Statistics on Determinants (UTAUT)

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2024-05-02

```
library(readr)
library(dplyr)
```

```
##
## Attaching package: 'dplyr'

## The following objects are masked from 'package:stats':
##
##     filter, lag

## The following objects are masked from 'package:base':
##
##     intersect, setdiff, setequal, union
```

```
library(tidyr)
```

```
#Reading the file from csv for easy navigation.
messRespon<-read.csv('C:/Users/User/Documents/Rstudio Files/midtermsurvey/FINAL EXCEL/RESPONDENTS.csv')
```

```
#FACTORS AND THEIR MEAN AND STANDARD DEVIATION

#ABOUT: This survey is about Messaging Applications Platforms in which it testifies the satisfaction, e
```

```
#FACTOR: PERFORMANCE EXPECTANCY

#Performance Expectancy Questionnaire
#X1....I.find.the.messaging.system.useful.in.terms.of.communication.
#X2...Using.the.messaging.system.enables.me.to.communicate.efficiently.
#X3...Using.the.messaging.system.increases.my.productivity.
#X4...If.I.use.the.messaging.system..I.will.increase.my.chances.of.online.interaction.

#Getting the Mean and Standard Deviation of the Performance Expectancy (PE)
PE_meanstd <- messRespon %>%
  summarise(
    Code = c("U6", "RA1", "RA5", "OE7"),
    Mean = c(
      mean(X1....I.find.the.messaging.system.useful.in.terms.of.communication.),
      mean(X2...Using.the.messaging.system.enables.me.to.communicate.efficiently.),
      mean(X3...Using.the.messaging.system.increases.my.productivity.),
```

```
      mean(X4...If.I.use.the.messaging.system..I.will.increase.my.chances.of.online.interaction.)
    ),
    Standard_Dev = c(
      sd(X1....I.find.the.messaging.system.useful.in.terms.of.communication.),
      sd(X2...Using.the.messaging.system.enables.me.to.communicate.efficiently.),
      sd(X3...Using.the.messaging.system.increases.my.productivity.),
      sd(X4...If.I.use.the.messaging.system..I.will.increase.my.chances.of.online.interaction.)
    )
  ) %>%
  mutate(Factors = "Performance Expectancy") %>%
  select(Factors,Code, Mean, Standard_Dev)
```

```
## Warning: Returning more (or less) than 1 row per `summarise()` group was deprecated in
## dplyr 1.1.0.
## i Please use `reframe()` instead.
## i When switching from `summarise()` to `reframe()`, remember that `reframe()`
##   always returns an ungrouped data frame and adjust accordingly.
## Call `lifecycle::last_lifecycle_warnings()` to see where this warning was
## generated.
```

```
TotalresultPE <- PE_meanstd %>%
  summarise(Mean = mean(Mean),
            Standard_Dev = mean(Standard_Dev),
  )

PE_all<- bind_rows(PE_meanstd, TotalresultPE)
PE_all[5, 1] <- "PERFORMANCE EXPECTANCY"
PE_all[5, 2] <-  "TOTAL"
View(PE_all)

#Viewing of the 1st subset: The Performance Expectancy
PE_all
```

```
##                  Factors  Code     Mean Standard_Dev
## 1 Performance Expectancy    U6 4.704762    0.7711606
## 2 Performance Expectancy   RA1 4.552381    0.7963976
## 3 Performance Expectancy   RA5 3.857143    0.9243352
## 4 Performance Expectancy   OE7 4.400000    0.8157111
## 5 PERFORMANCE EXPECTANCY TOTAL 4.378571    0.8269011
```

```
#DESCRIPTION: Base on the subset, the questionnaire U6 has the highest average among the 4 questionnair
```

```
#FACTOR: EFFORT EXPECTANCY

#Effort Expectancy Questionnaire(EE)
#X5..My.interaction.with.the.messaging.system.is..clear.and.understandable.
#X6..It.is.easy.for.me.to.become.skillful.at.using.the.messaging.system.
#X7...I.find.the.messaging.system.easy.to.use.
#X8..Learning.to.operate.the.messaging.system.is.easy.for.me.

