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(10, 11, 12, 14, 17, 19, 20, 22, 23, 25, 26, 27, 28, 29, 30, 31, 32)

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

```
conversion1 <- function(response) {
  if (is.na(response)) {
    return(NA)
  } else if (response == "Yes") {
    return(1)
  } else if (response == "No") {
    return(2)
```

```
  } else if (response == "Possibly") {
    return(3)
  } else {
    return(NA)
  }
}
```

```
columns_to_convert1 <- c(9,15,16,18,21,24,33,34,35)

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

```
#View(questionnaire)
```

```
performanceExpectancy <- questionnaire[, c(9:11)]

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

```
##                       Do you find the Adobe application useful in my studies?
##                                                                          1.22
## 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
```

```
sd_pe <- sapply(performanceExpectancy, sd, na.rm = TRUE)
sd_pe
```

```
##                       Do you find the Adobe application useful in my studies?
##                                                                     0.4163332
## 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
```

```
#Get the average of mean and sd in Performance Expectancy
avg_mean1 <- round(mean(means1), 2)
avg_mean1
```

```
## [1] 2.97
```

```
avg_sd1 <- round(mean(sd_pe), 2)
avg_sd1
```

```
## [1] 0.73
```

```
#calculate the mean and sd for Effort Expectancy
effortExpectancy <- questionnaire[, c(12:14)]

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

```
##    My interaction with the Adobe application would be clear and understandable.
##                                                                            5.00
## 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.
##                                                                            5.00
```

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

```
##    My interaction with the Adobe application would be clear and understandable.
##                                                                       0.0000000
## 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.
##                                                                       0.0000000
```

```
#Get the average of mean and sd in Performance Expectancy
avg_mean2 <- round(mean(means2), 2)
avg_mean2
```

```
## [1] 4.65
```

```
avg_sd2 <- round(mean(sd_ee), 2)
avg_sd2
```

```
## [1] 0.31
```

```
socialInfluence<- questionnaire[, c(19:21)]

means3 <- colMeans(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
##         In general, the school has supported the use of the Adobe application
##                                                                          1.17
```

```
sd_si <- sapply(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
##         In general, the school has supported the use of the Adobe application
##                                                                       0.3775252
```

```
#Get the average of mean and sd in Performance Expectancy
avg_mean3 <- round(mean(means3), 2)
avg_mean3
```

```
## [1] 2.8
```

```
avg_sd3 <- round(mean(sd_si), 2)
avg_sd3
```

```
## [1] 0.62
```

```
facilitatingConditions <- questionnaire[, c(22:25)]

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

```
means4
```

```
##                I have the resources necessary to use the Adobe application.
##                                                                        3.53
##                I know the knowledge necessary to use the Adobe application.
##                                                                        5.00
##           The Adobe application is not compatible with other systems I use.
##                                                                        2.18
## My peers is available for assistance with Adobe application's difficulties.
##                                                                        3.77
```

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

```
##                I have the resources necessary to use the Adobe application.
##                                                                   0.7028801
##                I know the knowledge necessary to use the Adobe application.
##                                                                   0.0000000
##           The Adobe application is not compatible with other systems I use.
##                                                                   0.7704125
## My peers is available for assistance with Adobe application's difficulties.
##                                                                   0.8391313
```

```
#Get the average of mean and sd in Performance Expectancy
avg_mean4 <- round(mean(means4), 2)
avg_mean4
```

```
## [1] 3.62
```

```
avg_sd4 <- round(mean(sd_fc), 2)
avg_sd4
```

```
## [1] 0.58
```

```
#Calculate the mean for Behavioral Intention to use the system
behavioralIntention <- questionnaire[, c(33:35)]

means5 <- colMeans(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(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
```

```r
#Get the average of mean and sd in Performance Expectancy
avg_mean5 <- round(mean(means5), 2)
avg_mean5
```

```
## [1] 1.17
```

```r
avg_sd5 <- round(mean(sd_bi), 2)
avg_sd5
```

```
## [1] 0.38
```

```r
#Combine all factors using kable() function
pe <- data.frame(
  Description = "Performance Expectancy",
  Mean = means1,
  SD = sd_pe,
  Average_Mean = avg_mean1,
  Average_SD = avg_sd1
)

ee <- data.frame(
  Description = "Effort Expectancy",
  Mean = means2,
  SD = sd_ee,
  Average_Mean = avg_mean2,
  Average_SD = avg_sd2
)


si <- data.frame(
  Description = "Social Influence",
  Mean = means3,
  SD = sd_si,
  Average_Mean = avg_mean3,
  Average_SD = avg_sd3
)

fc <- data.frame(
  Description = "Facilitating Conditions",
  Mean = means4,
  SD = sd_fc,
  Average_Mean = avg_mean4,
  Average_SD = avg_sd4
)

bi <- data.frame(
  Description = "Behavioral Intention",
  Mean = means5,
  SD = sd_bi,
  Average_Mean = avg_mean5,
  Average_SD = avg_sd5
)
```

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

	Description	Mean	SD	Average_Mean	Average_SD
Do you find the Adobe application useful in my studies?	Performance Expectancy	1.22	0.4163332	2.97	0.73
By using the Adobe application enables you to accomplish tasks more quickly.	Performance Expectancy	3.90	0.8468599	2.97	0.73
By using the Adobe application it increases my productivity.	Performance Expectancy	3.79	0.9133687	2.97	0.73
My interaction with the Adobe application would be clear and understandable.	Effort Expectancy	5.00	0.0000000	4.65	0.31
It would be easy for me to become more skillful at using the Adobe application.	Effort Expectancy	3.96	0.9419516	4.65	0.31
Learning to operate the Adobe application is easy for me.	Effort Expectancy	5.00	0.0000000	4.65	0.31
My peers influence necessary to use the Adobe application.	Social Influence	3.59	0.6830561	2.80	0.62
People who are important to me think that I should use the Adobe application.	Social Influence	3.65	0.7961397	2.80	0.62
In general, the school has supported the use of the Adobe application	Social Influence	1.17	0.3775252	2.80	0.62
I have the resources necessary to use the Adobe application.	Facilitating Conditions	3.53	0.7028801	3.62	0.58
I know the knowledge necessary to use the Adobe application.	Facilitating Conditions	5.00	0.0000000	3.62	0.58
The Adobe application is not compatible with other systems I use.	Facilitating Conditions	2.18	0.7704125	3.62	0.58
My peers is available for assistance with Adobe application's difficulties.	Facilitating Conditions	3.77	0.8391313	3.62	0.58
I intend to use the Adobe application in the next 2 months.	Behavioral Intention	1.17	0.3775252	1.17	0.38
I predict I will use the Adobe application in the next 2 months.	Behavioral Intention	1.18	0.3861229	1.17	0.38
I plan to use the system in the next 2 months.	Behavioral Intention	1.16	0.3684529	1.17	0.38