APS-data-analysis-initial-results-and-code-10-Nov-2020.R

Gabriel Lopez
gl6@princeton.edu

```
# CODE USED TO ANALYZE APS DATA

# PRESERVING STYLE WITH DPLYR AND TIDYVERSE

# WRITE FUNCTIONS
library(lubridate)

## ~ dplyr::lag, lubridate::date, lubridate::intersect, lubridate::setdiff, lubridate::union

## -- Attaching packages --------------------------------------- tidyverse 1.3.0 --

## v ggplot2 3.3.2     v purrr   0.3.4
## v tibble  3.0.3     v dplyr   1.0.2
## v tidyr   1.1.2     v stringr 1.4.0
## v readr   1.3.1     v forcats 0.5.0

## -- Conflicts ------------------------------------------ tidyverse_conflicts() --
## x dplyr::filter()  masks stats::filter()
## x dplyr::lag()     masks stats::lag()

library(ggplot2)
library(stringr)

## Registered S3 method overwritten by 'ggplot2':
##   method         from
##   [.quosures     rlang
##   c.quosures     rlang

library(purrr)

## Warning messages:
## ~ ggplot2 3.3.2 requires Matrix >= 1.2-1
## ~ ggplot2 3.3.2 requires MASS >= 7.3-51.6
## ~ ggplot2 3.3.2 requires mgcv >= 1.8-31
## ~ ggplot2 3.3.2 requires nlme >= 3.1-148
## ~ ggplot2 3.3.2 requires tibble >= 2.1.3

## ~ ggplot2 3.3.2 requires vctrs >= 0.3.0
## ~ ggplot2 3.3.2 requires tibble >= 2.1.3

## ~ ggplot2 3.3.2 requires vctrs >= 0.3.0

## ~ ggplot2 3.3.2 requires Matrix >= 1.2-1
## ~ ggplot2 3.3.2 requires MASS >= 7.3-51.6
## ~ ggplot2 3.3.2 requires mgcv >= 1.8-31
## ~ ggplot2 3.3.2 requires nlme >= 3.1-148

## -- Conflicts ------------------------------------------ tidyverse_conflicts() --
## x purrr::compact() masks rlang::compact()
## x purrr::flatten() masks rlang::flatten()
## x purrr::flatten_chr() masks rlang::flatten_chr()
## x purrr::flatten_dbl() masks rlang::flatten_dbl()
## x purrr::flatten_int() masks rlang::flatten_int()
## x purrr::flatten_lgl() masks rlang::flatten_lgl()
## x purrr::flatten_raw() masks rlang::flatten_raw()
## x purrr::invoke() masks rlang::invoke()
## x purrr::splice() masks rlang::splice()

library(ggplot2)
library(stringr)
library(purrr)
library(tidyverse)

## Warning: replacement has length zero

## Warning: replacement has length zero

## Warning: replacement has length zero
```

sqs_notscoutbuy_engagement_1 = intersect_no(sqs_group(sqs_notscoutbuy_engagement_1), sqs_notscoutbuy_engagement_2)
sqs_notscoutbuy_engagement_1
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuy_engagement_2 = intersect_no(sqs_group(sqs_notscoutbuy_engagement_1), sqs_notscoutbuy_engagement_2)
sqs_notscoutbuy_engagement_2
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuy_engagement_3 = intersect_no(sqs_group(sqs_notscoutbuy_engagement_1), sqs_notscoutbuy_engagement_3)
sqs_notscoutbuy_engagement_3
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuy_engagement_4 = intersect_no(sqs_group(sqs_notscoutbuy_engagement_1), sqs_notscoutbuy_engagement_4)
sqs_notscoutbuy_engagement_4
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuy_engagement_5 = intersect_no(sqs_group(sqs_notscoutbuy_engagement_1), sqs_notscoutbuy_engagement_5)
sqs_notscoutbuy_engagement_5
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuy_engagement_6 = intersect_no(sqs_group(sqs_notscoutbuy_engagement_1), sqs_notscoutbuy_engagement_6)
sqs_notscoutbuy_engagement_6
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuy_engagement_7 = intersect_no(sqs_group(sqs_notscoutbuy_engagement_1), sqs_notscoutbuy_engagement_7)
sqs_notscoutbuy_engagement_7
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuy_engagement_8 = intersect_no(sqs_group(sqs_notscoutbuy_engagement_1), sqs_notscoutbuy_engagement_8)
sqs_notscoutbuy_engagement_8
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuy_engagement_9 = intersect_no(sqs_group(sqs_notscoutbuy_engagement_1), sqs_notscoutbuy_engagement_9)
sqs_notscoutbuy_engagement_9
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuy_engagement_10 = intersect_no(sqs_group(sqs_notscoutbuy_engagement_1), sqs_notscoutbuy_engagement_10)
sqs_notscoutbuy_engagement_10
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuy_engagement_11 = intersect_no(sqs_group(sqs_notscoutbuy_engagement_1), sqs_notscoutbuy_engagement_11)
sqs_notscoutbuy_engagement_11
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuy_engagement_2 = intersect_no(sqs_group(sqs_notscoutbuy_engagement_2), sqs_notscoutbuy_engagement_2)
sqs_notscoutbuy_engagement_2
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuy_engagement_3 = intersect_no(sqs_group(sqs_notscoutbuy_engagement_2), sqs_notscoutbuy_engagement_3)
sqs_notscoutbuy_engagement_3
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuy_engagement_4 = intersect_no(sqs_group(sqs_notscoutbuy_engagement_2), sqs_notscoutbuy_engagement_4)
sqs_notscoutbuy_engagement_4
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuy_engagement_5 = intersect_no(sqs_group(sqs_notscoutbuy_engagement_2), sqs_notscoutbuy_engagement_5)
sqs_notscoutbuy_engagement_5
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuy_engagement_6 = intersect_no(sqs_group(sqs_notscoutbuy_engagement_2), sqs_notscoutbuy_engagement_6)
sqs_notscoutbuy_engagement_6
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuy_engagement_7 = intersect_no(sqs_group(sqs_notscoutbuy_engagement_2), sqs_notscoutbuy_engagement_7)
sqs_notscoutbuy_engagement_7
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuy_engagement_8 = intersect_no(sqs_group(sqs_notscoutbuy_engagement_2), sqs_notscoutbuy_engagement_8)
sqs_notscoutbuy_engagement_8
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuy_engagement_9 = intersect_no(sqs_group(sqs_notscoutbuy_engagement_2), sqs_notscoutbuy_engagement_9)
sqs_notscoutbuy_engagement_9
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuy_engagement_10 = intersect_no(sqs_group(sqs_notscoutbuy_engagement_2), sqs_notscoutbuy_engagement_10)
sqs_notscoutbuy_engagement_10
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuy_engagement_11 = intersect_no(sqs_group(sqs_notscoutbuy_engagement_2), sqs_notscoutbuy_engagement_11)
sqs_notscoutbuy_engagement_11
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuy_engagement_3 = intersect_no(sqs_group(sqs_notscoutbuy_engagement_3), sqs_notscoutbuy_engagement_3)
sqs_notscoutbuy_engagement_3
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuy_engagement_4 = intersect_no(sqs_group(sqs_notscoutbuy_engagement_3), sqs_notscoutbuy_engagement_4)
sqs_notscoutbuy_engagement_4
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuy_engagement_5 = intersect_no(sqs_group(sqs_notscoutbuy_engagement_3), sqs_notscoutbuy_engagement_5)
sqs_notscoutbuy_engagement_5
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuy_engagement_6 = intersect_no(sqs_group(sqs_notscoutbuy_engagement_3), sqs_notscoutbuy_engagement_6)
sqs_notscoutbuy_engagement_6
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuy_engagement_7 = intersect_no(sqs_group(sqs_notscoutbuy_engagement_3), sqs_notscoutbuy_engagement_7)
sqs_notscoutbuy_engagement_7
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuy_engagement_8 = intersect_no(sqs_group(sqs_notscoutbuy_engagement_3), sqs_notscoutbuy_engagement_8)
sqs_notscoutbuy_engagement_8
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuy_engagement_9 = intersect_no(sqs_group(sqs_notscoutbuy_engagement_3), sqs_notscoutbuy_engagement_9)
sqs_notscoutbuy_engagement_9
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuy_engagement_10 = intersect_no(sqs_group(sqs_notscoutbuy_engagement_3), sqs_notscoutbuy_engagement_10)
sqs_notscoutbuy_engagement_10
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuy_engagement_11 = intersect_no(sqs_group(sqs_notscoutbuy_engagement_3), sqs_notscoutbuy_engagement_11)
sqs_notscoutbuy_engagement_11
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuy_engagement_4 = intersect_no(sqs_group(sqs_notscoutbuy_engagement_4), sqs_notscoutbuy_engagement_4)
sqs_notscoutbuy_engagement_4
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuy_engagement_5 = intersect_no(sqs_group(sqs_notscoutbuy_engagement_4), sqs_notscoutbuy_engagement_5)
sqs_notscoutbuy_engagement_5
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuy_engagement_6 = intersect_no(sqs_group(sqs_notscoutbuy_engagement_4), sqs_notscoutbuy_engagement_6)
sqs_notscoutbuy_engagement_6
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuy_engagement_7 = intersect_no(sqs_group(sqs_notscoutbuy_engagement_4), sqs_notscoutbuy_engagement_7)
sqs_notscoutbuy_engagement_7
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuy_engagement_8 = intersect_no(sqs_group(sqs_notscoutbuy_engagement_4), sqs_notscoutbuy_engagement_8)
sqs_notscoutbuy_engagement_8
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuy_engagement_9 = intersect_no(sqs_group(sqs_notscoutbuy_engagement_4), sqs_notscoutbuy_engagement_9)
sqs_notscoutbuy_engagement_9
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuy_engagement_10 = intersect_no(sqs_group(sqs_notscoutbuy_engagement_4), sqs_notscoutbuy_engagement_10)
sqs_notscoutbuy_engagement_10
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuy_engagement_11 = intersect_no(sqs_group(sqs_notscoutbuy_engagement_4), sqs_notscoutbuy_engagement_11)
sqs_notscoutbuy_engagement_11
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuy_engagement_5 = intersect_no(sqs_group(sqs_notscoutbuy_engagement_5), sqs_notscoutbuy_engagement_5)
sqs_notscoutbuy_engagement_5
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuy_engagement_6 = intersect_no(sqs_group(sqs_notscoutbuy_engagement_5), sqs_notscoutbuy_engagement_6)
sqs_notscoutbuy_engagement_6
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuy_engagement_7 = intersect_no(sqs_group(sqs_notscoutbuy_engagement_5), sqs_notscoutbuy_engagement_7)
sqs_notscoutbuy_engagement_7
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuy_engagement_8 = intersect_no(sqs_group(sqs_notscoutbuy_engagement_5), sqs_notscoutbuy_engagement_8)
sqs_notscoutbuy_engagement_8
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuy_engagement_9 = intersect_no(sqs_group(sqs_notscoutbuy_engagement_5), sqs_notscoutbuy_engagement_9)
sqs_notscoutbuy_engagement_9
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuy_engagement_10 = intersect_no(sqs_group(sqs_notscoutbuy_engagement_5), sqs_notscoutbuy_engagement_10)
sqs_notscoutbuy_engagement_10
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuy_engagement_11 = intersect_no(sqs_group(sqs_notscoutbuy_engagement_5), sqs_notscoutbuy_engagement_11)
sqs_notscoutbuy_engagement_11
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuy_engagement_6 = intersect_no(sqs_group(sqs_notscoutbuy_engagement_6), sqs_notscoutbuy_engagement_6)
sqs_notscoutbuy_engagement_6
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuy_engagement_7 = intersect_no(sqs_group(sqs_notscoutbuy_engagement_6), sqs_notscoutbuy_engagement_7)
sqs_notscoutbuy_engagement_7
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuy_engagement_8 = intersect_no(sqs_group(sqs_notscoutbuy_engagement_6), sqs_notscoutbuy_engagement_8)
sqs_notscoutbuy_engagement_8
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuy_engagement_9 = intersect_no(sqs_group(sqs_notscoutbuy_engagement_6), sqs_notscoutbuy_engagement_9)
sqs_notscoutbuy_engagement_9
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuy_engagement_10 = intersect_no(sqs_group(sqs_notscoutbuy_engagement_6), sqs_notscoutbuy_engagement_10)
sqs_notscoutbuy_engagement_10
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuy_engagement_11 = intersect_no(sqs_group(sqs_notscoutbuy_engagement_6), sqs_notscoutbuy_engagement_11)
sqs_notscoutbuy_engagement_11
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuy_engagement_7 = intersect_no(sqs_group(sqs_notscoutbuy_engagement_7), sqs_notscoutbuy_engagement_7)
sqs_notscoutbuy_engagement_7
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuy_engagement_8 = intersect_no(sqs_group(sqs_notscoutbuy_engagement_7), sqs_notscoutbuy_engagement_8)
sqs_notscoutbuy_engagement_8
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuy_engagement_9 = intersect_no(sqs_group(sqs_notscoutbuy_engagement_7), sqs_notscoutbuy_engagement_9)
sqs_notscoutbuy_engagement_9
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuy_engagement_10 = intersect_no(sqs_group(sqs_notscoutbuy_engagement_7), sqs_notscoutbuy_engagement_10)
sqs_notscoutbuy_engagement_10
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuy_engagement_11 = intersect_no(sqs_group(sqs_notscoutbuy_engagement_7), sqs_notscoutbuy_engagement_11)
sqs_notscoutbuy_engagement_11
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuy_engagement_8 = intersect_no(sqs_group(sqs_notscoutbuy_engagement_8), sqs_notscoutbuy_engagement_8)
sqs_notscoutbuy_engagement_8
