

EFA

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```
getwd()
```

```
## [1] "C:/Users/GHOOST/Desktop/New Lit/data"
```

```
setwd("C:/Users/GHOOST/Desktop/New Lit/data")
```

Push Factors

```
#exploratory factor analysis to allow for indexing.
```

```
#creating a data frame for push factors
```

```
PushFactors <-data.frame(Unavailability.of.the.desired.study.program,Low.quality.of.education  
                          ,Competitive.University.admission.process  
                          ,Perceived.advantage.of.international.degree  
                          ,Unavailability.of.scholarship.opportunities  
                          ,Encouragement.from.my.family.to.study.abroad,Encouragement.from..my.friends.to.study.abroad  
                          ,Better.earning.prospects.abroad, The.social.prestige.of.studying.abroad  
                          ,To.experience.a.different.culture)
```

```
#principal component analysis
```

```
pushpc <- princomp(~Unavailability.of.the.desired.study.program+  
                  Low.quality.of.education  
                  +Competitive.University.admission.process  
                  +Perceived.advantage.of.international.degree  
                  +Unavailability.of.scholarship.opportunities  
                  +Encouragement.from.my.family.to.study.abroad+  
                  Encouragement.from..my.friends.to.study.abroad  
                  +Better.earning.prospects.abroad+The.social.prestige.of.studying.abroad  
                  +To.experience.a.different.culture, data = PushFactors,  
                  cor = FALSE, na.action = na.omit)
```

```
summary(pushpc)
```

```
## Importance of components:
```

```
##               Comp.1    Comp.2    Comp.3    Comp.4    Comp.5  
## Standard deviation    2.7545700 1.6359120 1.4670854 1.30955378 1.10151151  
## Proportion of Variance 0.3826555 0.1349647 0.1085453 0.08648625 0.06118972  
## Cumulative Proportion 0.3826555 0.5176203 0.6261656 0.71265185 0.77384157  
##               Comp.6    Comp.7    Comp.8    Comp.9  
## Standard deviation    1.09434303 1.05599213 0.95231463 0.87134282  
## Proportion of Variance 0.06039588 0.05623695 0.04573633 0.03828939  
## Cumulative Proportion 0.83423746 0.89047441 0.93621074 0.97450013  
##               Comp.10  
## Standard deviation    0.71108052  
## Proportion of Variance 0.02549987  
## Cumulative Proportion 1.00000000
```

```

push.efa2 <- factanal(~Unavailability.of.the.desired.study.program+
  Low.quality.of.education
  +Competitive.University.admission.process
  +Perceived.advantage.of.international.degree
  +Unavailability.of.scholarship.opportunities
  +Encouragement.from.my.family.to.study.abroad+
  Encouragement.from..my.friends.to.study.abroad
  +Better.earning.prospects.abroad+The.social.prestige.of.studying.abroad
  +To.experience.a.different.culture,
  factors = 4, data = PushFactors, cor = FALSE, na.action = na.omit)

print(push.efa2, digits=2, cutoff=.3, sort=TRUE)

##
## Call:
## factanal(x = ~Unavailability.of.the.desired.study.program + Low.quality.of.education + Competitive
##
## Uniquenesses:
##   Unavailability.of.the.desired.study.program
##                                     0.60
##           Low.quality.of.education
##                                     0.43
##   Competitive.University.admission.process
##                                     0.60
##   Perceived.advantage.of.international.degree
##                                     0.60
##   Unavailability.of.scholarship.opportunities
##                                     0.43
##   Encouragement.from.my.family.to.study.abroad
##                                     0.00
## Encouragement.from..my.friends.to.study.abroad
##                                     0.55
##           Better.earning.prospects.abroad
##                                     0.31
##           The.social.prestige.of.studying.abroad
##                                     0.32
##           To.experience.a.different.culture
##                                     0.77
##
## Loadings:
##                                     Factor1 Factor2 Factor3
## Better.earning.prospects.abroad      0.78
## The.social.prestige.of.studying.abroad 0.75
## Competitive.University.admission.process      0.57
## Unavailability.of.scholarship.opportunities      0.72
## Encouragement.from.my.family.to.study.abroad      0.94
## Unavailability.of.the.desired.study.program      0.49
## Low.quality.of.education      0.37 0.41
## Perceived.advantage.of.international.degree      0.48 0.34
## Encouragement.from..my.friends.to.study.abroad 0.34      0.49
## To.experience.a.different.culture
##                                     Factor4
## Better.earning.prospects.abroad
## The.social.prestige.of.studying.abroad

```

