bacs_hw13

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Question 1

Composite Path Models using PLS-PM

1a

Create a PLS path model using SEMinR, with all the following characteristics:

```
library(seminr)
sec <- read.csv("security_data_sem.csv")
#View(sec)
```

i

Measurement model – all constructs are measured as composites:

```
sec_pls_mm <- constructs(
  composite("TRUST", multi_items("TRST",1:4)), # Trust in website (TRUST)
  composite("SEC", multi_items("PSEC",1:4)), # Perceived security of website (SEC)
  composite("REP", multi_items("PREP",1:4)), # Reputation of website (REP)
  composite("INV", multi_items("PINV",1:3)), # Investment in website (INV)
  composite("POL", multi_items("PPSS",1:3)), # Perception of privacy policies (POL)
  composite("FAML", single_item("FAML1")), # Familiarity with website (FAML)
  interaction_term(iv = "REP", moderator = "POL", method=orthogonal)
)
```

ii

Structural Model – paths between constructs as shown in this causal model:

```
# REP + INV + POL + FAML + (REP⨉POL) → SEC → TRUST
sec_pls_sm <- relationships(
  paths(from = c("REP","INV","POL","FAML","REP*POL"), to = "SEC"),
  paths(from = "SEC", to = "TRUST")
)
```

1b

Show us the following results in table or figure formats:

i
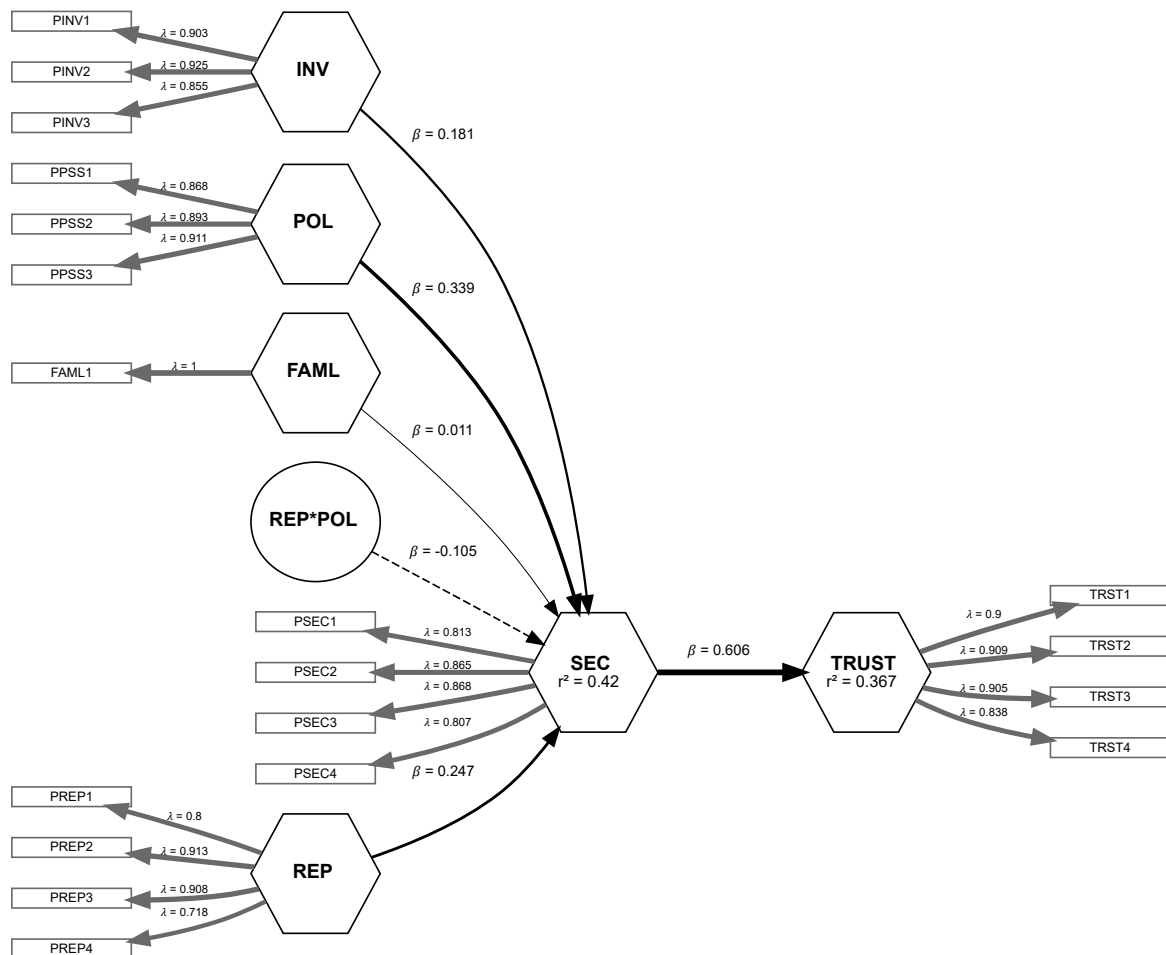
Plot a figure of the estimated model

```
sec_pls <- estimate_pls(data = sec,
                        measurement_model = sec_pls_mm,
                        structural_model = sec_pls_sm)
```

```
## Generating the seminr model
```

```
## All 405 observations are valid.
```

```
plot(sec_pls)
```