#Getting the mean and Standard Deviation
EE_meanstd <- messRespon %>%
```

```
  summarise(
    Code = c("EOU3", "EOU5", "EOU6", "EU4"),
    Mean = c(
      mean(X5..My.interaction.with.the.messaging.system.is..clear.and.understandable.),
      mean(X6..It.is.easy.for.me.to.become.skillful.at.using.the.messaging.system.),
      mean(X7...I.find.the.messaging.system.easy.to.use.),
      mean(X8..Learning.to.operate.the.messaging.system.is.easy.for.me.)
    ),
    Standard_Dev = c(
      sd(X5..My.interaction.with.the.messaging.system.is..clear.and.understandable.),
      sd(X6..It.is.easy.for.me.to.become.skillful.at.using.the.messaging.system.),
      sd(X7...I.find.the.messaging.system.easy.to.use.),
      sd(X8..Learning.to.operate.the.messaging.system.is.easy.for.me.)
    )
   ) %>%
  mutate(Factors = "Effort Expectancy") %>%
  select(Factors, Code, Mean, Standard_Dev)
```

```
## Warning: Returning more (or less) than 1 row per `summarise()` group was deprecated in
## dplyr 1.1.0.
## i Please use `reframe()` instead.
## i When switching from `summarise()` to `reframe()`, remember that `reframe()`
##   always returns an ungrouped data frame and adjust accordingly.
## Call `lifecycle::last_lifecycle_warnings()` to see where this warning was
## generated.
```

```
TotalresultEE <- EE_meanstd %>%
  summarise(Mean = mean(Mean),
            Standard_Dev = mean(Standard_Dev),
  )

EE_all<- bind_rows(EE_meanstd, TotalresultEE)
EE_all[5, 1] <- "EFFORT EXPECTANCY"
EE_all[5, 2] <-  "TOTAL"
View(EE_all)
#Viewing of the 2nd subset: The Effort Expectancy
EE_all
```

```
##             Factors  Code     Mean Standard_Dev
## 1 Effort Expectancy  EOU3 4.361905    0.8100785
## 2 Effort Expectancy  EOU5 4.285714    0.9376145
## 3 Effort Expectancy  EOU6 4.704762    0.6923179
## 4 Effort Expectancy   EU4 4.561905    0.7711606
## 5 EFFORT EXPECTANCY TOTAL 4.478571    0.8027928
```

```
#DESCRIPTION: The Effort Expectancy's EOU6 has the highest average in the questionnaire in which it sta
```

```
#FACTOR: SOCIAL INFLUENCE

#Social Influence Questionnaire
#X13..People.who.influence.my.behavior.think.that.I.should.use.the.messaging.system.
#X14...People.who.are.important.to.me.think.that.I.should.use.the.messaging.system.
```

```
#X15..The.student.management.of.the.institution.had.been.helpful.in.the.use.of.the.messaging.system.
#X16..In.general..the.organization.has.supported.the.use.of.the.messaging.system.

#Getting the mean and standard deviation
SI_meanstd <- messRespon  %>%
  summarise(
    Code = c("SN1", "SN2","SF2","SF4"),
    Mean = c(
      mean(X13..People.who.influence.my.behavior.think.that.I.should.use.the.messaging.system.),
      mean(X14...People.who.are.important.to.me.think.that.I.should.use.the.messaging.system.),
      mean(X15..The.student.management.of.the.institution.had.been.helpful.in.the.use.of.the.messaging.
      mean(X16..In.general..the.organization.has.supported.the.use.of.the.messaging.system.)
    ),
    Standard_Dev = c(
      sd(X13..People.who.influence.my.behavior.think.that.I.should.use.the.messaging.system.),
      sd(X14...People.who.are.important.to.me.think.that.I.should.use.the.messaging.system.),
      sd(X15..The.student.management.of.the.institution.had.been.helpful.in.the.use.of.the.messaging.sy
      sd(X16..In.general..the.organization.has.supported.the.use.of.the.messaging.system.)