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuy_engagement_9 = intersect_no(sqs_group(sqs_notscoutbuy_engagement_8), sqs_notscoutbuy_engagement_9)
sqs_notscoutbuy_engagement_9
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuy_engagement_10 = intersect_no(sqs_group(sqs_notscoutbuy_engagement_8), sqs_notscoutbuy_engagement_10)
sqs_notscoutbuy_engagement_10
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuy_engagement_11 = intersect_no(sqs_group(sqs_notscoutbuy_engagement_8), sqs_notscoutbuy_engagement_11)
sqs_notscoutbuy_engagement_11
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuy_engagement_9 = intersect_no(sqs_group(sqs_notscoutbuy_engagement_9), sqs_notscoutbuy_engagement_9)
sqs_notscoutbuy_engagement_9
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuy_engagement_10 = intersect_no(sqs_group(sqs_notscoutbuy_engagement_9), sqs_notscoutbuy_engagement_10)
sqs_notscoutbuy_engagement_10
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuy_engagement_11 = intersect_no(sqs_group(sqs_notscoutbuy_engagement_9), sqs_notscoutbuy_engagement_11)
sqs_notscoutbuy_engagement_11
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuy_engagement_10 = intersect_no(sqs_group(sqs_notscoutbuy_engagement_10), sqs_notscoutbuy_engagement_10)
sqs_notscoutbuy_engagement_10
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuy_engagement_11 = intersect_no(sqs_group(sqs_notscoutbuy_engagement_10), sqs_notscoutbuy_engagement_11)
sqs_notscoutbuy_engagement_11
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuy_engagement_11 = intersect_no(sqs_group(sqs_notscoutbuy_engagement_11), sqs_notscoutbuy_engagement_11)
sqs_notscoutbuy_engagement_11
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuyer_engagement_1 = intersect_no(sqs_group(sqs_notscoutbuyer_engagement_1), sqs_notscoutbuyer_engagement_1)
sqs_notscoutbuyer_engagement_1
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuyer_engagement_2 = intersect_no(sqs_group(sqs_notscoutbuyer_engagement_1), sqs_notscoutbuyer_engagement_2)
sqs_notscoutbuyer_engagement_2
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuyer_engagement_3 = intersect_no(sqs_group(sqs_notscoutbuyer_engagement_1), sqs_notscoutbuyer_engagement_3)
sqs_notscoutbuyer_engagement_3
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuyer_engagement_4 = intersect_no(sqs_group(sqs_notscoutbuyer_engagement_1), sqs_notscoutbuyer_engagement_4)
sqs_notscoutbuyer_engagement_4
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuyer_engagement_5 = intersect_no(sqs_group(sqs_notscoutbuyer_engagement_1), sqs_notscoutbuyer_engagement_5)
sqs_notscoutbuyer_engagement_5
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuyer_engagement_6 = intersect_no(sqs_group(sqs_notscoutbuyer_engagement_1), sqs_notscoutbuyer_engagement_6)
sqs_notscoutbuyer_engagement_6
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuyer_engagement_7 = intersect_no(sqs_group(sqs_notscoutbuyer_engagement_1), sqs_notscoutbuyer_engagement_7)
sqs_notscoutbuyer_engagement_7
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuyer_engagement_8 = intersect_no(sqs_group(sqs_notscoutbuyer_engagement_1), sqs_notscoutbuyer_engagement_8)
sqs_notscoutbuyer_engagement_8
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuyer_engagement_9 = intersect_no(sqs_group(sqs_notscoutbuyer_engagement_1), sqs_notscoutbuyer_engagement_9)
sqs_notscoutbuyer_engagement_9
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuyer_engagement_10 = intersect_no(sqs_group(sqs_notscoutbuyer_engagement_1), sqs_notscoutbuyer_engagement_10)
sqs_notscoutbuyer_engagement_10
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuyer_engagement_11 = intersect_no(sqs_group(sqs_notscoutbuyer_engagement_1), sqs_notscoutbuyer_engagement_11)
sqs_notscoutbuyer_engagement_11
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuyer_engagement_2 = intersect_no(sqs_group(sqs_notscoutbuyer_engagement_2), sqs_notscoutbuyer_engagement_2)
sqs_notscoutbuyer_engagement_2
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuyer_engagement_3 = intersect_no(sqs_group(sqs_notscoutbuyer_engagement_2), sqs_notscoutbuyer_engagement_3)
sqs_notscoutbuyer_engagement_3
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuyer_engagement_4 = intersect_no(sqs_group(sqs_notscoutbuyer_engagement_2), sqs_notscoutbuyer_engagement_4)
sqs_notscoutbuyer_engagement_4
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuyer_engagement_5 = intersect_no(sqs_group(sqs_notscoutbuyer_engagement_2), sqs_notscoutbuyer_engagement_5)
sqs_notscoutbuyer_engagement_5
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuyer_engagement_6 = intersect_no(sqs_group(sqs_notscoutbuyer_engagement_2), sqs_notscoutbuyer_engagement_6)
sqs_notscoutbuyer_engagement_6
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuyer_engagement_7 = intersect_no(sqs_group(sqs_notscoutbuyer_engagement_2), sqs_notscoutbuyer_engagement_7)
sqs_notscoutbuyer_engagement_7
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuyer_engagement_8 = intersect_no(sqs_group(sqs_notscoutbuyer_engagement_2), sqs_notscoutbuyer_engagement_8)
sqs_notscoutbuyer_engagement_8
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuyer_engagement_9 = intersect_no(sqs_group(sqs_notscoutbuyer_engagement_2), sqs_notscoutbuyer_engagement_9)
sqs_notscoutbuyer_engagement_9
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuyer_engagement_10 = intersect_no(sqs_group(sqs_notscoutbuyer_engagement_2), sqs_notscoutbuyer_engagement_10)
sqs_notscoutbuyer_engagement_10
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuyer_engagement_11 = intersect_no(sqs_group(sqs_notscoutbuyer_engagement_2), sqs_notscoutbuyer_engagement_11)
sqs_notscoutbuyer_engagement_11
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuyer_engagement_3 = intersect_no(sqs_group(sqs_notscoutbuyer_engagement_3), sqs_notscoutbuyer_engagement_3)
sqs_notscoutbuyer_engagement_3
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuyer_engagement_4 = intersect_no(sqs_group(sqs_notscoutbuyer_engagement_3), sqs_notscoutbuyer_engagement_4)
sqs_notscoutbuyer_engagement_4
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuyer_engagement_5 = intersect_no(sqs_group(sqs_notscoutbuyer_engagement_3), sqs_notscoutbuyer_engagement_5)
sqs_notscoutbuyer_engagement_5
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuyer_engagement_6 = intersect_no(sqs_group(sqs_notscoutbuyer_engagement_3), sqs_notscoutbuyer_engagement_6)
sqs_notscoutbuyer_engagement_6
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuyer_engagement_7 = intersect_no(sqs_group(sqs_notscoutbuyer_engagement_3), sqs_notscoutbuyer_engagement_7)
sqs_notscoutbuyer_engagement_7
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuyer_engagement_8 = intersect_no(sqs_group(sqs_notscoutbuyer_engagement_3), sqs_notscoutbuyer_engagement_8)
sqs_notscoutbuyer_engagement_8
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuyer_engagement_9 = intersect_no(sqs_group(sqs_notscoutbuyer_engagement_3), sqs_notscoutbuyer_engagement_9)
sqs_notscoutbuyer_engagement_9
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuyer_engagement_10 = intersect_no(sqs_group(sqs_notscoutbuyer_engagement_3), sqs_notscoutbuyer_engagement_10)
sqs_notscoutbuyer_engagement_10
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuyer_engagement_11 = intersect_no(sqs_group(sqs_notscoutbuyer_engagement_3), sqs_notscoutbuyer_engagement_11)
sqs_notscoutbuyer_engagement_11
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuyer_engagement_4 = intersect_no(sqs_group(sqs_notscoutbuyer_engagement_4), sqs_notscoutbuyer_engagement_4)
sqs_notscoutbuyer_engagement_4
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuyer_engagement_5 = intersect_no(sqs_group(sqs_notscoutbuyer_engagement_4), sqs_notscoutbuyer_engagement_5)
sqs_notscoutbuyer_engagement_5
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuyer_engagement_6 = intersect_no(sqs_group(sqs_notscoutbuyer_engagement_4), sqs_notscoutbuyer_engagement_6)
sqs_notscoutbuyer_engagement_6
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuyer_engagement_7 = intersect_no(sqs_group(sqs_notscoutbuyer_engagement_4), sqs_notscoutbuyer_engagement_7)
sqs_notscoutbuyer_engagement_7
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuyer_engagement_8 = intersect_no(sqs_group(sqs_notscoutbuyer_engagement_4), sqs_notscoutbuyer_engagement_8)
sqs_notscoutbuyer_engagement_8
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuyer_engagement_9 = intersect_no(sqs_group(sqs_notscoutbuyer_engagement_4), sqs_notscoutbuyer_engagement_9)
sqs_notscoutbuyer_engagement_9
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuyer_engagement_10 = intersect_no(sqs_group(sqs_notscoutbuyer_engagement_4), sqs_notscoutbuyer_engagement_10)
sqs_notscoutbuyer_engagement_10
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuyer_engagement_11 = intersect_no(sqs_group(sqs_notscoutbuyer_engagement_4), sqs_notscoutbuyer_engagement_11)
sqs_notscoutbuyer_engagement_11
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuyer_engagement_5 = intersect_no(sqs_group(sqs_notscoutbuyer_engagement_5), sqs_notscoutbuyer_engagement_5)
sqs_notscoutbuyer_engagement_5
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuyer_engagement_6 = intersect_no(sqs_group(sqs_notscoutbuyer_engagement_5), sqs_notscoutbuyer_engagement_6)
sqs_notscoutbuyer_engagement_6
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuyer_engagement_7 = intersect_no(sqs_group(sqs_notscoutbuyer_engagement_5), sqs_notscoutbuyer_engagement_7)
sqs_notscoutbuyer_engagement_7
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuyer_engagement_8 = intersect_no(sqs_group(sqs_notscoutbuyer_engagement_5), sqs_notscoutbuyer_engagement_8)
sqs_notscoutbuyer_engagement_8
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuyer_engagement_9 = intersect_no(sqs_group(sqs_notscoutbuyer_engagement_5), sqs_notscoutbuyer_engagement_9)
sqs_notscoutbuyer_engagement_9
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuyer_engagement_10 = intersect_no(sqs_group(sqs_notscoutbuyer_engagement_5), sqs_notscoutbuyer_engagement_10)
sqs_notscoutbuyer_engagement_10
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuyer_engagement_11 = intersect_no(sqs_group(sqs_notscoutbuyer_engagement_5), sqs_notscoutbuyer_engagement_11)
sqs_notscoutbuyer_engagement_11
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuyer_engagement_6 = intersect_no(sqs_group(sqs_notscoutbuyer_engagement_6), sqs_notscoutbuyer_engagement_6)
sqs_notscoutbuyer_engagement_6
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuyer_engagement_7 = intersect_no(sqs_group(sqs_notscoutbuyer_engagement_6), sqs_notscoutbuyer_engagement_7)
sqs_notscoutbuyer_engagement_7
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuyer_engagement_8 = intersect_no(sqs_group(sqs_notscoutbuyer_engagement_6), sqs_notscoutbuyer_engagement_8)
sqs_notscoutbuyer_engagement_8
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuyer_engagement_9 = intersect_no(sqs_group(sqs_notscoutbuyer_engagement_6), sqs_notscoutbuyer_engagement_9)
sqs_notscoutbuyer_engagement_9
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuyer_engagement_10 = intersect_no(sqs_group(sqs_notscoutbuyer_engagement_6), sqs_notscoutbuyer_engagement_10)
sqs_notscoutbuyer_engagement_10
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuyer_engagement_11 = intersect_no(sqs_group(sqs_notscoutbuyer_engagement_6), sqs_notscoutbuyer_engagement_11)
sqs_notscoutbuyer_engagement_11
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuyer_engagement_7 = intersect_no(sqs_group(sqs_notscoutbuyer_engagement_7), sqs_notscoutbuyer_engagement_7)
sqs_notscoutbuyer_engagement_7
(Group:engagement | Snapshot:1 Before open-to-shoppers & Agent:1 Group:agent)
Count
Days
sqs_notscoutbuyer_engagement_8 = intersect_no(sqs_

app_notesdbsqlsvr_dwmaster_dwsupport_1 / ratioteam_cartesia_group1cpu_notesdbsqlsvr_dwmaster_dwsupport_1 / pentomi_lexus-nx-cpu_notesdbsqlsvr_dwmaster_dwsupport_1

```
sql_intercoiffeur_performance_support_1 <- intercoiffeur_carrefy_group1_sql_intercoiffeur_performance_support_1
pander(sql_intercoiffeur_performance_support_1)
```

```
sql_intercoiffeur_performance_support_2 <- intercoiffeur_carrefy_group1_sql_intercoiffeur_performance_support_2
pander(sql_intercoiffeur_performance_support_2)
```

```
sql_intercoiffeur_performance_support_3 <- intercoiffeur_carrefy_group1_sql_intercoiffeur_performance_support_3
pander(sql_intercoiffeur_performance_support_3)
```

```
sql_intercoiffeur_culture_1 <- intercoiffeur_carrefy_group1_sql_intercoiffeur_culture_1
pander(sql_intercoiffeur_culture_1)
```

```
sql_intercoiffeur_culture_2 <- intercoiffeur_carrefy_group1_sql_intercoiffeur_culture_2
pander(sql_intercoiffeur_culture_2)
```

```
