# 3G(UTAUT).rmd

2024-04-30

```
library(readxl)
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(knitr)

# Read the Excel file
questionnaire <- read_excel("questionnaire3g.xlsx")
```

```
conversion <- function(response) {
  if (response == "Strongly Disagree") {
    return(1)
  } else if (response == "Disagree") {
    return(2)
  } else if (response == "Neutral") {
    return(3)
  } else if (response == "Agree") {
    return(4)
  } else {
    return(5)
  }
}
```

```
# Apply conversion function to each column
columns_to_convert <- c(
  "By using the Adobe application enables you to accomplish tasks more quickly.",
  "By using the Adobe application it increases my productivity.",
  "The Adobe application makes work more interesting.",
  "My peers influence necessary to use the Adobe application.",
  "People who are important to me think that I should use the Adobe application.",
  "I have the resources necessary to use the Adobe application.",
  "My peers is available for assistance with Adobe application's difficulties.",
  "I could complete a job or task using the Adobe application if  there was no one around to tell me wha
  "I could complete a job or task using the Adobe application if I had a lot of time to complete the jo
  "I could complete a job or task using the Adobe application if I had just the built-in help facility
)
```

```r
for (column in columns_to_convert) {
  questionnaire[[column]] <- sapply(questionnaire[[column]], conversion)
}
```

```r
conversion1 <- function(response) {
  if (response == "Yes") {
    return(1)
  } else {
    return(2)
  }
}
```

```r
columns_to_convert1<- c(
  "In general, the school has supported the use of the Adobe application",
  "I know the knowledge necessary to use the Adobe application.",
  "I intend to use the Adobe application in the next 2 months.",
  "I predict I will use the Adobe application in the next 2 months.",
  "I plan to use the system in the next 2 months."
)

for (column in columns_to_convert1) {
  questionnaire[[column]] <- sapply(questionnaire[[column]], conversion1)
}
```

```r
#View(questionnaire)
```

```r
performanceExpectancy <- c(
  "By using the Adobe application enables you to accomplish tasks more quickly.",
  "By using the Adobe application it increases my productivity."
)

means1 <- colMeans(questionnaire[performanceExpectancy], na.rm = TRUE)
means1
```

```
## By using the Adobe application enables you to accomplish tasks more quickly.
##                                                                         3.90
##                 By using the Adobe application it increases my productivity.
##                                                                         3.79
```

```r
sd_pe <- sapply(questionnaire[performanceExpectancy], sd, na.rm = TRUE)
sd_pe
```

```
## By using the Adobe application enables you to accomplish tasks more quickly.
##                                                                    0.8468599
##                 By using the Adobe application it increases my productivity.
##                                                                    0.9133687
```

```r
#calculate the mean and sd for Effort Expectancy
effortExpectancy <- c(
  "My interaction with the Adobe application would be clear and understandable.",
  "It would be easy for me to become more skillful at using the Adobe application.",
  "Learning to operate the Adobe application is easy for me."
)

means2 <- colMeans(questionnaire[effortExpectancy], na.rm = TRUE)
means2
```

```
##    My interaction with the Adobe application would be clear and understandable.
##                                                                            3.92
## It would be easy for me to become more skillful at using the Adobe application.
##                                                                            3.96
##                       Learning to operate the Adobe application is easy for me.
##                                                                            3.90
```

```
sd_ee <- sapply(questionnaire[effortExpectancy], sd, na.rm = TRUE)
sd_ee
```

```
##    My interaction with the Adobe application would be clear and understandable.
##                                                                       0.9393744
## It would be easy for me to become more skillful at using the Adobe application.
##                                                                       0.9419516
##                       Learning to operate the Adobe application is easy for me.
##                                                                       1.0000000
```

```
socialInfluence<- c(
  "My peers influence necessary to use the Adobe application.",
  "People who are important to me think that I should use the Adobe application."
)

means3 <- colMeans(questionnaire[socialInfluence], na.rm = TRUE)
means3
```

```
##                    My peers influence necessary to use the Adobe application.
##                                                                           3.59
## People who are important to me think that I should use the Adobe application.
##                                                                           3.65
```

```
sd_si <- sapply(questionnaire[socialInfluence], sd, na.rm = TRUE)
sd_si
```

```
##                    My peers influence necessary to use the Adobe application.
##                                                                     0.6830561
## People who are important to me think that I should use the Adobe application.
##                                                                     0.7961397
```

```
facilitatingConditions <- c(
  "I have the resources necessary to use the Adobe application.",
  "My peers is available for assistance with Adobe application's difficulties.",
  "I know the knowledge necessary to use the Adobe application."