    )
  ) %>%
  mutate(Factors = "Social Influence") %>%
  select(Factors,Code, Mean, Standard_Dev)
```

```
## Warning: Returning more (or less) than 1 row per `summarise()` group was deprecated in
## dplyr 1.1.0.
## i Please use `reframe()` instead.
## i When switching from `summarise()` to `reframe()`, remember that `reframe()`
##   always returns an ungrouped data frame and adjust accordingly.
## Call `lifecycle::last_lifecycle_warnings()` to see where this warning was
## generated.
```

```
TotalresultSI <- SI_meanstd %>%
  summarise(Mean = mean(Mean),
            Standard_Dev = mean(Standard_Dev),
  )

SI_all<- bind_rows(SI_meanstd, TotalresultSI)
SI_all[5, 1] <- "SOCIAL INFLUENCE"
SI_all[5, 2] <-  "TOTAL"
View(SI_all)

#Viewing of the 3rd subset: Social Influence
SI_all
```

```
##            Factors  Code     Mean Standard_Dev
## 1 Social Influence   SN1 3.857143    0.8925824
## 2 Social Influence   SN2 4.171429    0.9246324
## 3 Social Influence   SF2 4.238095    0.8718218
## 4 Social Influence   SF4 4.409524    0.8168330
## 5 SOCIAL INFLUENCE TOTAL 4.169048    0.8764674
```

```r
#DESCRIPTION: The SN1 questionnaire has the lowest mean in which states that the users aren't influence
```

```r
#FACTOR: FACILITATING CONDITIONS

#Facilitating Conditions Questionnaire
#X17...I.have.the.resources.necessary.to.use.the.messaging.system.
#X18..I.have.the.knowledge.necessary.to.use.the.messaging.system.
#X19..The.messaging.system.is.not.compatible.with.other.systems.I.use.
#X20...A.specific.person..or.group..is.available.for.assistance.with.messaging.system.difficulties.

#Getting the mean and standard deviation
FC_meanstd <- messRespon  %>%
  summarise(
    Code = c("PBC2", "PBC3","PBC5","FC3"),
    Mean = c(
      mean(X17...I.have.the.resources.necessary.to.use.the.messaging.system.),
      mean(X18..I.have.the.knowledge.necessary.to.use.the.messaging.system.),
      mean(X19..The.messaging.system.is.not.compatible.with.other.systems.I.use.),
      mean(X20...A.specific.person..or.group..is.available.for.assistance.with.messaging.system.difficul
    ),
    Standard_Dev = c(
      sd(X17...I.have.the.resources.necessary.to.use.the.messaging.system.),
      sd(X18..I.have.the.knowledge.necessary.to.use.the.messaging.system.),
      sd(X19..The.messaging.system.is.not.compatible.with.other.systems.I.use.),
      sd(X20...A.specific.person..or.group..is.available.for.assistance.with.messaging.system.difficult
    )
  ) %>%
  mutate(Factors = "Facilitating Conditions") %>%
  select(Factors, Code, Mean, Standard_Dev)
```

```
## Warning: Returning more (or less) than 1 row per `summarise()` group was deprecated in
## dplyr 1.1.0.
## i Please use `reframe()` instead.
## i When switching from `summarise()` to `reframe()`, remember that `reframe()`
##   always returns an ungrouped data frame and adjust accordingly.
## Call `lifecycle::last_lifecycle_warnings()` to see where this warning was
## generated.
```

```r
TotalresultFC <- FC_meanstd %>%
  summarise(Mean = mean(Mean),
            Standard_Dev = mean(Standard_Dev),
  )

FC_all<- bind_rows(FC_meanstd, TotalresultFC)
FC_all[5, 1] <- "FACILITATING CONDITIONS"
FC_all[5, 2] <-  "TOTAL"
View(FC_all)

#Viewing of the 4th subset: Facilitating Conditions
FC_all
```

```
##                   Factors  Code     Mean Standard_Dev
```

```
## 1 Facilitating Conditions  PBC2 4.409524    0.8285209
## 2 Facilitating Conditions  PBC3 4.609524    0.7002093
## 3 Facilitating Conditions  PBC5 2.904762    1.3764769
## 4 Facilitating Conditions   FC3 3.695238    1.0107481
## 5 FACILITATING CONDITIONS TOTAL 3.904762    0.9789888
```

```
#DESCRIPTION: The PBC5 garnered a positive results as the it has the lowest mean among the four, as it
```

```
#Combining all the factors to acquire the Behavioral Intention

#THE BEHAVIORAL INTENTION OF THE DETERMINANTS

#Binding all the factors, codes, mean, and standard deviation of each of the determinants.