ii

Weights and loadings of composites

```
# Weights
sec_pls_report <- summary(sec_pls)
sec_pls_report$weights
```

```
##                REP   INV   POL  FAML REP*POL   SEC TRUST
## TRST1        0.000 0.000 0.000 0.000   0.000 0.000 0.282
## TRST2        0.000 0.000 0.000 0.000   0.000 0.000 0.280
## TRST3        0.000 0.000 0.000 0.000   0.000 0.000 0.286
## TRST4        0.000 0.000 0.000 0.000   0.000 0.000 0.278
## PSEC1        0.000 0.000 0.000 0.000   0.000 0.277 0.000
## PSEC2        0.000 0.000 0.000 0.000   0.000 0.315 0.000
## PSEC3        0.000 0.000 0.000 0.000   0.000 0.307 0.000
## PSEC4        0.000 0.000 0.000 0.000   0.000 0.292 0.000
## PREP1        0.215 0.000 0.000 0.000   0.000 0.000 0.000
## PREP2        0.334 0.000 0.000 0.000   0.000 0.000 0.000
## PREP3        0.349 0.000 0.000 0.000   0.000 0.000 0.000
## PREP4        0.287 0.000 0.000 0.000   0.000 0.000 0.000
## PINV1        0.000 0.363 0.000 0.000   0.000 0.000 0.000
## PINV2        0.000 0.395 0.000 0.000   0.000 0.000 0.000
## PINV3        0.000 0.358 0.000 0.000   0.000 0.000 0.000
## PPSS1        0.000 0.000 0.360 0.000   0.000 0.000 0.000
## PPSS2        0.000 0.000 0.395 0.000   0.000 0.000 0.000
## PPSS3        0.000 0.000 0.367 0.000   0.000 0.000 0.000
## FAML1        0.000 0.000 0.000 1.000   0.000 0.000 0.000
## PREP1*PPSS1  0.000 0.000 0.000 0.000   0.239 0.000 0.000
## PREP1*PPSS2  0.000 0.000 0.000 0.000   0.031 0.000 0.000
## PREP1*PPSS3  0.000 0.000 0.000 0.000   0.021 0.000 0.000
## PREP2*PPSS1  0.000 0.000 0.000 0.000   0.046 0.000 0.000
## PREP2*PPSS2  0.000 0.000 0.000 0.000  -0.104 0.000 0.000
## PREP2*PPSS3  0.000 0.000 0.000 0.000  -0.228 0.000 0.000
## PREP3*PPSS1  0.000 0.000 0.000 0.000  -0.341 0.000 0.000
## PREP3*PPSS2  0.000 0.000 0.000 0.000   0.095 0.000 0.000
## PREP3*PPSS3  0.000 0.000 0.000 0.000   0.108 0.000 0.000
## PREP4*PPSS1  0.000 0.000 0.000 0.000   0.443 0.000 0.000
## PREP4*PPSS2  0.000 0.000 0.000 0.000   0.382 0.000 0.000
## PREP4*PPSS3  0.000 0.000 0.000 0.000   0.271 0.000 0.000
```

```
# Loadings of composites
sec_pls_report$loadings
```

```
##             REP    INV    POL   FAML REP*POL    SEC  TRUST
## TRST1      0.000  0.000  0.000  0.000  -0.000  0.000  0.900
## TRST2      0.000  0.000  0.000  0.000  -0.000  0.000  0.909
## TRST3      0.000  0.000  0.000  0.000  -0.000  0.000  0.905
## TRST4      0.000  0.000  0.000  0.000  -0.000  0.000  0.838
## PSEC1      0.000  0.000  0.000  0.000  -0.000  0.813  0.000
## PSEC2      0.000  0.000  0.000  0.000  -0.000  0.865  0.000
## PSEC3      0.000  0.000  0.000  0.000  -0.000  0.868  0.000
## PSEC4      0.000  0.000  0.000  0.000  -0.000  0.807  0.000
## PREP1      0.800  0.000  0.000  0.000   0.000  0.000  0.000
## PREP2      0.913  0.000  0.000  0.000   0.000  0.000  0.000
## PREP3      0.908  0.000  0.000  0.000   0.000  0.000  0.000
## PREP4      0.718  0.000  0.000  0.000   0.000  0.000  0.000
## PINV1      0.000  0.903  0.000  0.000  -0.000  0.000  0.000
## PINV2      0.000  0.925  0.000  0.000  -0.000  0.000  0.000
## PINV3      0.000  0.855  0.000  0.000  -0.000  0.000  0.000
## PPSS1      0.000  0.000  0.868  0.000   0.000  0.000  0.000
## PPSS2      0.000  0.000  0.893  0.000   0.000  0.000  0.000
## PPSS3      0.000  0.000  0.911  0.000   0.000  0.000  0.000
## FAML1      0.000  0.000  0.000  1.000  -0.000  0.000  0.000
## PREP1*PPSS1 -0.000 -0.000 -0.000 -0.000   0.581 -0.000 -0.000
## PREP1*PPSS2  0.000 -0.000  0.000 -0.000   0.510 -0.000 -0.000
## PREP1*PPSS3 -0.000 -0.000 -0.000 -0.000   0.506 -0.000 -0.000
## PREP2*PPSS1 -0.000 -0.000 -0.000 -0.000   0.509 -0.000 -0.000
## PREP2*PPSS2 -0.000 -0.000 -0.000 -0.000   0.421  0.000  0.000
## PREP2*PPSS3 -0.000 -0.000 -0.000  0.000   0.336  0.000  0.000
## PREP3*PPSS1 -0.000 -0.000 -0.000  0.000   0.236  0.000  0.000
## PREP3*PPSS2  0.000 -0.000  0.000 -0.000   0.555 -0.000 -0.000
## PREP3*PPSS3 -0.000 -0.000 -0.000  0.000   0.466 -0.000 -0.000
## PREP4*PPSS1  0.000 -0.000  0.000  0.000   0.900 -0.000 -0.000
## PREP4*PPSS2 -0.000 -0.000 -0.000 -0.000   0.836 -0.000  0.000
## PREP4*PPSS3  0.000 -0.000  0.000  0.000   0.859 -0.000  0.000
```

