**Table 1**. Summary Statistics of PIR Scores. This table reports the number of valid surveys, and mean, standard deviation, minimum, maximum, and three quantile levels of four PIR scores.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **PIR** | **Energizing** | **Educating** | **Engaging** |
| count | 143 | 143 | 143 | 143 |
| mean | 7.43 | 7.65 | 7.29 | 7.45 |
| std | 1.32 | 1.33 | 1.44 | 1.48 |
| min | 4.30 | 3.83 | 3.30 | 3.00 |
| 25% | 6.55 | 6.67 | 6.50 | 6.50 |
| 50% | 7.50 | 7.83 | 7.40 | 7.50 |
| 75% | 8.45 | 8.67 | 8.35 | 8.50 |
| max | 9.90 | 10.00 | 10.00 | 10.00 |

**Table 2**. Summary Statistics of Three Indexes. This table reports the number of valid surveys, and mean, standard deviation, minimum, maximum, and three quantile levels of political leaning index, environmental belief index and shopping habit index.

|  |  |  |  |
| --- | --- | --- | --- |
|  | **political** | **env belief** | **consum** |
| count | 143 | 143 | 143 |
| mean | 0.30 | 4.17 | 0.42 |
| std | 0.21 | 0.57 | 0.30 |
| min | 0.00 | 2.50 | 0.00 |
| 25% | 0.12 | 3.75 | 0.33 |
| 50% | 0.25 | 4.25 | 0.33 |
| 75% | 0.38 | 4.50 | 0.67 |
| max | 0.88 | 5.00 | 1.00 |

**Table 3.** PIR Scores by Categories. This table reports the average PIR score and its standard deviation for each category. The number of valid surveys for each category is also reported. The first level within each category is the reference level in the regression.

|  |  |  |  |
| --- | --- | --- | --- |
| **Category** | **Mean** | **N** | **STD** |
| Sustainability Focused Course |  |  |  |
| No | 7.28 | 73 | 1.43 |
| Yes | 7.59 | 70 | 1.18 |
| Gender |  |  |  |
| Male | 7.54 | 48 | 1.37 |
| Choose not to respond | 7.70 | 2 | 0.42 |
| Female | 7.37 | 93 | 1.31 |
| Faith |  |  |  |
| Faith | 7.60 | 79 | 1.22 |
| No Faith | 7.22 | 64 | 1.42 |
| Degree |  |  |  |
| Undergraduate | 7.52 | 110 | 1.27 |
| Graduate | 7.12 | 33 | 1.46 |
| Co-Op |  |  |  |
| No | 7.24 | 90 | 1.37 |
| Yes | 7.75 | 53 | 1.18 |
| Academic Evaluation |  |  |  |
| Meet | 7.03 | 46 | 1.20 |
| Above | 7.77 | 87 | 1.26 |
| Below | 6.28 | 10 | 1.30 |
| Clubs Membership |  |  |  |
| No | 7.28 | 107 | 1.31 |
| Yes | 7.88 | 36 | 1.25 |
| Sustainability Focused Clubs Membership |  |  |  |
| No | 7.38 | 125 | 1.30 |
| Yes | 7.78 | 18 | 1.44 |
| Political Leaning |  |  |  |
| Left | 7.52 | 82 | 1.31 |
| Right | 7.31 | 61 | 1.34 |
| Environmental Belief |  |  |  |
| Less | 7.36 | 68 | 1.24 |
| More | 7.49 | 75 | 1.39 |
| Consumption Habit |  |  |  |
| Less | 7.54 | 32 | 1.31 |
| More | 7.40 | 111 | 1.33 |
| Treatment |  |  |  |
| First | 7.53 | 68 | 1.25 |
| Second | 7.34 | 75 | 1.38 |

**Table 4.** Descriptive Statistics by Academic Programs. This table reports the average PIR score and its standard deviation for different academic programs. The number of valid participants from each academic program is also reported. Specifically, Panel A contains all undergraduate programs: Bachelor of Commence and others. Panel B contains all graduate programs.