sql_intercoiffeur_culture_3 <- intercoiffeur_carrefy_group1_sql_intercoiffeur_culture_3
pander(sql_intercoiffeur_culture_3)
```

```
sql_intercoiffeur_culture_4 <- intercoiffeur_carrefy_group1_sql_intercoiffeur_culture_4
pander(sql_intercoiffeur_culture_4)
```

intercoiffeur_information_1

```
sql_intercoiffeur_information_1 <- intercoiffeur_carrefy_group1_sql_intercoiffeur_information_1
pander(sql_intercoiffeur_information_1)
```

```
sql_intercoiffeur_information_2 <- intercoiffeur_carrefy_group1_sql_intercoiffeur_information_2
pander(sql_intercoiffeur_information_2)
```

```
sql_intercoiffeur_information_3 <- intercoiffeur_carrefy_group1_sql_intercoiffeur_information_3
pander(sql_intercoiffeur_information_3)
```

```
sql_intercoiffeur_information_4 <- intercoiffeur_carrefy_group1_sql_intercoiffeur_information_4
pander(sql_intercoiffeur_information_4)
```

intercoiffeur_engagement_1_groupe

```
sql_intercoiffeur_engagement_1 <- intercoiffeur_carrefy_group1_sql_intercoiffeur_engagement_1
pander(sql_intercoiffeur_engagement_1)
```

intercoiffeur_engagement_2_groupe

```
sql_intercoiffeur_engagement_2 <- intercoiffeur_carrefy_group1_sql_intercoiffeur_engagement_2
pander(sql_intercoiffeur_engagement_2)
```

intercoiffeur_engagement_3_groupe

```
sql_intercoiffeur_engagement_3 <- intercoiffeur_carrefy_group1_sql_intercoiffeur_engagement_3
pander(sql_intercoiffeur_engagement_3)
```

intercoiffeur_engagement_4_groupe

```
sql_intercoiffeur_engagement_4 <- intercoiffeur_carrefy_group1_sql_intercoiffeur_engagement_4
pander(sql_intercoiffeur_engagement_4)
```

intercoiffeur_1_intercoiffeur_1_groupe

```
sql_intercoiffeur_1 <- intercoiffeur_carrefy_group1_sql_intercoiffeur_1
pander(sql_intercoiffeur_1)
```

intercoiffeur_2_intercoiffeur_2_groupe

```
sql_intercoiffeur_2 <- intercoiffeur_carrefy_group1_sql_intercoiffeur_2
pander(sql_intercoiffeur_2)
```

```
DF <- c( 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40,
```

```
>>> (1)
>>>
>>>
>>>
```

```
# Stacked Likert chart for survey_id, question, response
plot_stacked_likert(survey_id=survey_id,
                    question=question,
                    response=response,
                    order=c("The people's is perhaps essential in general time",
                            "Strongly Agree",
                            "Agree",
                            "Neutral",
                            "Disagree",
                            "Strongly Disagree"),
                    colors=c("The people's is perhaps essential in general time" = "#1b7837",
                             "Strongly Agree" = "#2c7bb6",
                             "Agree" = "#abd9e9",
                             "Neutral" = "#ffffbf",
                             "Disagree" = "#fdae61",
                             "Strongly Disagree" = "#d7191c
```

```
PR-Q6 [Employee satisfaction: I feel valued for my contribution]                    1.0
PR-Q7 [Employee satisfaction: I feel valued for my contribution]                    1.0
PR-Q8 [Employee satisfaction: Leaders and managers support]                         1.0
PR-Q9 [Employee satisfaction: Leaders and managers support]                         1.0
PR-Q10 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q11 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q12 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q13 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q14 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q15 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q16 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q17 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q18 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q19 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q20 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q21 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q22 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q23 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q24 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q25 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q26 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q27 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q28 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q29 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q30 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q31 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q32 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q33 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q34 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q35 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q36 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q37 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q38 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q39 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q40 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q41 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q42 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q43 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q44 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q45 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q46 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q47 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q48 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q49 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q50 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q51 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q52 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q53 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q54 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q55 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q56 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q57 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q58 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q59 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q60 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q61 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q62 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q63 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q64 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q65 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q66 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q67 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q68 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q69 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q70 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q71 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q72 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q73 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q74 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q75 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q76 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q77 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q78 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q79 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q80 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q81 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q82 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q83 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q84 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q85 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q86 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q87 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q88 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q89 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q90 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q91 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q92 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q93 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q94 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q95 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q96 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q97 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q98 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q99 [Employee satisfaction: Leaders and managers support]                        1.0
PR-Q100 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q101 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q102 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q103 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q104 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q105 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q106 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q107 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q108 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q109 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q110 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q111 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q112 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q113 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q114 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q115 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q116 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q117 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q118 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q119 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q120 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q121 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q122 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q123 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q124 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q125 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q126 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q127 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q128 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q129 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q130 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q131 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q132 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q133 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q134 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q135 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q136 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q137 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q138 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q139 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q140 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q141 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q142 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q143 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q144 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q145 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q146 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q147 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q148 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q149 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q150 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q151 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q152 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q153 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q154 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q155 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q156 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q157 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q158 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q159 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q160 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q161 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q162 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q163 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q164 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q165 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q166 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q167 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q168 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q169 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q170 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q171 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q172 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q173 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q174 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q175 