behavioral_com_data<- bind_rows(PE_all, EE_all, SI_all, FC_all)
View(behavioral_com_data)

#Getting all the overall mean and standard deviation.
overall <- behavioral_com_data%>%
  summarise(Mean = mean(Mean),
            Standard_Dev = mean(Standard_Dev),
  )

#Creating a table of accumulated data
behavioral_intention_final<-bind_rows(behavioral_com_data, overall)
behavioral_intention_final[21, 1] <- "BEHAVIORAL INTENTION"
behavioral_intention_final[21, 2] <- "TOTAL"
View(behavioral_intention_final)
behavioral_intention_final
```

```
##                    Factors  Code     Mean Standard_Dev
## 1   Performance Expectancy    U6 4.704762    0.7711606
## 2   Performance Expectancy   RA1 4.552381    0.7963976
## 3   Performance Expectancy   RA5 3.857143    0.9243352
## 4   Performance Expectancy   OE7 4.400000    0.8157111
## 5   PERFORMANCE EXPECTANCY TOTAL 4.378571    0.8269011
## 6         Effort Expectancy  EOU3 4.361905    0.8100785
## 7         Effort Expectancy  EOU5 4.285714    0.9376145
## 8         Effort Expectancy  EOU6 4.704762    0.6923179
## 9         Effort Expectancy   EU4 4.561905    0.7711606
## 10        EFFORT EXPECTANCY TOTAL 4.478571    0.8027928
## 11         Social Influence   SN1 3.857143    0.8925824
## 12         Social Influence   SN2 4.171429    0.9246324
## 13         Social Influence   SF2 4.238095    0.8718218
## 14         Social Influence   SF4 4.409524    0.8168330
## 15         SOCIAL INFLUENCE TOTAL 4.169048    0.8764674
## 16 Facilitating Conditions  PBC2 4.409524    0.8285209
## 17 Facilitating Conditions  PBC3 4.609524    0.7002093
## 18 Facilitating Conditions  PBC5 2.904762    1.3764769
## 19 Facilitating Conditions   FC3 3.695238    1.0107481
## 20 FACILITATING CONDITIONS TOTAL 3.904762    0.9789888
## 21    BEHAVIORAL INTENTION TOTAL 4.232738    0.8712875
```

```r
#TABLE FOR THE OVERALL RESULTS
#Creating a table for all the results of all the factors.
PE<-behavioral_intention_final[5, 2:4]
EE<-behavioral_intention_final[10, 2:4]
SI<-behavioral_intention_final[15, 2:4]
FC<-behavioral_intention_final[20, 2:4]
total<-behavioral_intention_final[21, 2:4]

Overall_deter<-bind_rows(PE, EE, SI, FC, total)

#Renaming the Column
Overall_deter[1,1]<-"PE"
Overall_deter[2,1]<-"EE"
Overall_deter[3,1]<-"SI"
Overall_deter[4,1]<-"FC"

View(Overall_deter)
Overall_deter
```

```
##    Code     Mean Standard_Dev
## 1    PE 4.378571    0.8269011
## 2    EE 4.478571    0.8027928
## 3    SI 4.169048    0.8764674
## 4    FC 3.904762    0.9789888
## 5 TOTAL 4.232738    0.8712875
```

```r
#Add Description column
Description <- c("Performance Expectancy", "Effort Expectancy", "Social Influence", "Facilitating Condi
#Mutating the description column and renaming the title of the column.
Overall_deter <- Overall_deter%>%
  mutate(Description = Description)%>%
  select(Code, Description, everything())%>%
  rename(Mean_SD = Standard_Dev)

View(Overall_deter)
Overall_deter
```

```
##    Code             Description     Mean   Mean_SD
## 1    PE  Performance Expectancy 4.378571 0.8269011
## 2    EE       Effort Expectancy 4.478571 0.8027928
## 3    SI        Social Influence 4.169048 0.8764674
## 4    FC Facilitating Conditions 3.904762 0.9789888
## 5 TOTAL                   TOTAL 4.232738 0.8712875
```

```r
#DESCRIPTION: In this table, we collected all of the accumulated mean and standard deviation of every f
```