Audit Analytics with R

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Contents

Welcome **5**

About the author **7**

1 Introduction **9**

1.1 Philosophy 9

2 Architecture **11**

2.1 R and RStudio 11

2.2 Code Sharing 11

2.3 Data Products 11

2.4 Data sources 11

3 Setup **13**

3.1 RStudio 13

3.2 Github 13

4 Audit analytics **15**

4.1 Import data 15

4.2 Explore 15

4.3 Manipulate 15

4.4 Report 15

5 Applied audit analytics **17**

5.1 Package creation 17

5.2 Continious Monitoring 17

5.3 Controls automation 17

5.4 Audit Data Mart 17

5.5 All-in-one toolkits 17

6 Other practices to follow **19**

6.1 Passwords 19

6.2 19

7 Audit data products **21**

Welcome

This is the website for Audit Analytics in R. This audience of this book is for:

- Leaders who are looking to design their environment to encourage code sharing and data products,
- Data analytics practitioners, who are looking to leverage R in their data analytics tasks.

You will learn what tools and technologies are well suited for a modern audit analytics toolkit, as well as learn skills with R to perform data analytics tasks. Consider this book to be your roadmap of practical items to implement and follow.

If you are brand new to R, it is encouraged you to read https://rstudio-education.github.io/hopr/ and https://r4ds.had.co.nz. While some foundations will be covered in this book, this book is focused on an applied view of R to the financial auditor practice.

About the author

Chapter 1

Introduction

Within the accounting and audit profession, analytics has been around for several decades, under the concept of Computer Aided Auditing Techniques (CAATs), where the software of choice was led by ACL Analytics. ACL Analytics was a significant audit enabler at the time, as it allowed direct access to analyze mainframe information that was otherwise inaccessible by mainstream software on the market. It enabled audit teams to obtain transparency in analysis, a rigorous audit trail, and even automation of scripts.

As computers, data analytic technology and accessiblity of coding in the Accounting practice has become mainstream, there is far more tools that enable auditors to become far more powerful and self sufficient than ever before. Tools that are typically reserved for software engineers have empowered financial auditors to reach out a bit further and expand their breadth and scope.

While most internal auditors have considered data analytics in one way or another, the realm of possibilities has changed over time. A traditional internal audit team would consider themselves to be consumers of information, limited by flat files sent by emails from their stakeholders. The challenge now is for auditors to be fully integrated into the business, and contributing to the management of the financial and IT risks the company faces on a daily basis. The most effective way to get to this new expectation is to apply data analytics, and this is what this book will teach you.

1.1 Philosophy

In my work at EY and Ovintiv (formerly Encana), I declared the following values to be the key drivers of the data analytic practice's success.

1.1.1 Automate everything

There is an agument about opportunity cost

1.1.2 Share everything

1.1.3 Make the right thing easy to do

Chapter 2

Architecture

2.1 R and RStudio

2.2 Code Sharing

2.2.1 Git

2.2.2 Packages

2.3 Data Products

2.3.1 Galvanize Highbond

2.3.2 RStudio Connect

2.4 Data sources

2.4.1 Databases

2.4.2 External sources

Chapter 3

Setup

3.1 RStudio

3.2 Github

Chapter 4

Audit analytics

4.1 Import data

4.2 Explore

4.3 Manipulate

4.4 Report

Chapter 5

Applied audit analytics

5.1 Package creation

5.2 Continious Monitoring

5.3 Controls automation

5.4 Audit Data Mart

5.5 All-in-one toolkits

Chapter 6

Other practices to follow

6.1 Passwords

6.2

Chapter 7

Audit data products