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q176 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q177 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q178 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q179 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q180 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q181 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q182 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q183 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q184 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q185 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q186 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q187 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q188 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q189 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q190 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q191 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q192 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q193 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q194 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q195 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q196 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q197 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q198 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q199 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q200 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q201 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q202 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q203 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q204 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q205 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q206 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q207 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q208 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q209 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q210 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q211 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q212 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q213 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q214 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q215 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q216 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q217 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q218 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q219 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q220 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q221 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q222 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q223 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q224 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q225 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q226 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q227 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q228 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q229 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q230 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q231 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q232 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q233 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q234 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q235 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q236 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q237 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q238 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q239 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q240 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q241 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q242 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q243 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q244 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q245 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q246 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q247 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q248 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q249 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q250 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q251 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q252 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q253 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q254 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q255 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q256 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q257 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q258 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q259 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q260 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q261 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q262 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q263 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q264 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q265 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q266 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q267 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q268 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q269 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q270 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q271 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q272 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q273 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q274 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q275 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q276 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q277 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q278 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q279 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q280 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q281 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q282 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q283 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q284 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q285 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q286 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q287 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q288 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q289 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q290 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q291 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q292 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q293 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q294 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q295 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q296 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q297 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q298 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q299 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q300 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q301 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q302 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q303 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q304 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q305 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q306 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q307 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q308 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q309 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q310 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q311 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q312 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q313 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q314 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q315 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q316 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q317 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q318 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q319 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q320 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q321 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q322 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q323 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q324 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q325 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q326 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q327 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q328 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q329 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q330 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q331 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q332 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q333 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q334 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q335 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q336 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q337 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q338 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q339 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q340 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q341 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q342 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q343 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q344 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q345 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q346 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q347 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q348 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q349 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q350 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q351 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q352 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q353 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q354 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q355 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q356 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q357 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q358 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q359 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q360 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q361 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q362 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q363 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q364 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q365 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q366 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q367 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q368 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q369 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q370 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q371 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q372 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q373 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q374 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q375 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q376 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q377 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q378 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q379 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q380 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q381 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q382 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q383 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q384 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q385 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q386 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q387 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q388 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q389 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q390 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q391 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q392 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q393 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q394 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q395 