

Data Visualisation -Assignment3

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RPubs Link :

<http://rpubs.com/ReshmaTaruni/435215> (<http://rpubs.com/ReshmaTaruni/435215>)

Data Source:

U.S. Department of Health & Human Services,(2018),Call Center Metrics for the Health Service System:Data and Resources, Available at:<https://healthdata.gov/dataset/call-center-metrics-health-service-system> (<https://healthdata.gov/dataset/call-center-metrics-health-service-system>)

News Story:

Article:SFGATE,(2018),‘California’s deadly flu season could be worst in a decade’, Available at:<https://www.sfgate.com/health/article/It-s-early-but-California-s-deadly-flu-12485751.php> (<https://www.sfgate.com/health/article/It-s-early-but-California-s-deadly-flu-12485751.php>)

Description:

This Visualisation is about Health Service System call Centre Metrics of city of San Fransisco and how there has been variations in the calls during and flu seasons.

```
#Required Packages  
library(ggplot2)  
library(shiny)  
library(readr)  
library(tidyr)  
library(dplyr)  
library(Hmisc)  
library(reshape)  
library(lubridate)  
library(flexdashboard) # Dashboard package  
library(plotly) # Interactive data visualisations  
library(RColorBrewer)  
library(colourpicker)
```

Code

```
CM <- read.csv("~/Call_Center_Metrics_for_the_Health_Service_System.csv", stringsAsFactors = FALSE)

CM1 <- CM %>% separate(Month, into = c("Date"), sep = ' ')
CM1 <- CM1[-c(1,2,51:86), -c(5)]

CM2 <- CM1 %>% separate(Date, into = c("Month", "Day", "Year"), sep = '/')
CM2$Total.Calls <- rowSums(CM2[, c(4,6)])
CM2 = mutate(CM2, Abandonment_Rate = (Abandoned.Calls/Total.Calls))
CM2 <- CM2 %>% group_by(Year) %>% mutate( Abandonment_Rate = round(Abandonment_Rate, 3))

CM3 <- CM1
CM3$Date <- as.Date(CM1$Date, format = "%m/%d/%Y")
CM3 <- CM3[48:1, ]

CM2$Year <- as.factor(CM2$Year)
CM5 <- CM2[, -c(2,5,7,9)]

cbp <- c("#999999", "#E69F00", "#56B4E9", "#009E73", "#F0E442", "#0072B2", "#CC79A7")
cbp1 <- c("#56B4E9", "#CC79A7", "#999999" )

C5 <- CM5[, c(1,2,5) ]

#subsetting the Data
subset <- C5 %>% filter(Year == "2017")
subset1 <- CM5 %>% filter(Year == "2017")

#subset1$Month <- as.factor(subset1$Month)
#subset1$Month <- factor(subset1$Month,
#levels = c('1', '2', '3', '4', '5', '6', '7', '8', '9', '10', '11', '12'),
#labels = c('Jan', 'Feb', 'Mar', 'Apr', 'May', 'Jun', 'Jul', 'Aug', 'Sep', 'Oct', 'Nov', 'Dec'))

###Line Graph Showing Total Calls Month by Month from 2014-2017
p3 <- plot_ly(data = CM5, x = ~Month, y = ~Total.Calls, frame = ~Year, alpha = 1,
              color = ~Year, type = "scatter", mode = "lines",
              colors = "lightblue3") %>%

  layout(yaxis = list(zeroLine = FALSE, title = "Total Calls"),
         xaxis = list(zeroLine = FALSE, title = "Month"))

#ggplotly(p3)
```

Bar Graph Showing Inbound Calls in Year 2017

```
p1 <- plot_ly(data = subset1, x = ~Month, y = ~Inbound.Calls,  
              color = ~Year, type = "bar", mode = "markers",  
              colors = "#56B4E9") %>%
```

```
  layout(yaxis = list(zeroline = FALSE, title = "Count"),  
         xaxis = list(zeroline = FALSE, title = "Month"))
```

```
#ggplotly(p1)
```

Bar Graph Showing Abandoned Calls in Year 2017

```
p4 <- plot_ly(data = subset1, x = ~Month, y = ~Abandoned.Calls,  
              color = ~Year, type = "bar", mode = "markers",  
              colors = "#E69F00") %>%
```

```
  layout(yaxis = list(zeroline = FALSE, title = "Count"),  
         xaxis = list(zeroline = FALSE, title = "Month"))
```

```
#ggplotly(p4)
```