Statistics on Determinants (UTAUT)

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```
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(
    Factors = 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(Questionnaire_Type = "Performance Expectancy") %>%
  select(Questionnaire_Type,Factors, 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)
PE_all
```

```
##       Questionnaire_Type Factors     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
```

```
#INSIGHTS: The data shows that "Performance Expectancy" has a mean score range from 3.86 to 4.70 across
```

```
#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(
    Factors = 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(Questionnaire_Type = "Effort Expectancy") %>%
  select(Questionnaire_Type,Factors, 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)
EE_all
```

```
##   Questionnaire_Type Factors     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
```

```
#INSIGHTS: The data shows that on average, participants rated "Effort Expectancy" between 4.28 and 4.70
```

```
#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.
```

```r
#Getting the mean and standard deviation
SI_meanstd <- messRespon  %>%
  summarise(
    Factors = 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(Questionnaire_Type = "Social Influence") %>%
  select(Questionnaire_Type, Factors, 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
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)
SI_all
```

```
##   Questionnaire_Type Factors     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
#INSIGHTS: The data shows that the average scores for different aspects of Social Influence are all abo
```

```r
#FACTOR: FACILITATING CONDITIONS

#Facilitating Conditions Questionnaire
#X17...I.have.the.resources.necessary.to.use.the.messaging.system.
```

```r
#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(
    Factors = c("SN1", "SN2","SF2","SF4"),
    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.difficulti
    )
  ) %>%
  mutate(Questionnaire_Type = "Facilitating Conditions") %>%
  select(Questionnaire_Type, Factors, 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, TotalresultSI)
FC_all[5, 1] <- "FACILITATING CONDITIONS"
FC_all[5, 2] <-  "TOTAL"
View(FC_all)
FC_all
```

```
##        Questionnaire_Type Factors     Mean Standard_Dev
## 1 Facilitating Conditions     SN1 4.409524    0.8285209
## 2 Facilitating Conditions     SN2 4.609524    0.7002093
## 3 Facilitating Conditions     SF2 2.904762    1.3764769
## 4 Facilitating Conditions     SF4 3.695238    1.0107481
## 5 FACILITATING CONDITIONS   TOTAL 4.169048    0.8764674
```

```r
#INSIGHTS: This result from RStudio indicates that respondents perceive high facilitating conditions ov
```

```r
#FACTOR: BEHAVIORAL INTENTION TO USE THE SYSTEM

#Behavioral Intention Questionnaire
#X29...I.intend.to.use.the.messaging.system.in.the.future.
#X30...I.predict.I.would.use.the.messaging.system.in.the.future.
#X31...I.plan.to.use.the.messaging.system.in.the.next.future.

#Getting the mean and standard deviation

BI_meanstd <- messRespon %>%
  summarise(
    Factors = c("BI1", "BI2", "BI3"),
    Mean = c(
      mean(X29...I.intend.to.use.the.messaging.system.in.the.future.),
      mean(X30...I.predict.I.would.use.the.messaging.system.in.the.future.),
      mean(X31...I.plan.to.use.the.messaging.system.in.the.next.future.)
    ),
    Standard_Dev = c(
      sd(X29...I.intend.to.use.the.messaging.system.in.the.future.),
      sd(X30...I.predict.I.would.use.the.messaging.system.in.the.future.),
      sd(X31...I.plan.to.use.the.messaging.system.in.the.next.future.)
    )
  ) %>%
  mutate(Questionnaire_Type = "Behavioral Intention") %>%
  select(Questionnaire_Type,Factors, 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
TotalresultBI <- BI_meanstd %>%
  summarise(Mean = mean(Mean),
            Standard_Dev = mean(Standard_Dev),
  )
BI_all<- bind_rows(BI_meanstd, TotalresultBI)
BI_all[4, 1] <- "BEHAVIORAL INTENTION"
BI_all[4, 2] <-  "TOTAL"
View(BI_all)
BI_all
```

```
##     Questionnaire_Type Factors     Mean Standard_Dev
## 1 Behavioral Intention     BI1 4.361905    0.9106613
## 2 Behavioral Intention     BI2 4.485714    0.8333700
## 3 Behavioral Intention     BI3 4.457143    0.8551717
## 4 BEHAVIORAL INTENTION   TOTAL 4.434921    0.8664010
```

```r
#INSIGHTS: This result, analyzed through RStudio, indicates that the overall behavioral intention score
```

```r
final_combined_data <- bind_rows(PE_all, EE_all, SI_all, FC_all, BI_all)
View(final_combined_data)

overall <- final_combined_data %>%
  summarise(Mean = mean(Mean),
            Standard_Dev = mean(Standard_Dev),
  )

overall_summary<- bind_rows(final_combined_data, overall)
overall_summary[25, 1] <- "OVERALL RESULT"
overall_summary[25, 2] <-  "OVERALL SUMMARY"
View(overall_summary)

stats_factors <- bind_rows(final_combined_data, overall_summary)
View(stats_factors)
stats_factors
```

```
##          Questionnaire_Type         Factors     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              SN1 4.409524    0.8285209
## 17 Facilitating Conditions              SN2 4.609524    0.7002093
## 18 Facilitating Conditions              SF2 2.904762    1.3764769
## 19 Facilitating Conditions              SF4 3.695238    1.0107481
## 20 FACILITATING CONDITIONS            TOTAL 4.169048    0.8764674
## 21    Behavioral Intention              BI1 4.361905    0.9106613
## 22    Behavioral Intention              BI2 4.485714    0.8333700
## 23    Behavioral Intention              BI3 4.457143    0.8551717
## 24    BEHAVIORAL INTENTION            TOTAL 4.434921    0.8664010
## 25  Performance Expectancy              U6 4.704762    0.7711606
## 26  Performance Expectancy             RA1 4.552381    0.7963976
## 27  Performance Expectancy             RA5 3.857143    0.9243352
## 28  Performance Expectancy             OE7 4.400000    0.8157111
## 29  PERFORMANCE EXPECTANCY           TOTAL 4.378571    0.8269011
## 30        Effort Expectancy            EOU3 4.361905    0.8100785
## 31        Effort Expectancy            EOU5 4.285714    0.9376145
## 32        Effort Expectancy            EOU6 4.704762    0.6923179
## 33        Effort Expectancy             EU4 4.561905    0.7711606
## 34        EFFORT EXPECTANCY           TOTAL 4.478571    0.8027928
## 35         Social Influence             SN1 3.857143    0.8925824
```

```
## 36        Social Influence             SN2 4.171429    0.9246324
## 37        Social Influence             SF2 4.238095    0.8718218
## 38        Social Influence             SF4 4.409524    0.8168330
## 39        SOCIAL INFLUENCE           TOTAL 4.169048    0.8764674
## 40 Facilitating Conditions             SN1 4.409524    0.8285209
## 41 Facilitating Conditions             SN2 4.609524    0.7002093
## 42 Facilitating Conditions             SF2 2.904762    1.3764769
## 43 Facilitating Conditions             SF4 3.695238    1.0107481
## 44 FACILITATING CONDITIONS           TOTAL 4.169048    0.8764674
## 45    Behavioral Intention             BI1 4.361905    0.9106613
## 46    Behavioral Intention             BI2 4.485714    0.8333700
## 47    Behavioral Intention             BI3 4.457143    0.8551717
## 48    BEHAVIORAL INTENTION           TOTAL 4.434921    0.8664010
## 49          OVERALL RESULT OVERALL SUMMARY 4.277447    0.8662014
```

```
#INSIGHTS: These results from RStudio indicate that overall, participants rated performance expectancy
```