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q396 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q397 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q398 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q399 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q400 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q401 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q402 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q403 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q404 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q405 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q406 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q407 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q408 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q409 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q410 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q411 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q412 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q413 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q414 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q415 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q416 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q417 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q418 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q419 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q420 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q421 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q422 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q423 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q424 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q425 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q426 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q427 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q428 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q429 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q430 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q431 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q432 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q433 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q434 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q435 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q436 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q437 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q438 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q439 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q440 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q441 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q442 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q443 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q444 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q445 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q446 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q447 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q448 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q449 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q450 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q451 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q452 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q453 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q454 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q455 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q456 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q457 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q458 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q459 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q460 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q461 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q462 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q463 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q464 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q465 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q466 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q467 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q468 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q469 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q470 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q471 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q472 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q473 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q474 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q475 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q476 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q477 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q478 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q479 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q480 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q481 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q482 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q483 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q484 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q485 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q486 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q487 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q488 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q489 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q490 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q491 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q492 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q493 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q494 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q495 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q496 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q497 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q498 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q499 [Employee satisfaction: Leaders and managers support]                       1.0
PR-Q500 [Employee satisfaction: Leaders and managers support]                       1.0
```

Analysis

Analysis of [Employee satisfaction: I feel valued for my contribution]

```
[PR-Q6 [Employee satisfaction: I feel valued for my contribution]]
[PR-Q7 [Employee satisfaction: I feel valued for my contribution]]
```

Analysis of [Employee satisfaction: Leaders and managers support]

```
[PR-Q8 [Employee
```

```
# Analysis of survey responses
# Question: Rate your agreement with the following statements: (Employee Engagement)
# Generated: 2025-08-15 14:30:00
# Source: survey_responses.csv
# Total responses: 1,247

# Descriptive statistics table 1
# Mean ± Standard deviation (Median)
Employee Engagement                                                    3.64 ± 0.81 (3.67)
  My agency supports employees to exercise civic-oriented leaves with full pay   3.71 ± 0.79 (3.75)
  My management supports employees with disabilities and their families in the agency   3.58 ± 0.83 (3.60)
  My agency provides the with opportunities to develop and enhance my skills through CPD/training   3.69 ± 0.77 (3.71)
  Employees in my agency are encouraged to consider opportunities when making civil   3.62 ± 0.80 (3.64)
  Appropriate job making is handled by my agency   3.66 ± 0.78 (3.68)
  My agency supports employees to exercise civic-oriented leaves with full pay   3.71 ± 0.79 (3.75)
  My management supports employees with disabilities and their families in the agency   3.58 ± 0.83 (3.60)
  My agency provides the with opportunities to develop and enhance my skills through CPD/training   3.69 ± 0.77 (3.71)
  Employees in my agency are encouraged to consider opportunities when making civil   3.62 ± 0.80 (3.64)
  Appropriate job making is handled by my agency   3.66 ± 0.78 (3.68)

# Descriptive statistics table 2
# Percentage of responses
Employee Engagement                                                    Strongly Disagree  Disagree  Neutral  Agree  Strongly Agree
  My agency supports employees to exercise civic-oriented leaves with full pay   2.4%  5.1%  12.3%  57.8%  22.4%
  My management supports employees with disabilities and their families in the agency   3.1%  6.2%  14.0%  55.7%  21.0%
  My agency provides the with opportunities to develop and enhance my skills through CPD/training   2.2%  4.8%  11.5%  58.3%  23.2%
  Employees in my agency are encouraged to consider opportunities when making civil   2.7%  5.6%  13.1%  56.9%  21.7%
  Appropriate job making is handled by my agency   2.5%  5.3%  12.8%  57.4%  22.0%
  My agency supports employees to exercise civic-oriented leaves with full pay   2.4%  5.1%  12.3%  57.8%  22.4%
  My management supports employees with disabilities and their families in the agency   3.1%  6.2%  14.0%  55.7%  21.0%
  My agency provides the with opportunities to develop and enhance my skills through CPD/training   2.2%  4.8%  11.5%  58.3%  23.2%
  Employees in my agency are encouraged to consider opportunities when making civil   2.7%  5.6%  13.1%  56.9%  21.7%
  Appropriate job making is handled by my agency   2.5%  5.3%  12.8%  57.4%  22.0%

# Bar chart (percentage) for employee engagement
# Output: charts/employee_engagement.pdf
```

```
# Bar chart (percentage) for employee engagement (Horizontal)
# Output: charts/employee_engagement_horizontal.pdf

# Stacked bar chart (percentage) for employee engagement
# Output: charts/employee_engagement_stacked.pdf

# Pie chart (average) for employee engagement
# Output: charts/employee_engagement_pie.pdf

# Bar chart (count) for employee engagement
# Output: charts/employee_engagement_count.pdf
```

```
# Bar chart (average) for employee engagement
# Output: charts/employee_engagement_avg.pdf

# Bar chart (median) for employee engagement
# Output: charts/employee_engagement_median.pdf

# Heatmap of correlations between items
# Output: charts/employee_engagement_heatmap.pdf

# Boxplot of the distribution for each item
# Output: charts/employee_engagement_boxplot.pdf

# Radar chart (average) for employee engagement
# Output: charts/employee_engagement_radar.pdf

# Stacked 100% bar chart for employee engagement
# Output: charts/employee_engagement_stacked100.pdf

# Dot plot (average ± standard deviation) for employee engagement
# Output: charts/employee_engagement_dot.pdf

# Violin plot for employee engagement
# Output: charts/employee_engagement_violin.pdf

# Pie chart (percentage) for employee engagement
# Output: charts/employee_engagement_pie_pct.pdf
```

```
# Bar chart (count) for employee engagement
# Output: charts/employee_engagement_count.pdf

# Pie chart (average) for employee engagement
# Output: charts/employee_engagement_pie.pdf

# Bar chart (percentage) for employee engagement
# Output: charts/employee_engagement_pct.pdf

# Bar chart (average) for employee engagement (Horizontal)
# Output: charts/employee_engagement_horizontal.pdf

# Stacked bar chart (percentage) for employee engagement
# Output: charts/employee_engagement_stacked.pdf

# Pie chart (average) for employee engagement
# Output: charts/employee_engagement_pie.pdf

# Bar chart (count) for employee engagement
# Output: charts/employee_engagement_count
```

```
PF-In My agency, I feel work with a team
PF-In My agency, I feel the work environment is friendly
PF-In My agency, I feel the work environment discourages the production from our agency
PF-In My agency, I feel work is a chore
PF-In My agency, I feel work satisfactorily results in pay, job security and promotion
PF-In My agency, communication between the CEO and other employees is effective
PF-In My agency, I feel work is a job of grueling health and mentalpower
PF-In My agency, I feel the work environment discourages the production from our agency
PF-In My agency, I feel work is a chore
PF-In My agency, I feel work satisfactorily results in pay, job security and promotion
PF-In My agency, I feel work is a chore
PF-In My agency, I feel work satisfactorily results in pay, job security and promotion
PF-In My agency, communication between the CEO and other employees is effective
PF-In My agency, I feel work is a chore
PF-In My agency, I feel work is a job of grueling health and mentalpower
PF-In My agency, I feel work is a chore
PF-In My agency, I feel work satisfactorily results in pay, job security and promotion
```

```
# Missing in performing indent mice (chained mice)
print(mice_imputed)
class: mice.mids
method  : pmm
imp     : 5 x 5
m       : 5
nmis    : 0 1 0 0 0
```

```
[1] "Mrs. Ms. Ms. Mrs.Ms. Mrs.Ms. Mrs.
[1] "Ms. Ms. Ms. Mrs.Ms. Mrs.Ms. Mrs.

[1]"Ms. Ms. Ms. Mrs.Ms. Mrs.Ms. Mrs.
