Dokumentasi Converter Jotform

Divisi Area Marketing Nutrifood Indonesia

Ikang Fadhli
Market Research Dept.
Nutrifood Indonesia

Pendahuluan

Latar Belakang

Tim AM pada 2021 menggunakan *JotForm* sebagai *backbone* pengumpulan data lapangan. Data yang terkumpul kelak akan digabung secara nasional dan dianalisa di kemudian hari. Untuk melakukan itu, data hasil *JotForm* perlu direkap dengan baik secara struktur data. *Converter* ini digunakan untuk merapikan data sesuai dengan struktur yang diinginkan.

Tim AM memiliki **kustomisasi** survey per departemen. Jadi diharapkan *converter* bisa mengatasi hal tersebut.

Data yang Digunakan

Data hasil survey harian per departemen AM se-nasional dengan format `.xlsx`.

Metode

Data carpentry dengan prinsip *tidy* menggunakan `dplyr`, `tidyr`, dan `reshape2`. *Converter* disajikan dengan *Shiny App*.

Penjelasan Algoritma

Memanggil *Libraries*

```
rm(list=ls())

# libraries
library(readxl)
library(dplyr)
library(tidytext)
library(janitor)
library(tidyr)
```

Mengambil Data

```
# ambil data
data =
  read_excel("tes.xlsx") %>%
  janitor::clean_names()
```

Menambah id Baris dan Memecah-Mecah

```
# tambahin id
# lalu pecah-pecah
data =
  data %>%
  mutate(id = c(1:length(submission_date)),
         tanggal_transaksi = gsub("\\/","-",tanggal_transaksi),
         tanggal_transaksi = as.Date(tanggal_transaksi,"%m-%d-%Y"),
         tanggal_transaksi = lubridate::date(tanggal_transaksi),
         submission_date = lubridate::date(submission_date)) %>%
  separate(departemen_area_nama,
           into = c("departemen","area","nama"),
           sep = ";") %>%
  separate(jenis_channel_sub_channel_klasifikasi,
           into = c("jenis_channel","sub_channel","klasifikasi"),
           sep = ";") %>%
  separate(provinsi_kota_kab_kecamatan_kelurahan,
           into = c("provinsi","kota_kab","kecamatan","kelurahan"),
           sep = ";") %>%
  separate(location_coordinate,
           into = c("longitude","latitude","csv"),
           sep = "\r\n") %>%
  mutate(departemen = trimws(departemen),
         area = trimws(area),
         nama = trimws(nama),
         jenis_channel = trimws(jenis_channel),
         sub_channel = trimws(sub_channel),
         provinsi = trimws(provinsi),
         kota_kab = trimws(kota_kab),
         kecamatan = trimws(kecamatan),
         kelurahan = trimws(kelurahan),
         longitude = gsub("Longitude: ","",longitude),
         latitude = gsub("Latitude: ","",latitude),
         longitude = as.numeric(longitude),
         latitude = as.numeric(latitude),
         csv = gsub("CSV: ","",csv)
         ) %>%
  mutate(klasifikasi = stringr::str_trim(klasifikasi))
```

Menghitung `penjualan_products`

```
# penjualan products
judul = colnames(data)
judul = ifelse(grepl("penjualan",judul),"penjualan",judul)
colnames(data) = judul
```

Memecah Data Menjadi Tiga Data

```
# pecah data
data_1 = data %>% select(id,penjualan)
data_2 = data %>% select(id,contains("gimmick"))
data_3 = data %>% select(-penjualan,-contains("gimmick"))
```

Mengekstrak Dan Mengubah Struktur Data 1

```
# data_1
# pecah produk penjualan
data_all =
  data_1 %>%
  unnest_tokens(out,penjualan,token = "regex",pattern = "\n") %>%
  filter(!grepl("subtotal|tax|total",out,ignore.case = T)) %>%
  separate(out,into = c('produk','amount','quantity'),sep = "\\:") %>%
  filter(!is.na(amount)) %>%
  mutate(amount = gsub(" idr, quantity","",amount),
         amount = gsub(".00","",amount,fixed = T),
         amount = gsub(" idr)","",amount),
         amount = gsub("\\ ","",amount),
         amount = gsub("\\,","",amount),
         quantity = gsub("\\)","",quantity),
         quantity = ifelse(is.na(quantity),0,quantity),
         amount = as.numeric(amount),
         quantity = as.numeric(quantity),
         produk = gsub(" (amount","",produk,fixed = T),
         produk = toupper(produk)) %>%
  mutate(brand = case_when(grepl("lokalate",produk,ignore.case = T) ~ "Lokalate",
                           grepl("tropicana|ts|slim",produk,ignore.case = T) ~ "Tropicana Slim",
                           grepl("nutrisari|ns|sari",produk,ignore.case = T) ~ "NutriSari",
                           grepl("diabetamil",produk,ignore.case = T) ~ "Diabetamil",
                           grepl("l-men",produk,ignore.case = T) ~ "L-Men",
                           grepl("hilo",produk,ignore.case = T) ~ "HiLo")
        ) %>%
  rename(price = amount) %>%
  mutate(total_value = price*quantity)
```

Mengekstrak dan Mengubah Struktur Data 2

```
# data_2
# oprek gimmick
data_2 =
  data_2 %>%
  reshape2::melt(id.vars = "id") %>%
  rename(gimmick = variable) %>%
  mutate(value = as.numeric(value),
         value = ifelse(is.na(value),0,value)) %>%
  mutate(brand = case_when(grepl("hi_lo",gimmick) ~ "HiLo",
                           grepl("lokalate",gimmick) ~ "Lokalate",
                           grepl("nutrisari|ns",gimmick) ~ "NutriSari",
                           grepl("tropicana|ts",gimmick) ~ "Tropicana Slim")
         ) %>%
  group_by(id,brand) %>%
  summarise(tot_gim = sum(value)) %>%
  ungroup() %>%
  filter(tot_gim > 0)

brand_gimmick = sort(unique(data_2$brand))

for(xx in brand_gimmick){
  temp = data_2 %>% filter(brand == xx & !is.na(tot_gim))
```

```
  colnames(temp)[3] = paste("gimmick",xx,sep = "_")
  data_all = merge(data_all,temp,all = T)
}
```

Menggabungkan Semua Data Kembali

```
# data_3
data_all = merge(data_3,data_all,all = T) %>% arrange(id,brand)

data_all_1 = data_all %>% select(-contains("gimmick"))

data_all_2 =
  data_all %>%
  group_by(id,brand) %>%
  mutate(penanda = c(1:length(brand))) %>%
  ungroup() %>%
  select(contains("gimmick"),penanda)

data_all_2[data_all_2$penanda>1,] = NA

data_final =
  data.frame(data_all_1,data_all_2) %>%
  mutate(penanda = NULL,
         id = NULL)

tes = colnames(data_final)
tes = gsub("\\_"," ",tes)
```

Membuat *Function* Agar Judul Kolom Sesuai EYD

```
proper <- function(x){
  stringi::stri_trans_general(x,id = "Title")
}

colnames(data_final) = proper(tes)
```

Export ke `.xlsx`

```
openxlsx::write.xlsx(data_final,"hasil.xlsx")
```

Working Directory

Working directory bisa diunduh di *link* berikut ini[1].

[1]https://github.com/ikanx101/Marketing-Jotform