

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 latest development version and documentation can be found on our GitHub repository:
<https://github.com/microsoft/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 far outside 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**)



g2g_network

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



workpatterns_report()

(specific versions only)
Report on archetypes generated by the working patterns algorithm