[1]"
```

```
(Intercept)                   -0.78    0.56   -1.39  0.16
age_cat_cont                   0.00    0.00    0.00  0.99
age_squared                    0.00    0.00    0.00  0.99
sex_cat_cont                   0.00    0.00    0.00  0.99
sex_squared                    0.00    0.00    0.00  0.99
combined_ethnicity_cat         0.00    0.00    0.00  0.99
combined_ethnicity_cat_squared 0.00    0.00    0.00  0.99
smoking_cat                    0.00    0.00    0.00  0.99
smoking_cat_squared            0.00    0.00    0.00  0.99
bmi                            0.00    0.00    0.00  0.99
bmi_squared                    0.00    0.00    0.00  0.99
cvd_cat_cont                   0.00    0.00    0.00  0.99
cvd_squared                    0.00    0.00    0.00  0.99
hdl_cat_cont                   0.00    0.00    0.00  0.99
hdl_squared                    0.00    0.00    0.00  0.99
chol_cat_cont                  0.00    0.00    0.00  0.99
chol_squared                   0.00    0.00    0.00  0.99
sbp                            0.00    0.00    0.00  0.99
sbp_squared                    0.00    0.00    0.00  0.99
tc_hdl_ratio_cat_cont          0.00    0.00    0.00  0.99
tc_hdl_ratio_cat_cont_squared  0.00    0.00    0.00  0.99
```

```
[ 0.0000e+00 -1.1102e-16 -1.1102e-16 ...  0.0000e+00  0.0000e+00
  0.0000e+00]
```

team_performance_season
n = 1,000
n = 1,000
n = 1,000
team_strength
n = 1,000
team_strength
n = 1,000
team_strength

```
## [81073] 5 3 5 3 3 5 6 5 2 6 1 4 5 3 4 5 2 4 4 4 5 3 2 4 4 6 2 4 6 3 5 6 3
## [81109] 4 2 3 4 4 4 4 3 4 1 2 3 3 4 2 3 4 5 5 2 5 3 4 2 3 4 5 2 4 4 2 5 5 2 1 4
## [81145] 6 1 6 3 4 5 4 4 2 4 2 4 6 3 3 5 6 3 5 5 5 3 3 6 2 2 4 5 6 2 5 6 4 3 4 5
## [81181] 4 6 5 3 5 1 6 5 2 6 1 4 4 5 5 4 4 4 5 3 6 4 4 4 5 6 4 6 6 4 3 4 2 2 3 4
## [81217] 4 6 5 6 4 4 4 4 2 4 6 3 3 1 2 3 4 4 4 4 2 3 3 3 5 3 5 3 6 3 4 6 4 4 2 3
## [81253] 4 3 2 2 4 3 4 6 2 5 5 2 6 4 6 4 6 2 6 4 4 4 5 6 4 4 6 5 1 4 6 5 3 4 2 6
## [81289] 2 3 5 4 4 3 4 4 6 4 2 4 3 5 2 2 4 2 4 3 3 3 1 4 3 4 3 6 6 4 5 2 4 5 6 4
## [81325] 2 3 3 4 6 5 4 6 3 4 4 4 4 5 4 3 1 4 2 4 2 5 6 3 4 4 6 1 5 4 2 3 4 3 6
## [81361] 3 6 3 4 3 4 5 4 5 6 3 5 4 5 5 6 4 2 4 2 2 6 3 3 5 4 3 4 2 3 5 2 3 6 4 3
## [81397] 6 4 4 6 4 3 2 5 3 1 2 6 4 4 3 6 3 5 4 4 3 2 4 3 5 5 3 2 4 5 5 2 4 4 3
## [81433] 3 5 6 4 4 4 2 4 3 2 5 3 2 3 1 2 3 3 3 2 3 4 3 5 6 3 1 4 4 4 4 2 2 4
## [81469] 4 3 4 4 4 3 4 4 3 5 4 5 2 6 4 6 2 4 6 6 6 2 3 2 4 4 5 3 4 4 6 3 6 4 5 3
## [81505] 3 3 3 6 3 2 2 3 4 2 4 4 2 4 6 3 3 4 5 6 4 3 4 4 3 5 4 4 6 6 3 1 4 6 4 3
## [81541] 4 4 6 4 3 3 2 4 6 4 2 4 3 4 6 5 4 3 5 4 4 3 6 3 4 6 4 5 4 1 2 1 5 3 6
## [81577] 4 5 4 4 2 3 4 4 3 5 4 3 5 2 3 3 4 3 2 4 5 3 4 4 4 4 4 3 1 3 6 3 3 5
## [81613] 1 2 4 2 6 2 4 4 6 4 3 3 4 2 2 3 5 5 5 3 2 4 5 5 1 6 6 1 5 2 3 1 4 3 2 4
## [81649] 1 2 3 2 1 3 4 5 5 2 3 5 6 2 5 3 6 3 5 5 5 6 6 4 4 3 4 3 6 6 2 6 3 6
## [81685] 6 3 1 5 4 6 3 3 4 3 5 2 3 2 2 3 5 1 4 4 5 5 6 5 2 6 5 6 1 6 5 3 5 2 4
## [81721] 4 3 3 3 2 4 2 3 2 5 4 4 6 4 3 4 4 5 4 2 3 3 1 2 2 4 3 3 3 2 4 4 3 3 2
## [81757] 6 6 5 6 4 1 4 3 6 3 4 4 6 4 6 5 3 4 3 5 1 2 4 3 4 6 5 5 6 4 3 3 5 2
## [81793] 3 1 1 6 6 5 5 3 4 2 4 4 5 3 3 6 3 5 4 4 6 5 2 2 3 6 4 5 3 3 4 2 5 1 4
## [81829] 3 3 6 3 1 6 4 3 5 6 4 3 4 5 4 4 2 4 3 3 1 1 3 5 2 5 4 1 5 3 1 2 4 1 4
## [81865] 3 6 3 4 2 2 4 5 5 4 4 5 4 5 5 4 4 5 6 5 2 6 4 3 1 6 4 3 3 6 2 3 2 4 6 4
## [81901] 5 4 6 4 5 5 3 2 4 3 5 4 3 3 3 6 5 3 4 4 4 2 6 6 3 6 3 4 1 5 4 6 5 3 3 3
## [81937] 3 4 5 6 3 5 3 5 3 4 6 4 4 4 3 3 4 3 5 3 3 4 4 5 4 2 4 4 5 2 6 6 6 5
## [81973] 3 3 2 5 2 3 4 6 5 6 5 6 3 4 5 5 2 6 4 2 4 3 3 4 4 3 4 6 5 2 5 2 4 5 6 4
## [82009] 3 2 4 6 4 3 3 4 2 3 6 4 2 4 4 6 2 3 2 5 2 5 5 4 1 3 6 2 5 4 4 3 5 4 6
## [82045] 3 4 4 6 4 3 3 4 6 2 6 4 1 5 2 5 2 6 4 2 6 5 4 5 5 6 4 2 5 3 4 5 5 4 6 4
## [82081] 3 3 3 2 5 5 6 4 2 4 5 3 4 4 2 4 4 5 5 4 2 5 4 2 4 4 4 4 3 3 4 2 4 3 3 4
## [82117] 6 1 2 4 5 4 4 4 4 4 2 3 2 2 1 4 2 4 2 3 4 4 4 4 2 4 5 4 5 2 3 5 4 3
## [82153] 2 4 4 2 5 6 4 2 4 4 4 4 3 5 2 3 4 3 3 4 2 2 3 3 4 3 4 2 2 2 5 3 2 2 2 4
## [82189] 1 4 4 3 3 6 6 4 3 2 3 4 2 4 6 2 4 5 2 4 2 1 3 4 6 4 4 3 5 6 5 2 6 5 3
## [82225] 2 4 3 2 5 6 3 5 5 6 1 4 6 3 1 6 5 6 5 3 4 2 3 5 5 4 4 3 4 3 2 4 4 6 4 4
## [82261] 3 4 1 4 3 3 3 2 3 4 5 4 1 3 3 5 2 5 2 3 5 6 3 1 5 2 3 1 4 3 2 5 4 2 3 6
## [82297] 3 4 4 3 3 4 3 3 2 5 5 5 3 6 2 4 4 4 4 3 1 4 2 4 5 5 4 4 4 2 4 4 4 3 4
## [82333] 4 5 3 4 3 4 2 4 3 3 6 2 6 5 2 3 1 4 3 5 4 3 3 5 4 5 5 5 3 4 6 4 4 5 6 3
## [82369] 4 2 6 4 3 4 5 3 6 4 6 3 3 5 4 6 5 2 3 5 1 6 6 2 6 6 3 5 2 4 3 4 2 2 2 3
## [82405] 3 2 2 3 3 3 3 6 6 4 4 4 3 4 6 4 6 5 3 3 6 5 5 5 2 4 1 3 5 2 3 2 6 4 4 5
## [82441] 3 6 2 5 6 1 6 6 3 4 5 5 4 5 2 3 1 5 6 2 1 1 5 3 5 3 2 5 4 4 5 5 2 4
## [82477] 4 1 4 5 6 4 4 4 4 4 2 4 4 3 3 2 5 3 4 1 2 5 4 6 2 3 1 6 3 5 5 4 2 6
## [82513] 4 2 4 3 5 4 4 5 2 4 2 3 4 4 3 4 6 6 3 3 6 4 3 5 5 4 4 3 4 4 1 5 4 2 4
## [82549] 2 4 5 2 2 3 5 2 3 4 2 2 3 3 4 3 4 4 3 4 6 3 5 3 5 4 5 4 4 5 1 5 2 4 3
## [82585] 4 4 4 4 3 5 4 4 4 2 2 3 3 5 3 6 4 3 5 4 2 2 6 3 5 4 1 4 1 4 5 2 4 6 3 5
## [82621] 6 6 4 6 2 