iii

Regression coefficients of paths between factors

```
sec_pls_report$paths
```

```
##            SEC TRUST
## R^2      0.420 0.367
## AdjR^2   0.412 0.365
## REP      0.247     .
## INV      0.181     .
## POL      0.339     .
## FAML     0.011     .
## REP*POL -0.105     .
## SEC          . 0.606
```

iv

Bootstrapped path coefficients: t-values, 95% CI

```r
boot_pls <- bootstrap_model(sec_pls, nboot = 1000)
```

```
## Bootstrapping model using seminr...
```

```
## SEMinR Model successfully bootstrapped
```

```r
summary(boot_pls)
```

```
##
## Results from Bootstrap resamples:  1000
##
## Bootstrapped Structural Paths:
##                  Original Est. Bootstrap Mean Bootstrap SD T Stat. 2.5% CI
## REP  -> SEC          0.247          0.243        0.061   4.039   0.111
## INV  -> SEC          0.181          0.187        0.057   3.148   0.075
## POL  -> SEC          0.339          0.341        0.055   6.208   0.232
## FAML -> SEC          0.011          0.011        0.061   0.173  -0.110
## REP*POL -> SEC      -0.105         -0.012        0.127  -0.823  -0.197
## SEC  -> TRUST        0.606          0.610        0.035  17.342   0.539
##                  97.5% CI
## REP  -> SEC          0.347
## INV  -> SEC          0.298
## POL  -> SEC          0.446
## FAML -> SEC          0.126
## REP*POL -> SEC       0.196
## SEC  -> TRUST        0.672
##
## Bootstrapped Weights:
##                    Original Est. Bootstrap Mean Bootstrap SD T Stat.
## TRST1  -> TRUST         0.282          0.283        0.014  19.629
## TRST2  -> TRUST         0.280          0.280        0.016  17.445
## TRST3  -> TRUST         0.286          0.285        0.017  16.822
## TRST4  -> TRUST         0.278          0.277        0.020  13.679
## PSEC1  -> SEC           0.277          0.278        0.016  17.872
## PSEC2  -> SEC           0.315          0.314        0.017  18.522
## PSEC3  -> SEC           0.307          0.308        0.017  18.193
## PSEC4  -> SEC           0.292          0.290        0.018  16.323
## PREP1  -> REP           0.215          0.212        0.027   8.073
## PREP2  -> REP           0.334          0.335        0.018  18.291
## PREP3  -> REP           0.349          0.349        0.022  16.188
## PREP4  -> REP           0.287          0.288        0.025  11.299
## PINV1  -> INV           0.363          0.363        0.025  14.468
## PINV2  -> INV           0.395          0.393        0.027  14.887
## PINV3  -> INV           0.358          0.359        0.029  12.381
## PPSS1  -> POL           0.360          0.360        0.023  15.450
## PPSS2  -> POL           0.395          0.396        0.024  16.737
## PPSS3  -> POL           0.367          0.367        0.020  18.752
## FAML1  -> FAML          1.000          1.000        0.000       .
## PREP1*PPSS1  -> REP*POL    0.239       0.090        0.161   1.481
## PREP1*PPSS2  -> REP*POL    0.031       0.066        0.092   0.338
## PREP1*PPSS3  -> REP*POL    0.021       0.068        0.115   0.185
## PREP2*PPSS1  -> REP*POL    0.046       0.081        0.108   0.426
## PREP2*PPSS2  -> REP*POL   -0.104       0.054        0.157  -0.666
## PREP2*PPSS3  -> REP*POL   -0.228       0.052        0.243  -0.940
## PREP3*PPSS1  -> REP*POL   -0.341       0.018        0.316  -1.079
## PREP3*PPSS2  -> REP*POL    0.095       0.087        0.142   0.668
## PREP3*PPSS3  -> REP*POL    0.108       0.092        0.133   0.817
## PREP4*PPSS1  -> REP*POL    0.443       0.109        0.291   1.523
## PREP4*PPSS2  -> REP*POL    0.382       0.085        0.273   1.400
## PREP4*PPSS3  -> REP*POL    0.271       0.090        0.184   1.476
##                    2.5% CI 97.5% CI
## TRST1  -> TRUST      0.255    0.309
## TRST2  -> TRUST      0.248    0.311
```

```