```
## Competitive.University.admission.process
## Unavailability.of.scholarship.opportunities
## Encouragement.from.my.family.to.study.abroad
## Unavailability.of.the.desired.study.program
## Low.quality.of.education 0.50
## Perceived.advantage.of.international.degree
## Encouragement.from.my.friends.to.study.abroad
## To.experience.a.different.culture -0.47
##
##          Factor1 Factor2 Factor3 Factor4
## SS loadings    1.87    1.55    1.36    0.60
## Proportion Var   0.19    0.16    0.14    0.06
## Cumulative Var   0.19    0.34    0.48    0.54
##
## Test of the hypothesis that 4 factors are sufficient.
## The chi square statistic is 20.29 on 11 degrees of freedom.
## The p-value is 0.0415
```

with p-value 0.0415, four factors are sufficient.

Push Factors

```
PushFactorsHC <-data.frame(access.to.education, Competitive.University.admission.process
                           ,Perceived.advantage.of.international.degree
                           ,Unavailability.of.scholarship.opportunities
                           ,encouragement.from.family.friends
                           ,advantages.of.studying.abroad
                           ,To.experience.a.different.culture)
```

Pull Factors

Efa with 8 factors

```
fit.efa2 <- factanal(~Availability.of.desired.study.program+Higher.quality.of.education..compared.to.ho
                    Low.cost.of.living+Low.tuition.fees+Awarded.scholarships.or.tuition.waiver+
                    Attraction.to.Russian.culture..society+Career.prospects.in.Russia+
                    Recommendations.from.family.friends+cultural.proximity.with.home+
                    geographical.proximity.with.home+Quality.and.reputation.of.the.University+
                    Recognition.of.the.degree.in.my.home.country+Quality.of.the.teaching.staff+
                    The.reputation.of.the.alumni+The.reputation.of.the.international.community+
                    HSE.position.in.international.university.rankings+Cost.of.tuition.for.internati
                    Availability.of.scholarships+Support.services.for.international.students+
                    Graduates.employment.rates+HSE.s.international.strategic.alliances+
                    Local.employers.preference.of..degrees.awarded.by.HSE,
                    factors = 8, data = PullFactors, cor = FALSE, na.action = na.omit)

print(fit.efa2, digits=2, cutoff=.3, sort=TRUE)
```

```
##
## Call:
## factanal(x = ~Availability.of.desired.study.program + Higher.quality.of.education..compared.to.home.
##
## Uniquenesses:
##          Availability.of.desired.study.program
##                                0.57
```

