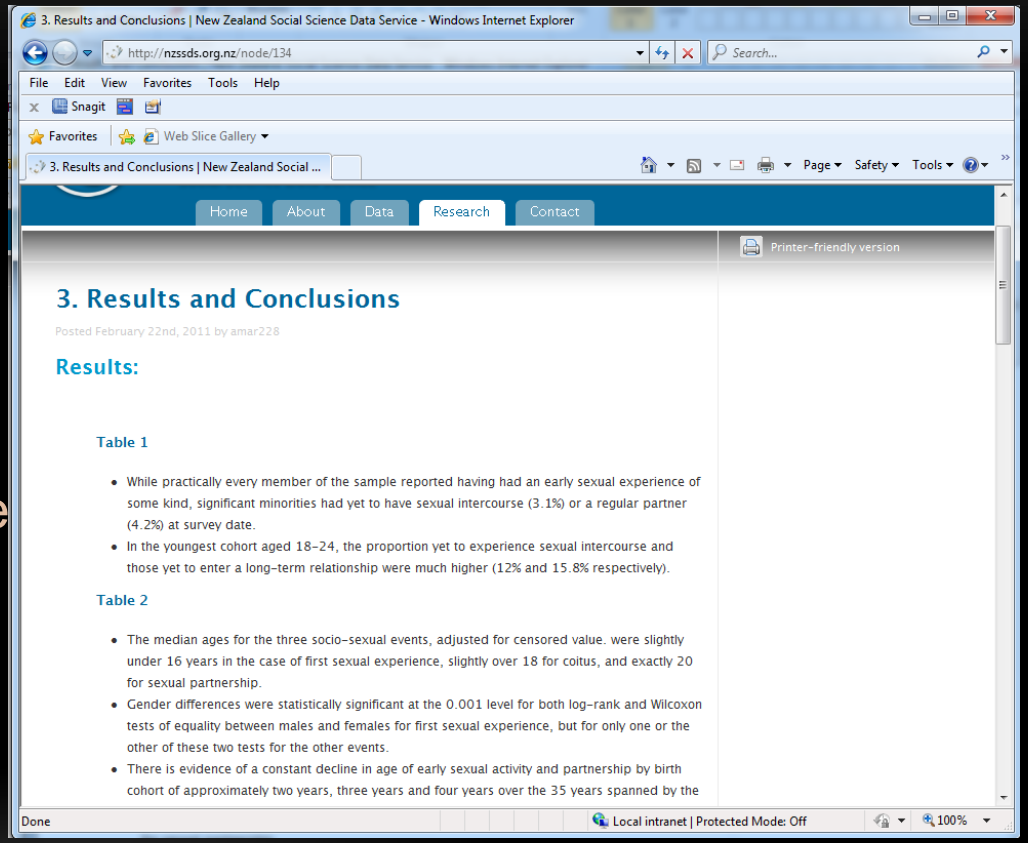
The code is available table by table with annotations to guide a user through the process.



Results and Conclusions

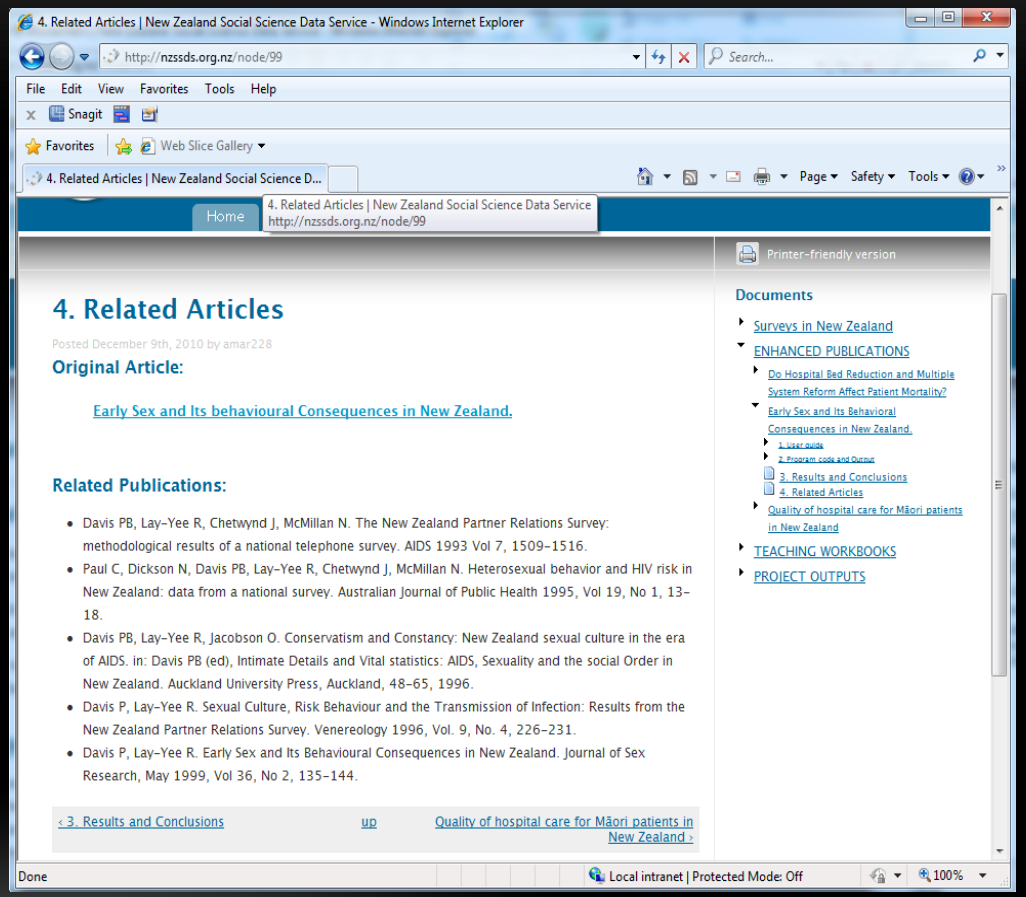
This section provides a brief overview of the results and associated conclusions from the article.