## TRST3   ->  TRUST                 0.252     0.319
## TRST4   ->  TRUST                 0.237     0.317
## PSEC1   ->  SEC                   0.249     0.309
## PSEC2   ->  SEC                   0.282     0.347
## PSEC3   ->  SEC                   0.275     0.342
## PSEC4   ->  SEC                   0.259     0.328
## PREP1   ->  REP                   0.157     0.260
## PREP2   ->  REP                   0.300     0.375
## PREP3   ->  REP                   0.308     0.394
## PREP4   ->  REP                   0.241     0.344
## PINV1   ->  INV                   0.314     0.413
## PINV2   ->  INV                   0.339     0.446
## PINV3   ->  INV                   0.306     0.420
## PPSS1   ->  POL                   0.311     0.404
## PPSS2   ->  POL                   0.354     0.451
## PPSS3   ->  POL                   0.328     0.407
## FAML1   ->  FAML                  1.000     1.000
## PREP1*PPSS1  ->  REP*POL  -0.278     0.382
## PREP1*PPSS2  ->  REP*POL  -0.156     0.229
## PREP1*PPSS3  ->  REP*POL  -0.183     0.320
## PREP2*PPSS1  ->  REP*POL  -0.174     0.276
## PREP2*PPSS2  ->  REP*POL  -0.279     0.316
## PREP2*PPSS3  ->  REP*POL  -0.426     0.488
## PREP3*PPSS1  ->  REP*POL  -0.627     0.665
## PREP3*PPSS2  ->  REP*POL  -0.225     0.335
## PREP3*PPSS3  ->  REP*POL  -0.241     0.333
## PREP4*PPSS1  ->  REP*POL  -0.460     0.552
## PREP4*PPSS2  ->  REP*POL  -0.486     0.536
## PREP4*PPSS3  ->  REP*POL  -0.294     0.404
##
## Bootstrapped Loadings:
##                           Original Est. Bootstrap Mean Bootstrap SD T Stat.
## TRST1   ->  TRUST                0.900          0.900        0.016  57.978
## TRST2   ->  TRUST                0.909          0.909        0.021  43.957
## TRST3   ->  TRUST                0.905          0.904        0.022  41.789
## TRST4   ->  TRUST                0.838          0.837        0.032  26.406
## PSEC1   ->  SEC                  0.813          0.815        0.026  31.545
## PSEC2   ->  SEC                  0.865          0.865        0.026  33.448
## PSEC3   ->  SEC                  0.868          0.868        0.022  39.782
## PSEC4   ->  SEC                  0.807          0.806        0.024  33.021
## PREP1   ->  REP                  0.800          0.795        0.040  20.031
## PREP2   ->  REP                  0.913          0.913        0.016  56.228
## PREP3   ->  REP                  0.908          0.908        0.021  43.484
## PREP4   ->  REP                  0.718          0.717        0.032  22.491
## PINV1   ->  INV                  0.903          0.905        0.025  36.629
## PINV2   ->  INV                  0.925          0.926        0.022  42.722
## PINV3   ->  INV                  0.855          0.855        0.026  32.928
## PPSS1   ->  POL                  0.868          0.865        0.025  34.904
## PPSS2   ->  POL                  0.893          0.893        0.014  62.218
## PPSS3   ->  POL                  0.911          0.910        0.017  52.591
## FAML1   ->  FAML                 1.000          1.000        0.000       .
## PREP1*PPSS1  ->  REP*POL         0.581          0.574        0.275   2.107
## PREP1*PPSS2  ->  REP*POL         0.510          0.556        0.254   2.009
## PREP1*PPSS3  ->  REP*POL         0.506          0.573        0.272   1.858
## PREP2*PPSS1  ->  REP*POL         0.509          0.609        0.289   1.760
## PREP2*PPSS2  ->  REP*POL         0.421          0.571        0.297   1.418
```

```
## PREP2*PPSS3  -> REP*POL          0.336          0.584          0.344   0.975
## PREP3*PPSS1  -> REP*POL          0.236          0.492          0.357   0.660
## PREP3*PPSS2  -> REP*POL          0.555          0.598          0.289   1.921
## PREP3*PPSS3  -> REP*POL          0.466          0.587          0.302   1.541
## PREP4*PPSS1  -> REP*POL          0.900          0.565          0.376   2.396
## PREP4*PPSS2  -> REP*POL          0.836          0.479          0.368   2.275
## PREP4*PPSS3  -> REP*POL          0.859          0.540          0.345   2.491
##                             2.5% CI 97.5% CI
## TRST1  ->  TRUST              0.865    0.927
## TRST2  ->  TRUST              0.864    0.942
## TRST3  ->  TRUST              0.853    0.939
## TRST4  ->  TRUST              0.768    0.890
## PSEC1  ->  SEC               0.759    0.862
## PSEC2  ->  SEC               0.811    0.909
## PSEC3  ->  SEC               