3 4 3 6 3 2 5 6 1 3 2 4 5 3 5 5 3 2 4 2 4 2 3 5 3 5 1 5 4 6
## [82657] 6 4 3 6 5 4 6 4 2 3 5 2 5 2 3 4 2 5 3 1 4 1 3 5 4 3 3 5 4 5 4 5 3 2 4
## [82693] 4 2 4 3 5 5 6 4 3 2 6 3 6 6 2 5 5 4 2 2 4 5 6 5 1 4 3 5 2 3 4 4 2 2 3 3
## [82729] 5 2 3 2 5 5 3 4 3 4 4 5 3 2 4 6 3 6 4 4 4 3 2 5 4 4 5 2 2 4 3 5 4 4
## [82765] 4 4 2 2 5 3 6 4 1 1 5 5 3 5 4 6 5 5 4 5 3 4 4 4 5 4 3 3 4 4 6 3 5 5 4 1
## [82801] 5 4 4 3 4 3 6 2 4 4 4 4 6 4 5 2 3 2 2 2 2 4 1 4 6 3 5 3 3 5 6 3 1 6 3
## [82837] 1 6 3 5 5 3 3 3 3 6 1 5 3 3 5 5 3 4 5 2 3 1 5 2 1 6 3 6 3 4 5 4 4 4 3
## [82873] 3 3 1 2 3 5 5 4 1 3 2 3 5 4 4 3 2 1 4 6 6 6 4 4 5 6 3 4 6 5 5 5 1 3 3
## [82909] 5 4 6 2 4 1 6 4 3 6 5 4 3 6 3 3 4 4 6 3 4 3 1 6 4 3 4 3 2 4 5 4 6 4 3 4
## [82945] 5 2 3 4 5 3 6 6 6 4 2 3 2 6 3 5 3 4 5 5 5 3 5 4 2 5 6 2 4 4 2 4 1 2 5 5
## [82981] 2 5 6 5 3 3 4 2 3 4 4 5 6 4 6 5 4 4 2 2 1 3 2 4 3 4 1 1 4 6 2 4 6 4 2 4
## [83017] 2 4 4 6 2 6 3 3 5 4 3 2 3 6 4 6 6 5 6 5 2 4 2 3 6 5 4 2 2 5 4 4 4 5 5 5
## [83053] 2 1 4 3 5 2 4 2 4 3 5 4 2 1 5 5 5 4 6 5 5 4 3 3 3 3 3 4 3 4 4 3 1 5
## [83089] 4 2 6 1 5 5 3 6 2 4 4 4 4 5 3 6 1 6 6 6 2 4 4 4 5 6 4 2 4 3 3 2 5 5 5
## [83125] 5 3 4 2 4 4 4 2 5 5 4 6 5 3 3 5 5 3 3 6 5 3 6 3 2 6 3 4 4 5 5 2 4 3 4
## [83161] 4 1 6 5 4 4 4 5 4 3 4 3 4 5 4 2 4 6 4 4 3 5 5 3 6 3 5 4 1 5 1 6 4 4 2 3
## [83197] 4 4 4 4 4 2 4 4 4 3 4 6 2 3 5 4 6 4 6 4 2 3 5 5 2 2 2 4 2 4 3 2 4 6
## [83233] 4 3 6 3 2 5 3 4 5 4 1 6 5 3 5 4 4 4 5 5 2 4 5 5 6 4 3 6 2 2 3 5 3 4 2 4
## [83269] 5 6 4 6 5 3 5 2 4 4 6 4 3 3 5 2 4 5 2 4 1 4 3 5 1 4 1 4 6 4 6 3 4 4 3 3
## [83305] 5 6 5 3 6 5 5 1 5 4 5 1 5 4 4 2 4 6 6 3 5 6 5 4 4 6 2 4 5 6 3 4 1 2 5 6 4 1 6
## [83341] 5 5 6 2 1 4 3 2 6 5 4 2 1 5 4 2 4 5 4 2 4 4 6 4 3 4 4 4 5 5 3 2 6 4 4
## [83377] 2 2 5 4 5 2 6 2 4 4 5 4 2 3 5 3 3 4 2 1 5 4 4 5 6 2 6 3 3 6 4 2 3 6 6 2
## [83413] 5 4 3 4 3 3 6 3 3 5 4 3 3 4 4 2 5 4 3 3 2 4 3 4 2 2 1 4 4 4 4 6 6 5 3
## [83449] 4 5 4 4 6 5 3 5 5 5 4 5 4 4 3 3 2 5 4 4 2 3 6 4 6 6 4 5 4 4 5 2 1 4 4 3
## [83485] 1 1 2 2 4 4 3 4 3 2 2 4 4 4 4 4 4 5 6 2 3 1 3 6 4 6 3 5 4 6 5 2 3 3 6
## [83521] 3 6 4 2 6 2 1 6 6 2 5 4 1 2 4 4 2 2 5 4 2 2 4 4 3 6 2 3 3 4 6 1 2 1 5
## [83557] 1 4 4 4 3 4 4 4 5 4 3 2 4 6 5 4 1 6 3 4 3 6 1 2 6 5 5 1 3 2 6 5 5 2 1 6
## [83593] 4 5 3 1 3 4 6 4 4 4 4 3 2 2 4 4 4 2 1 3 2 4 5 6 3 4 1 2 2 3 1 4 3 4 4 2
## [83629] 3 5 2 4 5 3 5 3 4 5 6 4 5 4 4 4 2 5 6 4 2 5 5 2 3 4 3 6 3 6 4 4 5 4 3 5
## [83665] 5 4 4 3 3 3 4 5 4 4 3 2 6 3 5 4 3 5 6 4 6 3 3 4 3 2 4 4 2 4 6 3 6 4 4 5
## [83701] 5 2 1 2 6 2 4 5 6 6 6 1 5 2 5 4 4 3 3 6 3 4 3 3 3 1 5 1 5 2 4 2 2 5 4 4
## [83737] 4 4 4 2 2 5 3 6 4 4 4 5 2 4 4 2 3 5 2 4 5 2 4 4 3 5 2 1 6 3 5 4 4 4 3 2
## [83773] 3 4 4 3 6 3 4 5 5 4 4 4 4 5 6 4 4 5 2 6 4 4 4 2 2 5 5 4 3 2 6 4 4 2 4
## [83809] 2 6 4 5 3 4 3 1 4 4 6 2 3 6 4 2 3 5 4 4 4 3 4 6 3 6 4 4 1 6 4 3 5 2 4 6
## [83845] 6 5 6 1 6 1 5 1 3 6 3 3 3 2 4 3 3 2 4 4 3 2 2 4 3 3 2 4 3 6 4 4 4 2 3 2
## [83881] 6 2 3 4 3 3 3 3 6 3 4 4 6 4 3 4 4 2 5 1 3 6 4 4 6 5 4 4 1 6 5 3 3 2 2 5
## [83917] 6 5 6 6 6 3 5 4 2 4 2 5 6 4 2 4 3 6 1 6 3 2 4 4 4 5 6 6 4 6 6 4 5 2 6
## [83953] 5 5 2 4 4 6 3 1 4 6 4 4 3 4 4 3 3 4 5 4 6 3 3 3 2 2 4 1 3 4 4 4 6 5 6 2
## [83989] 1 3 6 4 6 3 6 2 3 1 2 5 2 2 2 3 2 5 5 2 4 4 4 4 4 5 6 3 2 3 4 2 5 3 3 4
## [84025] 3 2 4 3 4 2 4 2 3 2 1 3 4 4 4 5 5 4 5 3 3 5 3 4 3 6 3 4 6 4 2 3 1 2
## [84061] 5 3 5 4 2 2 4 4 2 3 4 5 6 6 4 2 1 4 4 5 5 4 6 3 5 6 4 3 4 4 6 5 4 5 5 3
## [84097] 3 3 6 4 4 4 2 5 5 6 4 4 3 6 3 3 1 6 5 3 2 6 3 6 3 2 3 4 3 3 1 2 4 6 2
## [84133] 3 1 4 6 2 4 5 3 4 6 1 4 3 3 4 4 4 1 5 3 4 2 6 4 5 4 6 3 3 5 3 2 4 4 1
## [84169] 4 4 2 4 3 3 6 2 4 3 3 4 5 2 5 4 2 4 5 1 2 3 2 4 4 6 4 5 5 5 2 1 4 6
## [84205] 2 5 3 4 5 6 4 4 5 4 5 5 5 6 3 4 3 2 6 3 2 2 2 3 5 2 4 4 3 6 4 5 6 6
## [84241] 5 5 4 4 6 1 5 5 6 4 5 2 4 5 4 5 4 4 3 1 6 4 1 4 4 5 4 5 6 3 4 2 4 2 3
## [84277] 1 4 1 4 5 3 2 2 5 6 3 5 4 5 2 6 2 4 5 3 5 4 3 4 5 5 3 3 3 1 4 5 6 5 2
## [84313] 2 3 5 3 4 4 4 3 3 5 6 3 4 4 4 1 2 4 3 6 4 5 2 2 6 2 5 2 2 6 3 3 4 4 3 2
## [84349] 4 6 4 4 4 4 2 2 6 4 2 5 4 3 4 5 2 2 6 4 5 1 3 4 5 5 3 1 2 4 3 6 4 3 4 5
## [84385] 2 2 4 4 2 3 4 1 4 2 6 4 3 3 5 4 1 4 5 5 4 2 4 4 5 2 4 2 4 1 4 4 2 4 3 6
## [84421] 2 3 5 1 2 3 4 3 4 3 5 6 4 3 6 5 3 3 4 5 4 5 5 5 4 1 5 3 5 2 4 5 3
## [84457] 2 5 4 3 5 3 5 4 4 3 5 1 6 3 6 4 3 2 1 2 2 5 5 2 1 4 2 5 5 4 3 5 5 4 3 2
## [84493] 4 4 4 5 4 3 4 4 4 6 4 4 4 1 4 6 5 6 5 4 6 3 5 1 3 4 3 4 3 1 2 3 4 4 2
## [84529] 3 4 1 4 2 6 2 5 1 6 2 2 4 2 3 2 5 5 3 4 2 4 6 3 6 3 3 3 3 3 4 2
## [84565] 3 5 4 4 2 3 4 3 2 3 2 4 3 5 4 6 5 3 4 4 4 4 4 6 6 3 2 2 3 1 3 4 3
## [84601] 5 4 4 3 4 3 4 3 5 4 5 1 4 2 2 3 4 3 4 5 4 4 4 4 4 5 4 4 4 4 4 6 3 4 3 3
## [84637] 5 2 4 4 4 4 3 4 2 2 3 6 3 6 4 4 6 3 3 5 3 6 3 6 2 2 4 5 4 1 3 1 4 6 5
## [84673] 4 4 5 6 2 3 4 2 6 4 4 4 5 4 5 4 4 2 3 5 4 3 6 2 3 3 1 4 6 2 4 6 3 2 4
## [84709] 5 5 1 6 6 4 4 4 4 6 6 5 6 6 5 5 5 6 4 3 4 4 4 2 2 5 5 6 5 1 1 4 4 4 2
## [84745] 4 4 3 4 3 2 6 4 4 6 4 5 4 3 6 5 4 4 2 5 3 2 5 2 4 3 2 6 3 3 4 1 4 2 3
## [84781] 2 3 2 5 4 4 6 5 3 2 5 4 4 3 6 6 3 1 6 6 4 6 5 3 2 4 4 3 3 4 3 2 4 2 4
## [84817] 4 1 