Where possible results are provided table by table; otherwise just general results and conclusion are provided.



Related Articles

A list of both the original journal article and related publications is shown, and links are provided where possible.



SPSS Teaching Workbooks

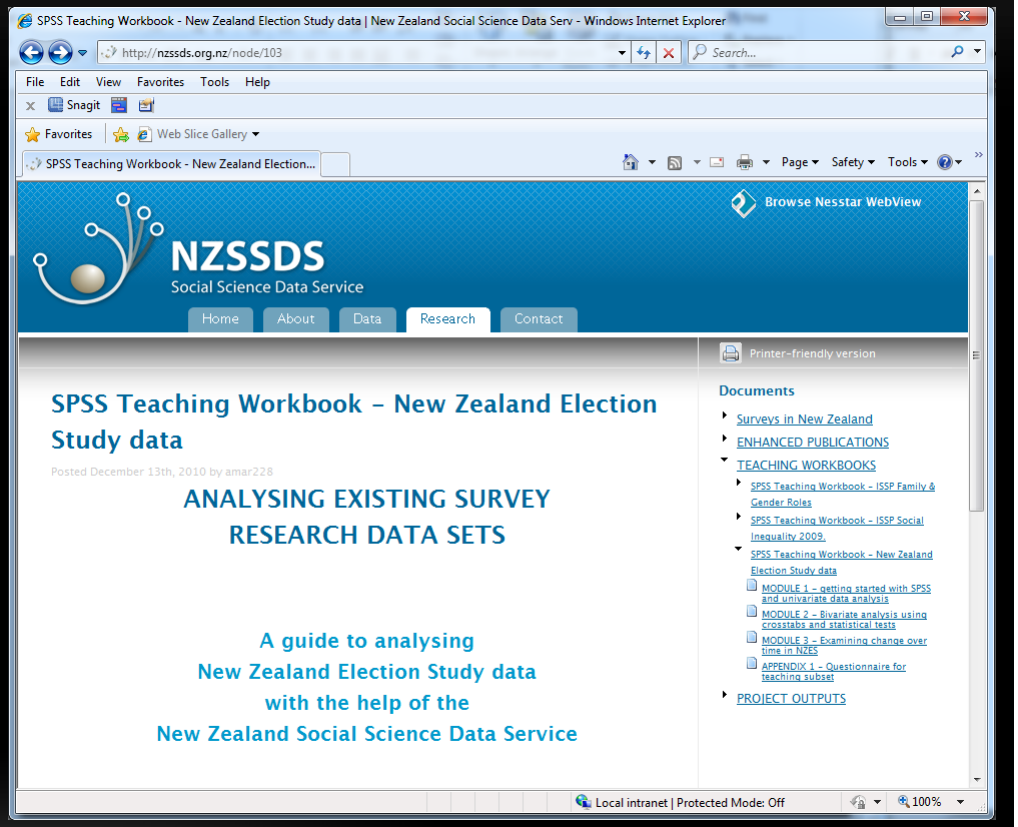
NZSSDS has been used in teaching at The University of Auckland, and these workbooks also aim to facilitate the learning of basic SPSS skills, providing self-teaching and/or support materials, and built around various social science survey data sets from NZSSDS.

I uploaded the New Zealand Election Study workbook and created a new workbook based on the ISSP Social Inequality Survey 2009.