0.821    0.906
## PSEC4  ->  SEC               0.753    0.851
## PREP1  ->  REP               0.707    0.863
## PREP2  ->  REP               0.877    0.941
## PREP3  ->  REP               0.859    0.940
## PREP4  ->  REP               0.650    0.774
## PINV1  ->  INV               0.846    0.944
## PINV2  ->  INV               0.876    0.959
## PINV3  ->  INV               0.795    0.899
## PPSS1  ->  POL               0.806    0.905
## PPSS2  ->  POL               0.862    0.918
## PPSS3  ->  POL               0.872    0.937
## FAML1  ->  FAML              1.000    1.000
## PREP1*PPSS1  -> REP*POL     -0.086    0.916
## PREP1*PPSS2  -> REP*POL     -0.062    0.864
## PREP1*PPSS3  -> REP*POL     -0.098    0.902
## PREP2*PPSS1  -> REP*POL     -0.141    0.935
## PREP2*PPSS2  -> REP*POL     -0.208    0.927
## PREP2*PPSS3  -> REP*POL     -0.342    0.980
## PREP3*PPSS1  -> REP*POL     -0.420    0.922
## PREP3*PPSS2  -> REP*POL     -0.117    0.940
## PREP3*PPSS3  -> REP*POL     -0.231    0.947
## PREP4*PPSS1  -> REP*POL     -0.337    0.974
## PREP4*PPSS2  -> REP*POL     -0.372    0.908
## PREP4*PPSS3  -> REP*POL     -0.296    0.943
##
## Bootstrapped HTMT:
##                 Original Est. Bootstrap Mean Bootstrap SD 2.5% CI 97.5% CI
## REP  ->  INV            0.705          0.704        0.049   0.600    0.790
## REP  ->  POL            0.543          0.543        0.055   0.425    0.648
## REP  ->  FAML           0.599          0.599        0.054   0.493    0.704
## REP  ->  REP*POL        0.000          0.000        0.000   0.000    0.000
## REP  ->  SEC            0.595          0.594        0.046   0.497    0.674
## REP  ->  TRUST          0.682          0.681        0.043   0.591    0.762
## INV  ->  POL            0.498          0.496        0.060   0.382    0.609
## INV  ->  FAML           0.494          0.491        0.054   0.388    0.605
## INV  ->  REP*POL        0.085          0.103        0.033   0.056    0.181
## INV  ->  SEC            0.568          0.567        0.050   0.466    0.665
## INV  ->  TRUST          0.563          0.561        0.050   0.467    0.659
## POL  ->  FAML           0.596          0.593        0.055   0.481    0.690
## POL  ->  REP*POL        0.000          0.000        0.000   0.000    0.000
## POL  ->  SEC            0.622          0.622        0.051   0.519    0.713
```

```
## POL   ->  TRUST              0.458              0.458          0.060   0.334    0.573
## FAML  ->  REP*POL            0.046              0.064          0.023   0.032    0.122
## FAML  ->  SEC                0.455              0.454          0.053   0.353    0.553
## FAML  ->  TRUST              0.471              0.470          0.054   0.363    0.573
## REP*POL ->  SEC             0.059              0.082          0.019   0.050    0.124
## REP*POL ->  TRUST           0.044              0.071          0.017   0.046    0.110
## SEC   ->  TRUST              0.685              0.686          0.036   0.611    0.751
##
## Bootstrapped Total Paths:
##                  Original Est. Bootstrap Mean Bootstrap SD 2.5% CI 97.5% CI
## REP  ->  SEC                0.247              0.243          0.061   0.111    0.347
## REP  ->  TRUST              0.150              0.148          0.039   0.067    0.220
## INV  ->  SEC                0.181              0.187          0.057   0.075    0.298
## INV  ->  TRUST              0.109              0.114          0.036   0.048    0.183
## POL  ->  SEC                0.339              0.341          0.055   0.232    0.446
## POL  ->  TRUST              0.205              0.208          0.036   0.138    0.275
## FAML ->  SEC                0.011              0.011          0.061  -0.110    0.126
## FAML ->  TRUST              0.006              0.007          0.037  -0.065    0.080
## REP*POL ->  SEC            -0.105             -0.012          0.127  -0.197    0.196
## REP*POL ->  TRUST          -0.063             -0.007          0.078  -0.122    0.121
## SEC  ->  TRUST              0.606              0.610          0.035   0.539    0.672
```

