Workplace Analytics with wpa: : CHEAT SHEET

Basics

{wpa} is an R package that offers a set of tools and functions for analysing and visualising data from Microsoft Workplace Analytics.

You can install or update the package with the following command:

```
# Check if devtools is installed, if not then install it
if(!"devtools" %in% installed.packages()){
install.packages("devtools") }

devtools::install_git(url =
"https://github.com/microsoft/wpa.git")
```

The full documentation can be found on our package website:
https://microsoft.github.io/wpa

?function_name
To load the documentation in R, *prefix* the function name with a question mark

Tip!

Load **tidyverse** as the companion package to **wpa** for seamless data wrangling.

Data import / export

Use our handy functions below which are optimised for best practice for getting data *in* and *out* of R.

import_wpa()
Import CSV queries faster and pre-formatted for **wpa** functions (instead of **read.csv**)

export()
export a data frame to clipboard or write as a CSV, or a ggplot object as PNG or SVG

create_dt()
Generate an interactive HTML table with a data frame, using the JavaScript library DataTables.

Data validation

Run **data validation** functions prior to starting a piece of analysis. These functions are tagged as the 'Data Validation' family in the documentation.

validation_report()
Generate a report to validate person query data, with options to supply an additional *meeting query*

hrvar_count()
Count number of employees in HR attribute

extract_hr()
Extract HR attributes in a query

check_query()
Print diagnostic data about the query to the R console

identify_holidayweeks()
Identify likely holiday weeks (for the entire pop) where collaboration hours lie faroutside the mean

identify_nkw()
Identify likely non-knowledge workers where average person collaboration hours lie far outside the mean

identify_inactiveweeks()
Identify likely person-weeks where collaboration hours lie far outside the mean relative to the population average

identify_tenure()
Calculate tenure based on a supplied hire date

subject_validate_report()
Generate a text mining report in HTML for common subject exclusion terms

Inbuilt datasets

Test functions and features in **wpa** by using sample datasets which are inbuilt into the package.

sq_data
Standard person query

mt_data
Standard meeting query

em_data
Hourly collaboration query

g2g_data
Group-to-group query

dv_data
Standard person query with in-built errors and outliers (pre data validation)

Basic Analysis

Combine prefix with plot type to create a specific analysis on a WpA metric.

Available prefixes:

collab, **email**, **meeting**, **afterhours**, **one2one**, **workloads**

_summary()
hrvar, mingroup, return

_dist()
hrvar, mingroup, return

_fizz()
hrvar, mingroup, return

_line()
hrvar, mingroup, return

_trend()
hrvar, mingroup, return

_rank()
hrvar, mingroup

Flexible Analysis

Flexible analysis functions are advanced versions of basic analysis functions which allow you to pass the metric as a string, e.g. **metric = "Email_hours"**

create_bar()
metric, hrvar, mingroup, return

create_fizz()
metric, hrvar, mingroup, return

create_boxplot()
metric, hrvar, mingroup, return

create_line()
metric, hrvar, mingroup, return

create_scatter()
metric, hrvar, mingroup, return

create_period_scatter()
metric_x, metric_y, hrvar, mingroup, return

create_stacked()
metric, hrvar, mingroup, return

create_bar_asis()
group_var, bar_var, percent, bar_colour (no aggregation vs **create_bar**)

network_g2g
time_investor, collaborator, metric
Pass a group-to-group query to generate a network chart

See PDF documentation for full list of functions. This can be found alongside the installation tar ball.

Meeting Subject Text Mining

Pass a **meeting query** through to our text mining functions to extract insights on subject lines.

meeting_tm_report()
Report with a set of visualisations showing how keywords and phrases group together in subject lines.

tm_cooc()
Create a word co-occurrence network plot

tm_freq()
Create a circular bar plot with frequency of words or n-grams

tm_wordcloud()
Create a word cloud based on meeting subject lines

Quickstart Reports

collaboration_report()
Report offering a high-level overview of collaboration

capacity_report()
Report on metrics related to collaboration overload and work spans

coaching_report()
Report on metrics related to collaboration between managers and their direct reports

connectivity_report()
Report on metrics related to network and connectivity

IV_report()
Report based on running the Information Value (IV) algorithm

This package is an experimental tool that is available for pilot as an open-source repository on GitHub. The R package is built entirely on the open source language R, and its packages. This is not proprietary Microsoft software and please use at your own discretion.

mac@microsoft.com • package version 1.3.1 • Updated: 2020-12
https://github.com/Microsoft/wpa