New Zealand Election Study Workbook

This workbook already created by Mervyl McPherson and Martin von Randow was ready to upload.

Uploaded module by module with the appendix at the end

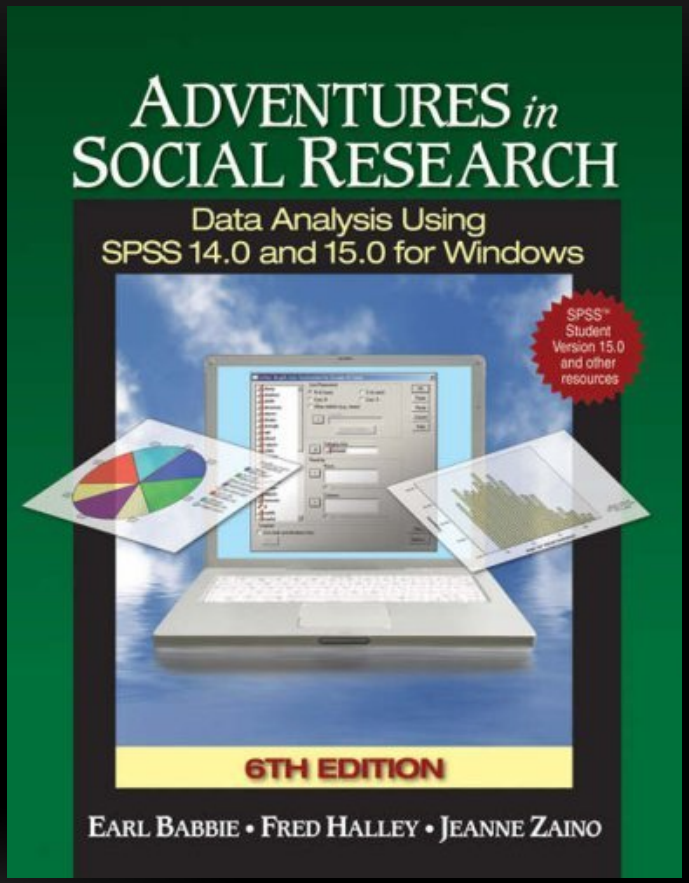


ISSP Social Inequality 2009

Inception:

I wanted this workbook to contain new methods and tutorials, not just to repeat the same analyses in the previous workbooks on new data

As such I researched, using notes from STATS 108 and a text, *Adventures in Social Research*, and ended up creating a final list of analyses arranged into two modules



Workbook template

The workbook follows a simple template designed around the types of analyses.

The workbook consists of four sections :

- Introduction
- Module 1- Univariate analysis
- Module 2- Bivariate analysis
- Appendix

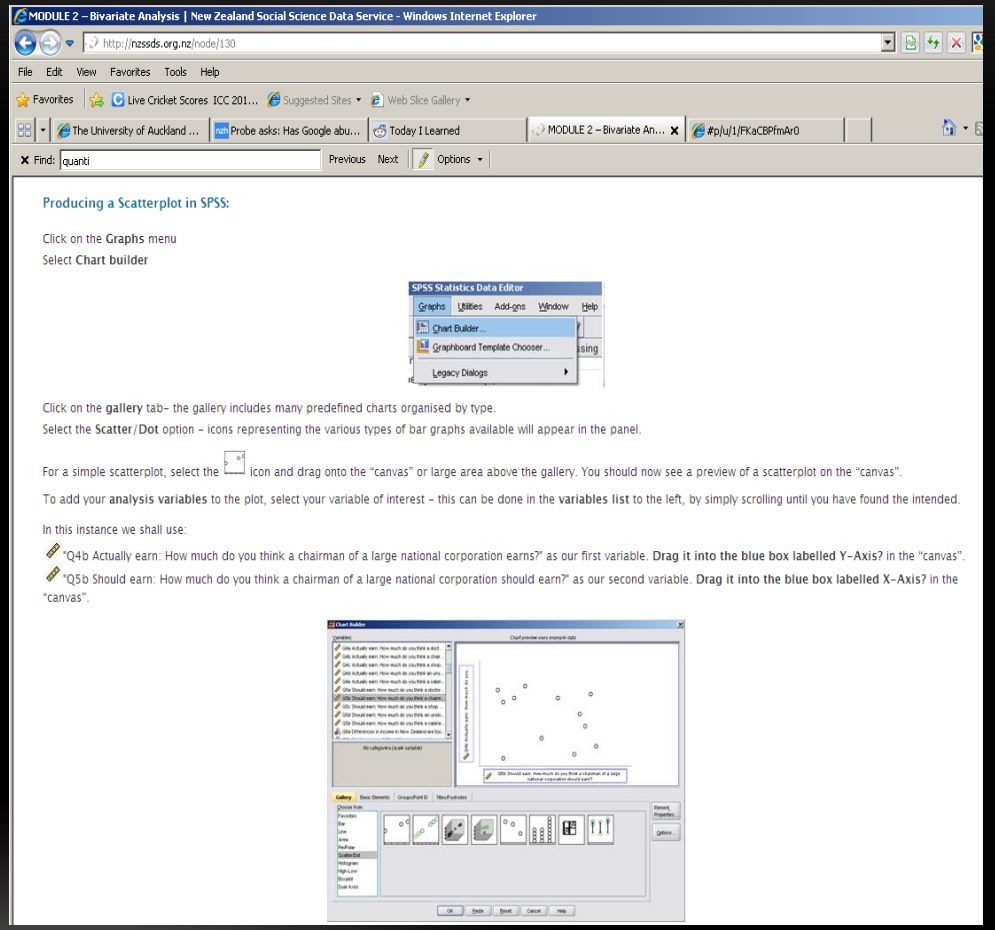
The modules are then broken down into two further sections: Graphical analysis and Numerical analysis