Question 2

Common-Factor Models using CB-SEM

2a

Create a common factor model using SEMinR, with the following characteristics:

i

Either respecify all the constructs as being reflective(), or use the as.reflective() function to convert your earlier measurement model to being entirely reflective.

```
sec_cbsem_mm <- constructs(
  reflective("TRUST", multi_items("TRST",1:4)), # Trust in website (TRUST)
  reflective("SEC", multi_items("PSEC",1:4)), # Perceived security of website (SEC)
  reflective("REP", multi_items("PREP",1:4)), # Reputation of website (REP)
  reflective("INV", multi_items("PINV",1:3)), # Investment in website (INV)
  reflective("POL", multi_items("PPSS",1:3)), # Perception of privacy policies (POL)
  reflective("FAML", single_item("FAML1")), # Familiarity with website (FAML)
  interaction_term(iv = "REP", moderator = "POL", method=orthogonal)
)
```

ii

Use the same structural model as before

```
# REP + INV + POL + FAML + (REP✕POL) → SEC → TRUST
sec_cbsem_sm <- relationships(
  paths(from = c("REP","INV","POL","FAML","REP*POL"), to = "SEC"),
  paths(from = "SEC", to = "TRUST")
)
```

2b

Show us the following results in table or figure formats

i

Plot a figure of the estimated model (it will look different from your PLS model!)

```
sec_cbsem <- estimate_cbsem(data = sec,
                       measurement_model = sec_cbsem_mm,
                       structural_model = sec_cbsem_sm)
```

```
## Generating the seminr model for CBSEM
```

```
plot(sec_cbsem)
```

```
## Plotting of lavaan models using semPlot.
```

```
## NULL
```

ii

Loadings of composites

```
sec_cbsem_report <- summary(sec_cbsem)
sec_cbsem_report$loadings
```

```
## $coefficients
##            TRUST       SEC       REP       INV      POL FAML
## TRST1 0.8800240        NA        NA        NA       NA   NA
## TRST2 0.8886342        NA        NA        NA       NA   NA
## TRST3 0.8690644        NA        NA        NA       NA   NA
## TRST4 0.7575988        NA        NA        NA       NA   NA
## PSEC1        NA 0.7308766        NA        NA       NA   NA
## PSEC2        NA 0.8173481        NA        NA       NA   NA
## PSEC3        NA 0.8151708        NA        NA       NA   NA
## PSEC4        NA 0.7260444        NA        NA       NA   NA
## PREP1        NA        NA 0.7551328        NA       NA   NA
## PREP2        NA        NA 0.9199208        NA       NA   NA
## PREP3        NA        NA 0.8871362        NA       NA   NA
## PREP4        NA        NA 0.5650059        NA       NA   NA
## PINV1        NA        NA        NA 0.8520004       NA   NA
## PINV2        NA        NA        NA 0.9257476       NA   NA
## PINV3        NA        NA        NA 0.7388750       NA   NA
## PPSS1        NA        NA        NA        NA 0.8051533   NA
## PPSS2        NA        NA        NA        NA 0.8272576   NA
## PPSS3        NA        NA        NA        NA 0.8674335   NA
## FAML1        NA        NA        NA        NA       NA    1
##
## $significance
##                            Std Estimate          SE      t-Value   2.5% CI
## TRUST -> TRST1                0.8800240 0.02272091 0.000000e+00 0.8354919
## TRUST -> TRST2                0.8886342 0.03330783 0.000000e+00 0.8233521
## TRUST -> TRST3                0.8690644 0.03749444 0.000000e+00 0.7955767
## TRUST -> TRST4                0.7575988 0.04846748 0.000000e+00 0.6626042
## SEC -> PSEC1                  0.7308766 0.03679205 0.000000e+00 0.6587655
## SEC -> PSEC2                  0.8173481 0.04480183 0.000000e+00 0.7295381
## SEC -> PSEC3                  0.8151708 0.03728082 0.000000e+00 0.7421017
## SEC -> PSEC4                  0.7260444 0.03811841 0.000000e+00 0.6513337
## REP -> PREP1                  0.7551328 0.04464916 0.000000e+00 0.6676220
## REP -> PREP2                  0.9199208 0.02635333 0.000000e+00 0.8682692
## REP -> PREP3                  0.8871362 0.04015103 0.000000e+00 0.8084416
## REP -> PREP4                  0.5650059 0.04585583 0.000000e+00 0.4751302
## INV -> PINV1                  0.8520004 0.04489927 0.000000e+00 0.7639994
## INV -> PINV2                  0.9257476 0.04556425 0.000000e+00 0.8364433
## INV -> PINV3                  0.7388750 0.04511602 0.000000e+00 0.6504492
## POL -> PPSS1                  0.8051533 0.04355300 0.000000e+00 0.7197910
## POL -> PPSS2                  0.8272576 0.02807169 0.000000e+00 0.7722381
## POL -> PPSS3                  0.8674335 0.03273664 0.000000e+00 0.8032708
## FAML -> FAML1                 1.0000000 0.00000000           NA 1.0000000
## REP_x_POL -> PREP1_x_PPSS1    0.7781584 0.05799871 0.000000e+00 0.6644831
## REP_x_POL -> PREP1_x_PPSS2    0.7597768 0.05931838 0.000000e+00 0.6435149
## REP_x_POL -> PREP1_x_PPSS3    0.7879106 0.05013554 0.000000e+00 0.6896467
## REP_x_POL -> PREP2_x_PPSS1    0.8447368 0.03649041 0.000000e+00 0.7732169
## REP_x_POL -> PREP2_x_PPSS2    0.8034561 0.03639411 0.000000e+00 0.7321250
## REP_x_POL -> PREP2_x_PPSS3    0.8342444 0.03536430 0.000000e+00 0.7649317
## REP_x_POL -> PREP3_x_PPSS1    0.6736451 0.12948898 1.967997e-07 0.4198514
## REP_x_POL -> PREP3_x_PPSS2    0.8011944 0.03780427 0.000000e+00 0.7270994
## REP_x_POL -> PREP3_x_PPSS3    0.7902063 0.06416741 0.000000e+00 0.6644405
## REP_x_POL -> PREP4_x_PPSS1    0.6854770 0.06906812 0.000000e+00 0.5501059
## REP_x_POL -> PREP4_x_PPSS2    0.5531922 0.06212434 0.000000e+00 0.4314307
## REP_x_POL -> PREP4_x_PPSS3    0.6405843 0.05794029 0.000000e+00 0.5270234
```

```
##                                 97.5% CI
## TRUST -> TRST1              0.9245562
## TRUST -> TRST2              0.9539164
## TRUST -> TRST3              0.9425522
## TRUST -> TRST4              0.8525933
## SEC -> PSEC1                0.8029877
## SEC -> PSEC2                0.9051581
## SEC -> PSEC3                0.8882399
## SEC -> PSEC4                0.8007551
## REP -> PREP1                0.8426435
## REP -> PREP2                0.9715724
## REP -> PREP3                0.9658307
## REP -> PREP4                0.6548817
## INV -> PINV1                0.9400013
## INV -> PINV2                1.0150518
## INV -> PINV3                0.8273007
## POL -> PPSS1                0.8905156
## POL -> PPSS2                0.8822771
## POL -> PPSS3                0.9315961
## FAML -> FAML1               1.0000000
## REP_x_POL -> PREP1_x_PPSS1 0.8918338
## REP_x_POL -> PREP1_x_PPSS2 0.8760387
## REP_x_POL -> PREP1_x_PPSS3 0.8861744
## REP_x_POL -> PREP2_x_PPSS1 0.9162567
## REP_x_POL -> PREP2_x_PPSS2 0.8747873
## REP_x_POL -> PREP2_x_PPSS3 0.9035572
## REP_x_POL -> PREP3_x_PPSS1 0.9274389
## REP_x_POL -> PREP3_x_PPSS2 0.8752894
## REP_x_POL -> PREP3_x_PPSS3 0.9159721
## REP_x_POL -> PREP4_x_PPSS1 0.8208480
## REP_x_POL -> PREP4_x_PPSS2 0.6749536
## REP_x_POL -> PREP4_x_PPSS3 0.7541452
```

