HAMBURG SCHOOL OF
BUSINESS ADMINISTRATION

Digital Tool Box – Project Report

Project work as part of the Bachelor of Science (B.Sc.) in
Media Management & Communication and Business Informatics

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Study Group	xx
Lecturer	ABCDEFG
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Abstract

The present specialized bookdown project template you are using now is intended as the basis for a report or thesis at the Hamburg School of Business Administration (HSBA). Compared to the original project template coming with the bookdown package, it generates PDF output only, using a slightly customized LaTeX template based on the original Pandoc-template, which is adapted to the requirements of the HSBA for theses and reports. The main notable differences are an appropriate title page, an automatic word count function, a list of acronyms, an adapted page numbering, the use of the appropriate Chicago Manual of Style citation style (17th edition, CSL-based) and an additional chapter with a basic declaration of honor at the end. In addition, several additional folders are used to demonstrate a basic project structure, as well as a slightly modified file organization to show the use of other R packages in addition to the bookdown basics. The contents of the original bookdown template can be found in the following chapters, the additional code examples in the appendix. For more information about this template, please refer to the file 'README.md'.

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Acronyms

CRAN Comprehensive R Archive Network

H_2O water

IDE integrated development environment

GLM generalized linear model

1. If you don't need the abstract, just comment it out here completely. If you want to

Placeholder

2. About

Placeholder

2.1. Usage

2.2. Render book

2.3. Preview book

3. Hello bookdown

All chapters start with a first-level heading followed by your chapter title, like the line above. There should be only one first-level heading (#) per .Rmd file.

3.1. A section

All chapter sections start with a second-level (##) or higher heading followed by your section title, like the sections above and below here. You can have as many as you want within a chapter.

An unnumbered section

Chapters and sections are numbered by default. To un-number a heading, add a `{.unnumbered}` or the shorter `{-}` at the end of the heading, like in this section.

4. Cross-references

Placeholder

4.1. Chapters and sub-chapters

4.2. Captioned figures and tables

5. Parts

You can add parts to organize one or more book chapters together. Parts can be inserted at the top of an .Rmd file, before the first-level chapter heading in that same file.

Add a numbered part: `# (PART) Act one {-}` (followed by `# A chapter`)

Add an unnumbered part: `# (PART\*) Act one {-}` (followed by `# A chapter`)

Add an appendix as a special kind of un-numbered part: `# (APPENDIX) Other stuff {-}` (followed by `# A chapter`). Chapters in an appendix are prepended with letters instead of numbers.

6. Footnotes and citations

6.1. Footnotes

Footnotes are put inside the square brackets after a caret `^[]`. Like this one [1].

6.2. Citations

Reference items in your bibliography file(s) using `@key`.

For example, we are using the **bookdown** package (Xie 2022) (check out the last code chunk in index.Rmd to see how this citation key was added) in this sample book, which was built on top of R Markdown and **knitr** (Xie 2015) (this citation was added manually in an external file book.bib). Note that the `.bib` files need to be listed in the index.Rmd with the YAML `bibliography` key.

The RStudio Visual Markdown Editor can also make it easier to insert citations: https://rstudio.github.io/visual-markdown-editing/#/citations

[1] This is a footnote.

7. Blocks

Placeholder

7.1. Equations

7.2. Theorems and proofs

7.3. Callout blocks

8. Sharing your book

Placeholder

8.1. Publishing

8.2. 404 pages

8.3. Metadata for sharing

References

Allaire, JJ, Yihui Xie, Jonathan McPherson, Javier Luraschi, Kevin Ushey, Aron Atkins, Hadley Wickham, Joe Cheng, Winston Chang, and Richard Iannone. 2022. *Rmarkdown: Dynamic Documents for r*. https://CRAN.R-project.org/package=rmarkdown.

R Core Team. 2022. *R: A Language and Environment for Statistical Computing*. Vienna, Austria: R Foundation for Statistical Computing. https://www.R-project.org/.