The tutorial template

Each analysis tutorial consists of at least two key components.

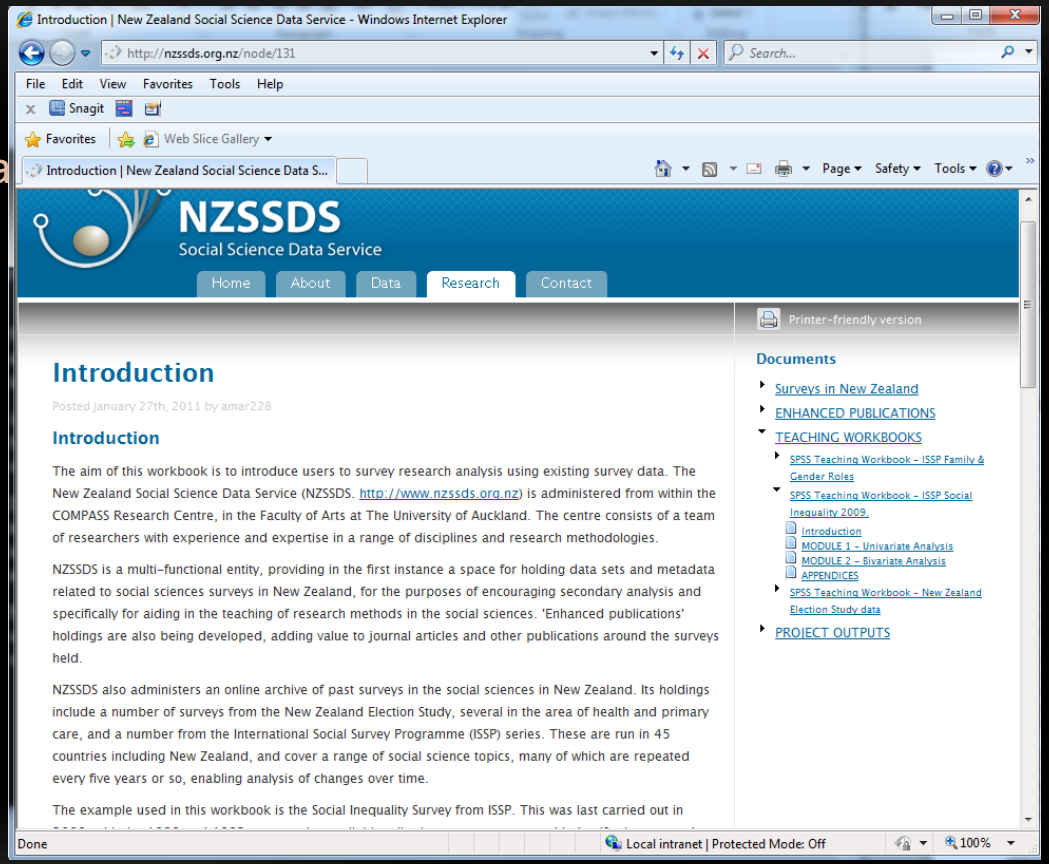
- A set of explicit written instructions with **bold** keywords.
- Accompanying pictures provide a visual representation of the various key steps.

For more complex analysis, information related to the interpretation of the output is provided



Introduction

- Provides the aim of the workbook, along with a synopsis of NZSSDS, including its purpose in relation to data
- A description of the International Social Survey Programme (ISSP), along with survey information and statistics.
- Detailed instructions on accessing the metadata online and downloading the teaching data sets in preparation for the analysis.
- Provides an overview of the SPSS software and why we are using it over other software applications.