```

## Higher.quality.of.education..compared.to.home.country.
##                                0.39
##                                Low.cost.of.living
##                                0.51
##                                Low.tuition.fees
##                                0.15
##                                Awarded.scholarships.or.tuition.waiver
##                                0.40
##                                Attraction.to.Russian.culture..society
##                                0.00
##                                Career.prospects.in.Russia
##                                0.43
##                                Recommendations.from.family.friends
##                                0.66
##                                cultural.proximity.with.home
##                                0.27
##                                geographical.proximity.with.home
##                                0.14
##                                Quality.and.reputation.of.the.University
##                                0.29
##                                Recognition.of.the.degree.in.my.home.country
##                                0.73
##                                Quality.of.the.teaching.staff
##                                0.49
##                                The.reputation.of.the.alumni
##                                0.00
##                                The.reputation.of.the.international.community
##                                0.44
##                                HSE.position.in.international.university.rankings
##                                0.49
##                                Cost.of.tuition.for.international.students
##                                0.49
##                                Availability.of.scholarships
##                                0.00
##                                Support.services.for.international.students
##                                0.53
##                                Graduates.employment.rates
##                                0.31
##                                HSE.s.international.strategic.alliances
##                                0.60
##                                Local.employers.preference.of..degrees.awarded.by.HSE
##                                0.39
##
## Loadings:
##                                Factor1 Factor2
## Graduates.employment.rates          0.67
## HSE.s.international.strategic.alliances 0.55
## Local.employers.preference.of..degrees.awarded.by.HSE 0.60    0.31
## cultural.proximity.with.home                                0.81
## geographical.proximity.with.home                            0.90
## Low.cost.of.living
## Low.tuition.fees
## Cost.of.tuition.for.international.students
## Quality.and.reputation.of.the.University

```

## Quality.of.the.teaching.staff			
## HSE.position.in.international.university.rankings	0.42		
## Awarded.scholarships.or.tuition.waiver			
## Availability.of.scholarships			
## Higher.quality.of.education..compared.to.home.country.			
## The.reputation.of.the.alumni			
## Attraction.to.Russian.culture..society			
## Availability.of.desired.study.program			
## Career.prospects.in.Russia	0.35	0.43	
## Recommendations.from.family.friends		0.41	
## Recognition.of.the.degree.in.my.home.country	0.31		
## The.reputation.of.the.international.community	0.39		
## Support.services.for.international.students	0.49		
##	Factor3	Factor4	
## Graduates.employment.rates			
## HSE.s.international.strategic.alliances			
## Local.employers.preference.of..degrees.awarded.by.HSE			
## cultural.proximity.with.home			
## geographical.proximity.with.home			
## Low.cost.of.living	0.65		
## Low.tuition.fees	0.90		
## Cost.of.tuition.for.international.students	0.58		
## Quality.and.reputation.of.the.University		0.78	
## Quality.of.the.teaching.staff		0.54	
## HSE.position.in.international.university.rankings		0.53	
## Awarded.scholarships.or.tuition.waiver			
## Availability.of.scholarships			
## Higher.quality.of.education..compared.to.home.country.			
## The.reputation.of.the.alumni			
## Attraction.to.Russian.culture..society			
## Availability.of.desired.study.program		0.42	
## Career.prospects.in.Russia			
## Recommendations.from.family.friends			
## Recognition.of.the.degree.in.my.home.country			
## The.reputation.of.the.international.community		0.40	
## Support.services.for.international.students			
##	Factor5	Factor6	
## Graduates.employment.rates		0.31	
## HSE.s.international.strategic.alliances			
## Local.employers.preference.of..degrees.awarded.by.HSE			
## cultural.proximity.with.home			
## geographical.proximity.with.home			
## Low.cost.of.living			
## Low.tuition.fees			
## Cost.of.tuition.for.international.students			
## Quality.and.reputation.of.the.University			
## Quality.of.the.teaching.staff			
## HSE.position.in.international.university.rankings			
## Awarded.scholarships.or.tuition.waiver	0.69		
## Availability.of.scholarships	0.95		
## Higher.quality.of.education..compared.to.home.country.		0.67	
## The.reputation.of.the.alumni			
## Attraction.to.Russian.culture..society			
## Availability.of.desired.study.program		0.41	

```

## Career.prospects.in.Russia                                0.43
## Recommendations.from.family.friends
## Recognition.of.the.degree.in.my.home.country
## The.reputation.of.the.international.community
## Support.services.for.international.students                0.31
##                                                            Factor7 Factor8
## Graduates.employment.rates
## HSE.s.international.strategic.alliances
## Local.employers.preference.of..degrees.awarded.by.HSE
## cultural.proximity.with.home
## geographical.proximity.with.home
## Low.cost.of.living
## Low.tuition.fees
## Cost.of.tuition.for.international.students
## Quality.and.reputation.of.the.University
## Quality.of.the.teaching.staff
## HSE.position.in.international.university.rankings
## Awarded.scholarships.or.tuition.waiver
## Availability.of.scholarships
## Higher.quality.of.education..compared.to.home.country.
## The.reputation.of.the.alumni                                0.89
## Attraction.to.Russian.culture..society                      0.97
## Availability.of.desired.study.program
## Career.prospects.in.Russia
## Recommendations.from.family.friends
## Recognition.of.the.degree.in.my.home.country
## The.reputation.of.the.international.community              0.41
## Support.services.for.international.students
##
##
## Factor1 Factor2 Factor3 Factor4 Factor5 Factor6 Factor7
## SS loadings      2.26   2.21   2.04   1.94   1.71   1.25   1.17
## Proportion Var    0.10   0.10   0.09   0.09   0.08   0.06   0.05
## Cumulative Var    0.10   0.20   0.30   0.38   0.46   0.52   0.57
##
## Factor8
## SS loadings      1.11
## Proportion Var    0.05
## Cumulative Var    0.62
##
## Test of the hypothesis that 8 factors are sufficient.
## The chi square statistic is 186.35 on 83 degrees of freedom.
## The p-value is 6.54e-10

```

with p-value 6.54e-10 8 factors are sufficient.

Pull factors

```

PullFactorsRuHSE<-data.frame(program.choice,cost.of.living,proximity, scholarship,HSE.quality,
                               HSE.reputation, Attraction.to.Russian.culture..society,
                               Recognition.of.the.degree.in.my.home.country,Recommendations.from.family.f,
                               HSE.position.in.international.university.rankings,Support.services.for.int,
                               HSE.s.international.strategic.alliances,employment.prospect)

```