iii

Regression coefficients of paths between factors, and their p-values

```
sec_cbsem_report$paths
```

```
## $coefficients
##                    SEC      TRUST
## R^2         0.540381651 0.4951084
## REP         0.299536782        NA
## INV         0.214253245        NA
## POL         0.376401499        NA
## FAML       -0.008837653        NA
## REP_x_POL   0.008355287        NA
## SEC                  NA 0.7036394
##
## $pvalues
##                    SEC TRUST
## REP         3.817182e-05    NA
## INV         3.534482e-03    NA
## POL         4.380974e-09    NA
## FAML        8.996836e-01    NA
## REP_x_POL   8.516847e-01    NA
## SEC                  NA     0
##
## $significance
##                   Std Estimate         SE      t-Value     2.5% CI   97.5% CI
## SEC -> REP          0.299536782 0.07273355 3.817182e-05  0.15698165 0.44209191
## SEC -> INV          0.214253245 0.07345058 3.534482e-03  0.07029275 0.35821374
## SEC -> POL          0.376401499 0.06413246 4.380974e-09  0.25070419 0.50209881
## SEC -> FAML        -0.008837653 0.07010617 8.996836e-01 -0.14624321 0.12856791
## SEC -> REP_x_POL    0.008355287 0.04468802 8.516847e-01 -0.07923162 0.09594219
## TRUST -> SEC        0.703639369 0.03721630 0.000000e+00  0.63069677 0.77658197
```