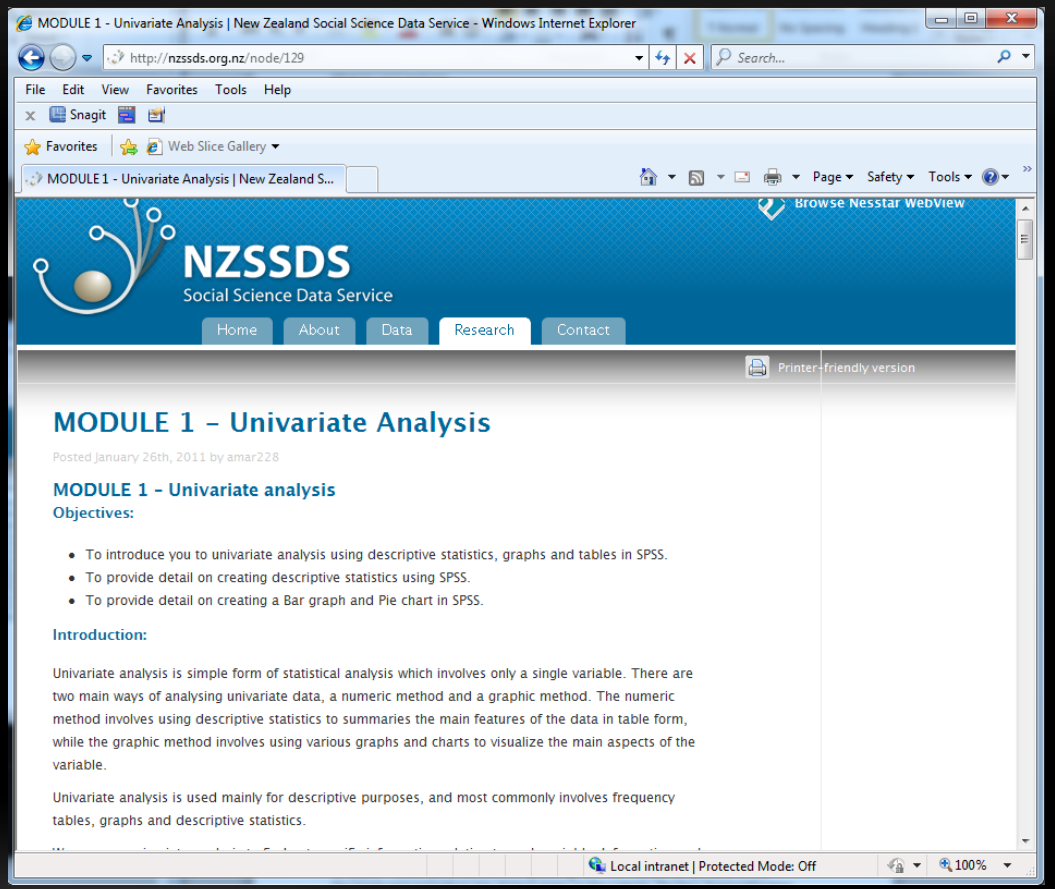


Module 1

Module one consists of univariate analyses including:

- Producing descriptive statistics
- Creating a Bar Graph
- Creating a Pie Chart

In addition to this the workbook also includes instructions on how to edit each of your graphs.