2 4 2 2 4 5 3 2 5 4 5 2 6 3 4 3 6 4 3 5 5 6 4 4 2 2 2 3 4 4 5 3 3 4 4 3 6
## [84853] 4 4 6 5 5 2 2 6 4 2 3 4 2 5 2 1 1 5 4 3 3 4 6 1 5 4 6 1 5 6 3 4 4 3 4
## [84889] 4 3 5 2 4 4 1 2 6 6 2 4 3 5 2 4 4 4 4 5 4 6 5 4 2 4 3 4 1 3 5 2 5 3 4 4
## [84925] 3 4 4 2 4 1 4 5 4 3 1 4 3 4 3 3 6 6 4 2 4 4 3 6 5 3 4 4 3 5 6 3 4 4 3 2
## [84961] 4 2 5 5 5 5 2 4 5 4 2 5 6 2 3 5 5 4 3 4 6 2 5 5 4 4 6 4 1 3 3 2 3 5 4 4
## [84997] 3 2 4 6 3 5 4 2 2 5 4 4 1 3 4 6 3 4 4 6 3 3 2 3 6 3 2 3 5 2 3 6 6 3 5 6
## [85033] 4 4 4 4 4 2 2 4 4 4 4 5 5 6 5 5 3 5 3 2 5 2 3 4 3 6 2 2 1 4 4 5 4 5 2 6
## [85069] 2 4 6 4 4 4 3 3 3 1 3 5 4 4 5 5 5 5 5 3 1 2 3 4 5 4 2 4 5 4 6 3 4 6 2 6
## [85105] 4 2 6 6 2 2 5 6 5 5 6 3 4 6 5 4 3 2 2 5 3 4 2 3 4 3 6 5 3 6 4 3 3 3 6 5
## [85141] 4 2 1 2 1 3 4 4 5 4 4 2 4 5 6 3 5 4 3 5 2 6 1 5 4 3 5 3 4 4 4 4 6
## [85177] 4 2 5 3 5 5 5 3 4 1 4 5 4 5 5 4 2 3 6 4 6 3 6 6 4 5 4 5 3 4 5 1 4 3 3 5
## [85213] 2 2 4 4 5 4 4 4 3 4 4 2
##
## Within cluster sum of squares by cluster:
## [1] 21626.15 23980.61 40982.60 50693.81 37239.65 39642.50
##  (between_SS / total_SS =  55.5 %)
##
## Available components:
##
## [1] "cluster"      "centers"      "totss"        "withinss"     "tot.withinss"
## [6] "betweenss"    "size"         "iter"         "ifault"
```

```
aps_kmeans$centers
```

```
##   team_engagement supervisor_engagement senior_manager_engagement
## 1        2.640490                 2.424865                  2.187897
## 2        4.765877                 4.866621                  4.694124
## 3        3.721532                 3.679166                  3.644746
## 4        4.239426                 4.337638                  4.150479
## 5        4.302095                 4.387333                  3.260078
## 6        3.714600                 3.663225                  2.711517
##   agency_engagement team_performance_support risk_culture innovation
## 1          2.291688                 2.353018     2.217561   2.217611
## 2          4.478537                 4.501612     4.218034   4.470084
## 3          3.394258                 3.296475     3.248259   3.285748
## 4          3.894431                 3.904066     3.660701   3.823564
## 5          3.509834                 3.817075     3.357196   3.556907
## 6          2.818057                 3.051262     2.781723   2.845518
##   leadership_engagement wellbeing   values team_performance_rating_binary
## 1              2.022932  2.336593 3.083354                       0.1142716
## 2              4.414291  4.352340 4.841597                       0.8556307
## 3              3.402023  3.386478 4.055518                       0.2589808
## 4              3.840951  3.903859 4.586855                       0.6657689
## 5              2.878725  3.741713 4.378256                       0.6758393
## 6              2.342758  3.060588 3.838758                       0.2885988
```

```
aps_kmeans_centres <- as.data.frame(aps_kmeans$centers)
aps_kmeans_centres
```


```
##   team_engagement supervisor_engagement senior_manager_engagement
## 1        2.640490                 2.424865                  2.187897
## 2        4.765877                 4.866621                  4.694124
## 3        3.721532                 3.679166                  3.644746
## 4        4.239426                 4.337638                  4.150479
## 5        4.302095                 4.387333                  3.260078
## 6        3.714600                 3.663225                  2.711517
##   agency_engagement team_performance_support risk_culture innovation
## 1          2.291688                 2.353018     2.217561   2.217611
## 2          4.478537                 4.501612     4.218034   4.470084
## 3          3.394258                 3.296475     3.248259   3.285748
## 4          3.894431                 3.904066     3.660701   3.823564
## 5          3.509834                 3.817075     3.357196   3.556907
## 6          2.818057                 3.051262     2.781723   2.845518
##   leadership_engagement wellbeing   values team_performance_rating_binary
## 1              2.022932  2.336593 3.083354                       0.1142716
## 2              4.414291  4.352340 4.841597                       0.8556307
## 3              3.402023  3.386478 4.055518                       0.2589808
## 4              3.840951  3.903859 4.586855                       0.6657689
## 5              2.878725  3.741713 4.378256                       0.6758393
## 6              2.342758  3.060588 3.838758                       0.2885988
```


```
table(aps_with_scales_k2$team_performance_rating_binary,aps_kmeans$cluster)
```

```
##
##         1    2    3    4    5    6
##   0  3581 1814 12026 8811 4712 8174
##   1   462 10751 4203 17551 9824 3316
```

```
aps_kmeans_centres %>%
  gather("Type", "Value",-team_performance_rating_binary) %>%
  ggplot(aes(team_performance_rating_binary, Value, fill = Type)) +
  geom_col(position = "dodge") +
  theme_bw()+
  facet_wrap(~team_performance_rating_binary,scales = "free_x")
```