Xie, Yihui. 2015. *Dynamic Documents with R and Knitr*. 2nd ed. Boca Raton, Florida: Chapman; Hall/CRC. http://yihui.org/knitr/.

———. 2022. *Bookdown: Authoring Books and Technical Documents with r Markdown*. https://CRAN.R-project.org/package=bookdown.

Declaration of Honor

We hereby declare that

1. we wrote this project report without the assistance of others;
2. we have marked direct quotes used from the literature and the use of ideas of other authors at the corresponding locations in the thesis;
3. we have not presented this thesis for any other exam. We acknowledge that a false declaration will have legal consequences.

Hamburg, dd.mm.yyyy

aaaaa, bbbbbb

We accept that the HSBA may check the originality of our work using a range of manual and computer based techniques, including transferring and storing our submission in a database for the purpose of data-matching to help detect plagiarism.

Hamburg, dd.mm.yyyy

aaaaa, bbbbbb

Placeholder

.1. Use of acronyms

.2. Load packages and read data into R

.3. Displaying different types of tables from modelsummary

.4. Reporting statistical models

.4.1. t-test

.4.2. χ^2-test

.4.3. Linear regression models

.4.4. Generalized linear regression models

.4.5. Automated report generation

.5. Plotting statistical models

A. Data-set

A.1. Boxplot wie viele Städte liegen über/unter dem Durchschnittlichen CLI

```
library(tidyverse) # This includes readr!
#> -- Attaching packages ------------------- tidyverse 1.3.2 --
#> v ggplot2 3.3.6      v purrr   0.3.5
#> v tibble  3.1.8      v dplyr   1.0.10
#> v tidyr   1.2.1      v stringr 1.4.1
#> v readr   2.1.3      v forcats 0.5.2
#> -- Conflicts ---------------------- tidyverse_conflicts() --
#> x dplyr::filter() masks stats::filter()
#> x dplyr::lag()    masks stats::lag()
library(xtable) # For displaying LaTeX tables
library(modelsummary) # For displaying regression models in tables
library(stargazer) # For displaying regression models in tables
#>
#> Please cite as:
#>
#>  Hlavac, Marek (2022). stargazer: Well-Formatted Regression and Summary Statistics Tab
#>  R package version 5.2.3. https://CRAN.R-project.org/package=stargazer
library(jtools) # For displaying regression models in tables
library(kableExtra) # For displaying or changing tables
```

```
#>
#> Attache Paket: 'kableExtra'
#>
#> Das folgende Objekt ist maskiert 'package:dplyr':
#>
#>     group_rows
library(gt) # For displaying tables
#>
#> Attache Paket: 'gt'
#>
#> Das folgende Objekt ist maskiert 'package:modelsummary':
#>
#>     escape_latex
library(gtsummary) # For model reporting inline and in tables
library(broom) # For working with statistical models
library(car) # For type-III anova tests
#> Lade nötiges Paket: carData
#>
#> Attache Paket: 'car'
#>
#> Das folgende Objekt ist maskiert 'package:dplyr':
#>
#>     recode
#>
#> Das folgende Objekt ist maskiert 'package:purrr':
#>
#>     some
library(report) # For automated text-based model reporting
library(effects) # For working with statistical models / visualize effects
#> lattice theme set by effectsTheme()
```

```
#> See ?effectsTheme for details.
library(ggeffects) # For working with statistical models / visualize effects
library(patchwork) # For putting different visualizations in one figure
```

```
dataset <- read_csv("02-data/cost-of-living-2017.csv", lazy= FALSE)
#> Rows: 511 Columns: 1
#> -- Column specification --------------------------------------
#> Delimiter: ","
#> chr (1): City    State   Country Cost of Living Plus Rent Ind...
#>
#> i Use `spec()` to retrieve the full column specification for this data.
#> i Specify the column types or set `show_col_types = FALSE` to quiet this message.
```