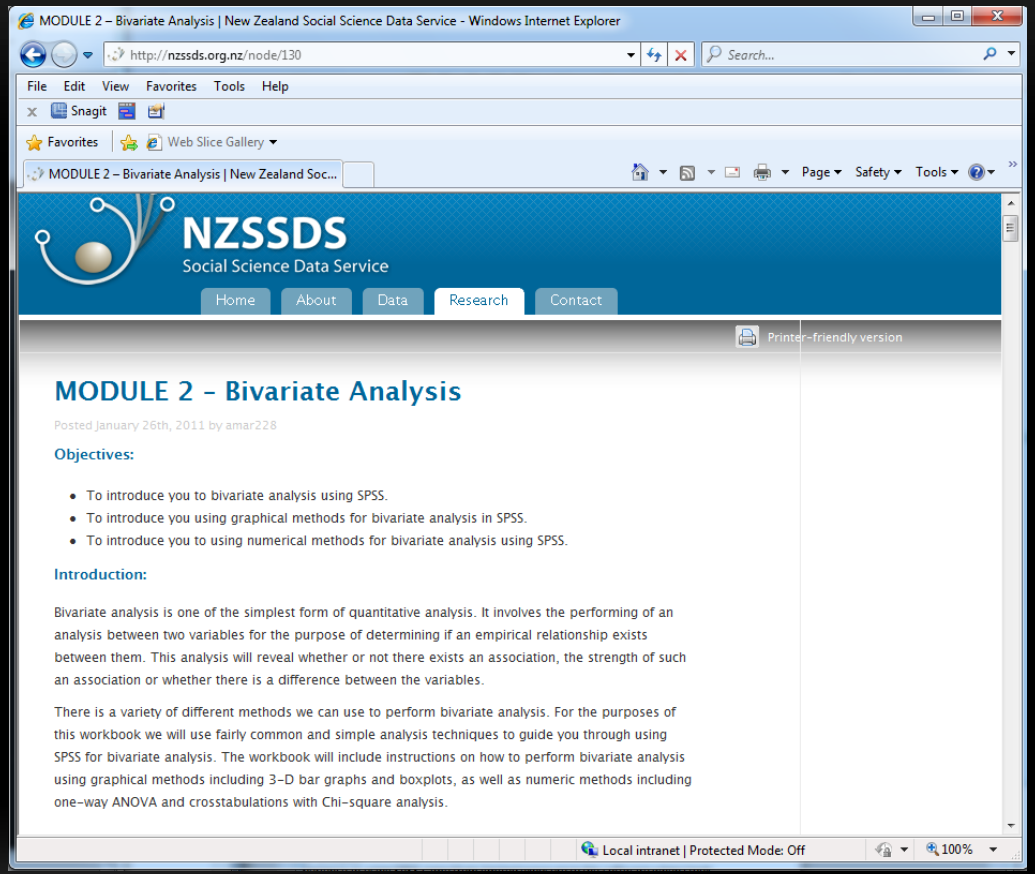


Module 2

Module two consists of bivariate analyses including:

- Producing a scatterplot
- Creating a 3D Bar Graph
- Creating a Boxplot
- Crosstabulation and Chi-square
- One-way ANOVA

This not only includes tutorials on editing your charts but also provides information relating to the tests, including how and when they can be used, conditions that need to be satisfied and interpretation of the results.



Appendix

The appendix contains:

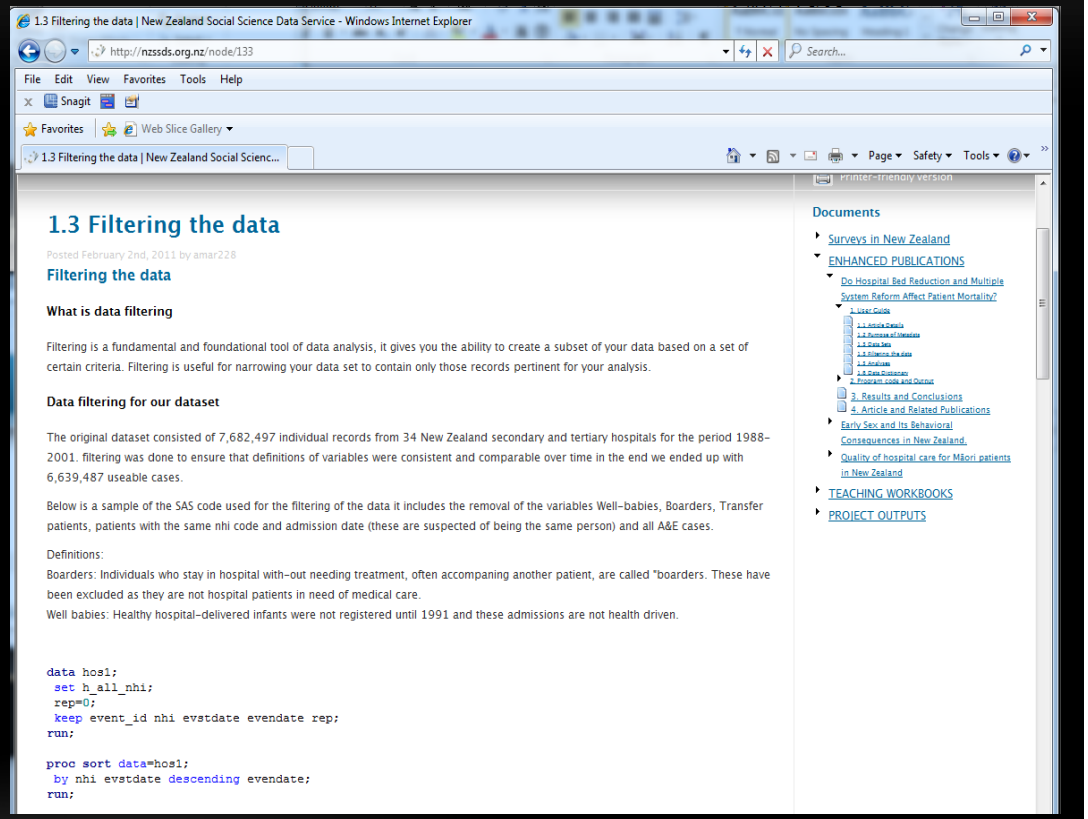
- The original questionnaire used for the survey.
- The study description, which provides an overview of the survey and numerous key statistics.