)

means4 <- colMeans(questionnaire[facilitatingConditions], na.rm = TRUE)
means4
```

```
##                I have the resources necessary to use the Adobe application.
##                                                                         3.53
## My peers is available for assistance with Adobe application's difficulties.
##                                                                         3.77
##                I know the knowledge necessary to use the Adobe application.
##                                                                         1.15
```

```
sd_fc <- sapply(questionnaire[facilitatingConditions], sd, na.rm = TRUE)
sd_fc
```

```
##                I have the resources necessary to use the Adobe application.
```

```
##                                                                 0.7028801
## My peers is available for assistance with Adobe application's difficulties.
##                                                                 0.8391313
##               I know the knowledge necessary to use the Adobe application.
##                                                                 0.3588703
```

```
#Calculate the mean for Behavioral Intention to use the system
behavioralIntention <- c(
  "I intend to use the Adobe application in the next 2 months.",
  "I predict I will use the Adobe application in the next 2 months.",
  "I plan to use the system in the next 2 months."
)

means5 <- colMeans(questionnaire[behavioralIntention], na.rm = TRUE)
means5
```

```
##      I intend to use the Adobe application in the next 2 months.
##                                                             1.17
## I predict I will use the Adobe application in the next 2 months.
##                                                             1.18
##                   I plan to use the system in the next 2 months.
##                                                             1.16
```

```
sd_bi <- sapply(questionnaire[behavioralIntention], sd, na.rm = TRUE)
sd_bi
```

```
##      I intend to use the Adobe application in the next 2 months.
##                                                       0.3775252
## I predict I will use the Adobe application in the next 2 months.
##                                                       0.3861229
##                   I plan to use the system in the next 2 months.
##                                                       0.3684529
```

```
#Combine all factors using kable() function
pe <- data.frame(
  Factor = "Performance Expectancy",
  Mean = colMeans(questionnaire[performanceExpectancy], na.rm = TRUE),
  SD = sapply(questionnaire[performanceExpectancy], sd, na.rm = TRUE)
)

ee <- data.frame(
  Factor = "Effort Expectancy",
  Mean = colMeans(questionnaire[effortExpectancy], na.rm = TRUE),
  SD = sapply(questionnaire[effortExpectancy], sd, na.rm = TRUE)
)

si <- data.frame(
  Factor = "Social Influence",
  Mean = colMeans(questionnaire[socialInfluence], na.rm = TRUE),
  SD = sapply(questionnaire[socialInfluence], sd, na.rm = TRUE)
)

fc <- data.frame(
  Factor = "Facilitating Conditions",
  Mean = colMeans(questionnaire[facilitatingConditions], na.rm = TRUE),
  SD = sapply(questionnaire[facilitatingConditions], sd, na.rm = TRUE)
```

```
)

bi <- data.frame(
  Factor = "Behavioral Intention",
  Mean = colMeans(questionnaire[behavioralIntention], na.rm = TRUE),
  SD = sapply(questionnaire[behavioralIntention], sd, na.rm = TRUE)
)
```

```
summary_table <- rbind(pe, ee, si, fc, bi)
kable(summary_table)
```

| | Factor | Mean | SD |
|---|---|---|---|
| By using the Adobe application enables you to accomplish tasks more quickly. | Performance Expectancy | 3.90 | 0.8468599 |
| By using the Adobe application it increases my productivity. | Performance Expectancy | 3.79 | 0.9133687 |
| My interaction with the Adobe application would be clear and understandable. | Effort Expectancy | 3.92 | 0.9393744 |
| It would be easy for me to become more skillful at using the Adobe application. | Effort Expectancy | 3.96 | 0.9419516 |
| Learning to operate the Adobe application is easy for me. | Effort Expectancy | 3.90 | 1.0000000 |
| My peers influence necessary to use the Adobe application. | Social Influence | 3.59 | 0.6830561 |
| People who are important to me think that I should use the Adobe application. | Social Influence | 3.65 | 0.7961397 |
| I have the resources necessary to use the Adobe application. | Facilitating Conditions | 3.53 | 0.7028801 |
| My peers is available for assistance with Adobe application's difficulties. | Facilitating Conditions | 3.77 | 0.8391313 |
| I know the knowledge necessary to use the Adobe application. | Facilitating Conditions | 1.15 | 0.3588703 |
| I intend to use the Adobe application in the next 2 months. | Behavioral Intention | 1.17 | 0.3775252 |
| I predict I will use the Adobe application in the next 2 months. | Behavioral Intention | 1.18 | 0.3861229 |
| I plan to use the system in the next 2 months. | Behavioral Intention | 1.16 | 0.3684529 |