DAFANH Internship Presentation

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Automate CFO Mapping Workbook

Issue:
typing all fiscal numbers manually and sometimes people make mistakes

Solution:
Automate the process by computer by R

```r
fiscal.data <- readRDS('data/fiscal/y1_fiscal_data.Rds')
fiscal.data <- select(fiscal.data, -pct_spent)

fiscal.data <- pivot_wider(fiscal.data,
                           names_from = c(quarter, state_fed),
                           values_from = c(dollars, budget)
)

fiscal.data <- rename(fiscal.data, c('Q1_FS_Spent' = 'dollars_Q1 (Oct-Dec)_Federal'),
                      c('Q2_FS_Spent' = 'dollars_Q2 (Jan-Mar)_Federal'),
                      c('Q3_FS_Spent' = 'dollars_Q3 (Apr-Jun)_Federal'),
                      c('Q4_FS_Spent' = 'dollars_Q4 (Jul-Sep)_Federal'),
                      c('Q1_SS_Reported' = 'dollars_Q1 (Oct-Dec)_State'),
                      c('Q2_SS_Reported' = 'dollars_Q2 (Jan-Mar)_State'),
                      c('Q3_SS_Reported' = 'dollars_Q3 (Apr-Jun)_State'),
                      c('Q4_SS_Reported' = 'dollars_Q4 (Jul-Sep)_State'),
                      c('Q1_FS_Budget' = 'budget_Q1 (Oct-Dec)_Federal'),
                      c('Q2_FS_Budget' = 'budget_Q2 (Jan-Mar)_Federal'),
                      c('Q3_FS_Budget' = 'budget_Q3 (Apr-Jun)_Federal'),
                      c('Q4_FS_Budget' = 'budget_Q4 (Jul-Sep)_Federal'),
                      c('Q1_SS_Budget' = 'budget_Q1 (Oct-Dec)_State'),
                      c('Q2_SS_Budget' = 'budget_Q2 (Jan-Mar)_State'),
                      c('Q3_SS_Budget' = 'budget_Q3 (Apr-Jun)_State'),
                      c('Q4_SS_Budget' = 'budget_Q4 (Jul-Sep)_State'),
)

Budget <- select(fiscal.data, shortcode, Q1_FS_Budget, Q2_FS_Budget, Q3_FS_Budget, Q4_FS_Budget, Q1_SS_Budget, Q2_SS_Budget, Q3_SS_Budget, Q4_SS_Budget)

Budget$FS_budgeted <- pmax(Budget$Q1_FS_Budget, Budget$Q2_FS_Budget, Budget$Q3_FS_Budget, Budget$Q4_FS_Budget)
Budget$SS_budgeted <- pmax(Budget$Q1_SS_Budget, Budget$Q2_SS_Budget, Budget$Q3_SS_Budget, Budget$Q4_SS_Budget)
Budget <- select(Budget, shortcode, FS_budgeted, SS_budgeted)

fiscal.data <- select(fiscal.data, -Q1_FS_Budget, -Q2_FS_Budget, -Q3_FS_Budget, -Q4_FS_Budget, -Q1_SS_Budget, -Q2_SS_Budget, -Q3_SS_Budget, -Q4_SS_Budget)
fiscal.data <- right_join(fiscal.data, Budget)

fiscal.data <- mutate(fiscal.data, cumulative_FS_Spent = Q1_FS_Spent + Q2_FS_Spent + Q3_FS_Spent + Q4_FS_Spent,
                      cumulative_SS_Spent = Q1_SS_Reported + Q2_SS_Reported + Q3_SS_Reported + Q4_SS_Reported) %>%
  relocate("SS_budgeted", "Q1_SS_Reported", "Q2_SS_Reported", "Q3_SS_Reported", "Q4_SS_Reported", "cumulative_SS_Spent", "FS_budgeted", .after = year)

View(fiscal.data)

write.csv(fiscal.data, "/Users/tatsuya/desktop/fiscal_mapping.csv")
```
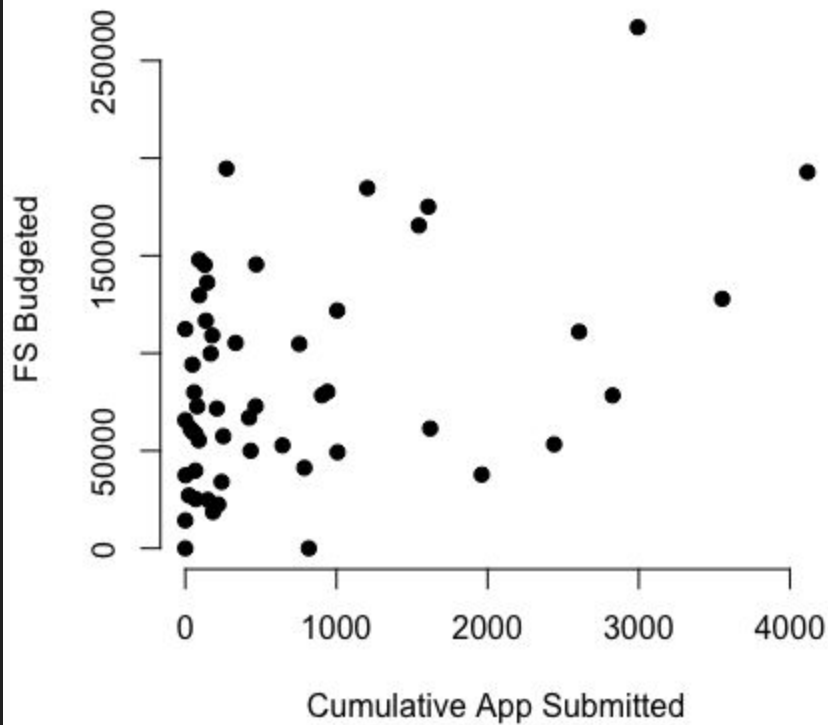
FS Budgeted vs. # of Application submitted

Future Challenges

- Need to think about how to really automate CFO Mapping Workbook without using Java
- Need to figure out what is going on with Universities who have almost 0 application submitted yet FS budget is vary.