Filtering code for Hospital Restructuring

This was begun as the initial step in the creation of an ‘observatory’ system for NZSSDS.

The filtering code consists of an overview on data filtering, an explanation of the filtering code used for the hospital restructuring data as well as the associated code.

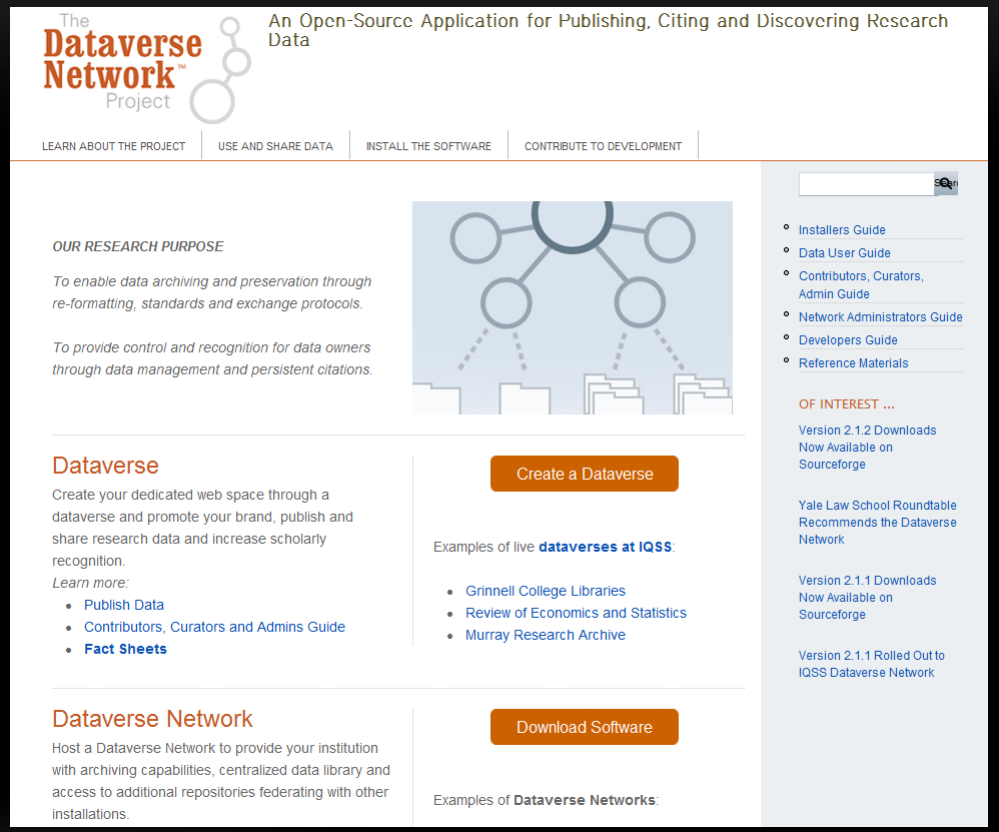
As the ‘observatory’ project is still in the development stage the filtering code was uploaded into the user guide of the Hospital Bed Enhanced Publication, until a permanent home is created.



Dataverse Network Project

The Dataverse Network Project is a formal archiving system for both individual and group usage, with the express aim of facilitating the process of making data freely available to others.

I did an investigation into this system with the objective of identifying its possible uses and implementation for improving our own data archiving system.

