Audit Data Analytics (ADA) with R

Focus on Audit Effectiveness and Efficiency

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Available tools

Tools needed to do our jobs;

- Audit tools
- BI tools
- Data science tools

Challenging issues;

- Complex formula
- Not flexible
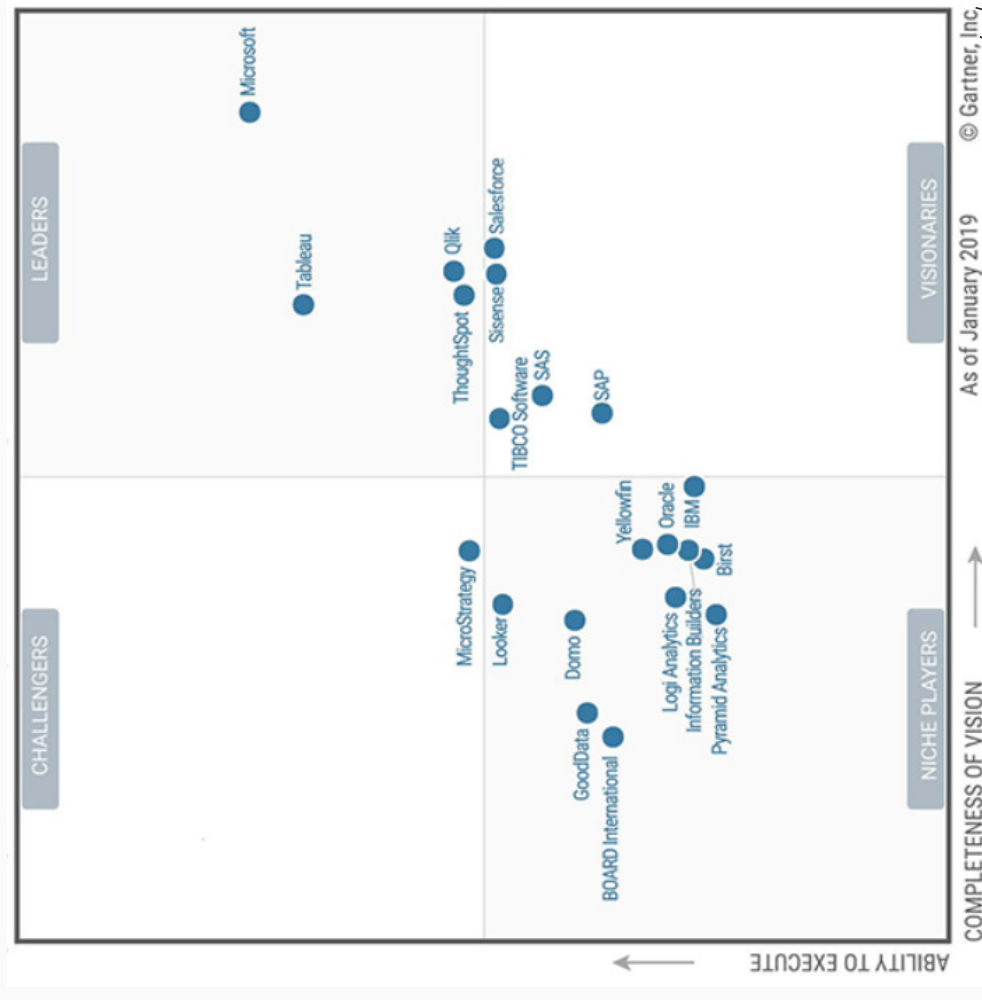- Meet all your needs

Audit tools

[Source:] 2015
AuditNet Audit Data
Analysis Software
Survey

ANSWER CHOICES	RESPONSES	
ACL	35.23%	217
Arbutus	2.11%	13
Caseware Analytics IDEA	19.16%	118
ActiveData	3.08%	19
ActiveAudit	0.97%	6
TeamMate Analytics (formerly TopCaats)	2.44%	15
Microsoft Access	25.32%	156
Microsoft Excel	73.38%	452
Monarch Standard	0.49%	3
Monarch Professional	0.97%	6
EZ-R Stats	0.00%	0
Wiz Rule	0.16%	1
We don't own any data analytic software	8.60%	53
Other (please specify)	9.90%	61
Total Respondents: 616		

BI tools

Integrate with R or Python;

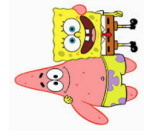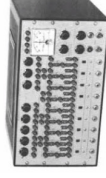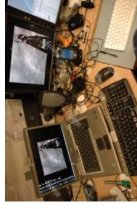- Microsoft (PowerBI, Azure)
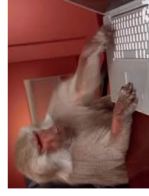- Tableau
- Qlik
- Rapidminer
- Many others

Data science tools

AS SEEN BY USERS OF ...

Motivation

- Data analytics for external auditors | ICAEW
- Basic audit data analytics with R | CPA Canada
- Rutgers Accounting Research Center and Continuous Auditing & Reporting Lab | Rutgers
- DIGAUDIT | NHH
- KPMG Master of Accounting with Data and Analytics Program | KPMG

Spreadsheet workflows in R, a good example shows you why you should use programming tools to do the audit job.

Training course

Course structure;

1. Introduction: installation setup.
2. Basic programming: R (Python), Base R (Pandas), Rmarkdown (Jupyter).
3. Tidyverse: clean, manipulate, visualize, functions, modeling, report.

Learning objectives;

1. Understand basic programming.
2. Acquire intermediate data analytics skills in R.

Course materials;

```
usethis::use_course("https://github.com/stewartli/ada_tutorial/archive/master.zip")
```

Setup

Download R

Download RStudio

Download packages

```r
pkgs <- c('tidyverse', 'data.table', 'kableExtra')
lapply(pkgs, install.packages)
pkgs %in% installed.packages()
```

Demo

```
rmarkdown::run("./tutorials/8_demo.Rmd")
```

Contact us

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