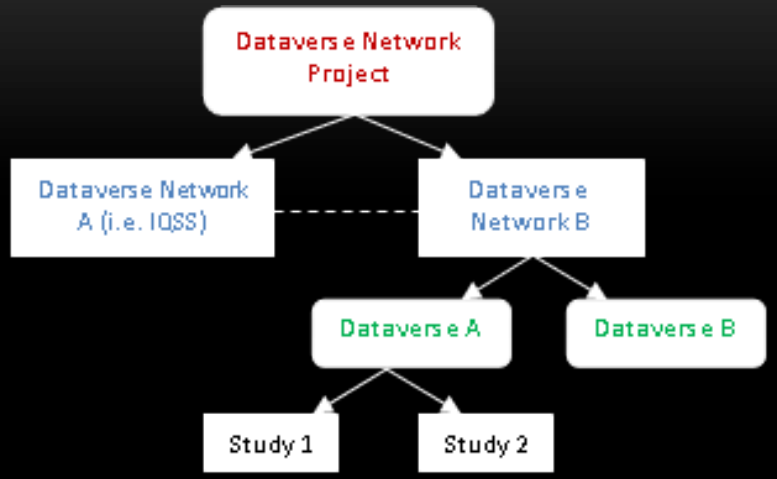


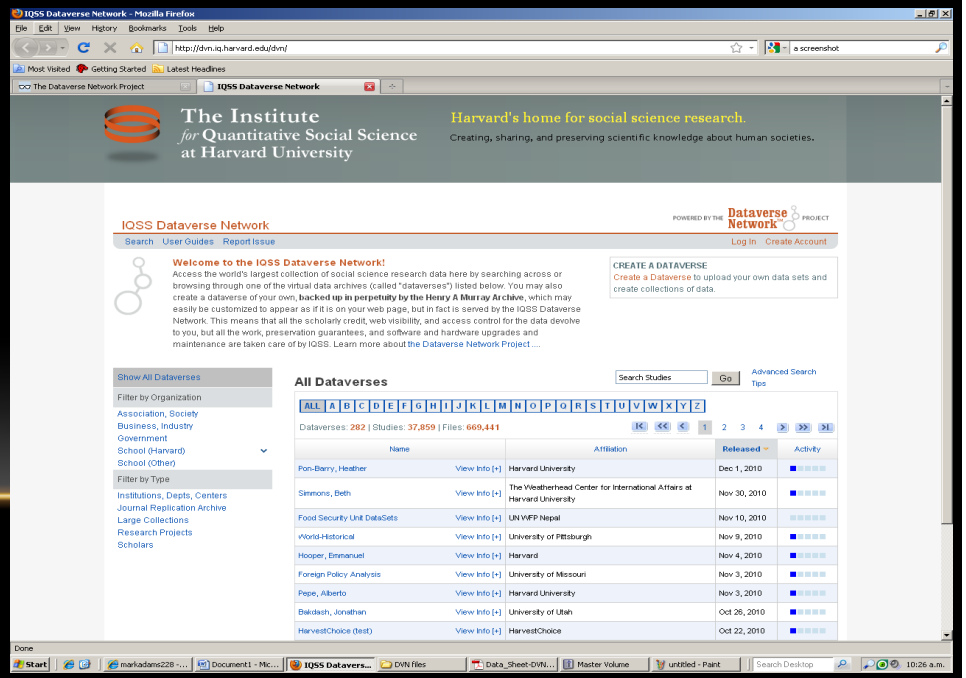
How it works

How it works:
The DVNP consists of two major components, Dataverse networks and individual Dataverses.

Dataverse Networks:
DVNs are digital communities created to enable the sharing of data – central hubs made up of multiple dataverses. Where each dataverse contains a collection of studies, works, etc. uploaded by the creator of the dataverse.

Dataverse:
The premise of a dataverse is to provide individuals, departments or organisations a place to securely store their collections of work and studies, while still maintaining their recognition as being the creators of the content.





Conclusions

Creating a DVN:
Because of the hardware and personnel requirements of creating and maintaining a DVN, it would only be useful in a University-wide application where individual departments and professors at the University create their own dataverses.

Creating a Dataverse:
Essentially this is what we already have in NZSSDS and Nesstar, where we store our content and control what information we upload and who has access to it, etc. The only difference is that by creating a dataverse we would no longer be responsible for the storage and archiving of the data, as this is done by the DVN.

Strengths and weaknesses

- All pertinent metadata related to each article have been collated and are accessible in an easy to use and understand format. This is a clear advantage of the enhanced publications making the research more transparent, and replication easier.
- The addition of two new SPSS teaching workbooks to the website. These workbooks have two considerable benefits; not only introducing users to the concept of analysing social survey data, but also providing an introduction to SPSS.
- The system is easily adaptable and expandable, meaning that as new articles and content come to fruition, they are easily able to be uploaded to NZSSDS, keeping the website up to date and increasing the resources available to potential users.
- One implication is that the original data are still available only through Nesstar and those unfamiliar with the software may have difficulty locating it.
- The teaching workbooks are only available for SPSS, which may limit their applicability.

Continuations

- To further the continued development of the data archiving and documentation of NZSSDS will require ongoing initiatives. In essence this is an infinite project where, as new research becomes available it should be uploaded.

- It follows that for continuity all further uploads to NZSSDS should follow the same template; this may lead to some issues if there is not enough available information for this to occur, in which case concessions will have to be made.

Acknowledgements

- Many thanks must be extended to the entire COMPASS team and specifically to my supervisors Martin von Randow, Roy Lay- Yee and Gerard Cotterell for your continued input, guidance and support throughout my tenure in COMPASS.

- Finally special mention must be given to both the COMPASS Frisbee association members including Karl, Martin, Jessica and myself and also to the COMPASS debate association consisting of merely two participants, Oliver and myself.