|  |  |  |  |
| --- | --- | --- | --- |
| **Program** | **Mean** | **N** | **STD** |
| Panel A: Undergraduate Programs Bachelor of Commence | | | |
| Accounting | 7.28 | 16 | 0.95 |
| Food and Agricultural Business | 6.18 | 3 | 0.62 |
| Hotel Food and Tourism Management | 7.29 | 15 | 1.40 |
| Management | 7.84 | 9 | 1.23 |
| Management Economics and Finance | 7.75 | 17 | 1.20 |
| Marketing Management | 7.70 | 24 | 1.41 |
| Organizational Leadership | 8.16 | 5 | 1.02 |
| Public Management | 7.65 | 5 | 0.36 |
| Real Estate and Housing | 9.18 | 4 | 0.53 |
| Sport and Event Management | 7.20 | 2 | 1.13 |
| Undeclared | 7.47 | 4 | 0.59 |
| Others | | | |
| Bachelor of Applied Science | 7.35 | 1 | NA |
| Bachelor of Arts | 5.87 | 3 | 1.01 |
| Bachelor of Arts and Sciences | 6.75 | 1 | NA |
| Bachelor of Science | 4.30 | 1 | NA |
| Panel B: Graduate Programs | | | |
| MA | 6.23 | 3 | 0.75 |
| MA (Leadership) | 8.40 | 2 | 0.14 |
| MBA (HFTM) | 8.38 | 3 | 0.13 |
| MBA (Sustainability) | 7.20 | 12 | 1.55 |
| MSc | 6.52 | 12 | 1.36 |
| Ph.D | 9.50 | 1 | NA |

**Table 5.** CFA with Three Factors. This table reports the estimated coefficients and standard errors using the Confirmatory Factor Analysis with three latent factors that are in the first column. The second column contains the 20 observable variables, which are reported using the corresponding question numbers in the PIR system.

|  |  |  |  |
| --- | --- | --- | --- |
| **Latent Variable** | **Observed Variable** | **Coefficients** | **SE** |
| Energizing | Q1 | 1.13 | 0.11 |
|  | Q2 | 1.38 | 0.12 |
|  | Q3 | 1.33 | 0.12 |
|  | Q4 | 1.11 | 0.14 |
|  | Q5 | 1.43 | 0.13 |
|  | Q6 | 1.35 | 0.12 |
| Educating | Q7 | 1.25 | 0.13 |
|  | Q8 | 1.26 | 0.15 |
|  | Q9 | 1.30 | 0.14 |
|  | Q10 | 1.40 | 0.15 |
|  | Q11 | 1.31 | 0.13 |
|  | Q12 | 1.44 | 0.14 |
|  | Q13 | 1.70 | 0.16 |
|  | Q14 | 1.46 | 0.14 |
|  | Q15 | 1.31 | 0.12 |
|  | Q16 | 1.48 | 0.14 |
| Engaging | Q17 | 1.54 | 0.14 |
|  | Q18 | 1.44 | 0.13 |
|  | Q19 | 1.46 | 0.12 |
|  | Q20 | 1.27 | 0.13 |

**Table 6.** CFA with Seven Factors. This table reports the estimated coefficients and standard errors using the Confirmatory Factor Analysis with seven latent factors that are in the first column. The second column contains the 20 observable variables, which are reported using the corresponding question numbers in the PIR system.

|  |  |  |  |
| --- | --- | --- | --- |
| **Latent Variable** | **Observed Variable** | **Coefficients** | **SE** |
| Governance | Q1 | 1.25 | 0.11 |
|  | Q2 | 1.56 | 0.12 |
| Culture | Q3 | 1.36 | 0.12 |
|  | Q4 | 1.11 | 0.14 |
|  | Q5 | 1.45 | 0.13 |
|  | Q6 | 1.37 | 0.12 |
| Program | Q7 | 1.32 | 0.13 |
|  | Q8 | 1.28 | 0.15 |
|  | Q9 | 1.30 | 0.14 |
|  | Q10 | 1.37 | 0.15 |
| Learn | Q11 | 1.35 | 0.13 |
|  | Q12 | 1.47 | 0.14 |
|  | Q13 | 1.69 | 0.17 |
| Support | Q14 | 1.66 | 0.13 |
|  | Q15 | 1.48 | 0.12 |
|  | Q16 | 1.41 | 0.15 |
| Model | Q17 | 1.46 | 0.15 |
|  | Q18 | 1.34 | 0.14 |
| Public | Q19 | 1.41 | 0.12 |
|  | Q20 | 1.25 | 0.13 |

**Table 7 .** CFA with Four Factors. This table reports the estimated coefficients and standard errors using the Confirmatory Factor Analysis with four latent factors that are in the first column. The second column contains the 16 observable variables, which are reported using the corresponding question numbers in the PIR system.

|  |  |  |  |
| --- | --- | --- | --- |
| **Latent Variable** | **Observed Variable** | **Coefficients** | **SE** |
| Factor 1 | Q1 | 1.26 | 0.11 |
|  | Q2 | 1.48 | 0.12 |
|  | Q20 | 1.24 | 0.13 |
| Factor 2 | Q6 | 1.31 | 0.12 |
|  | Q8 | 1.21 | 0.16 |
|  | Q9 | 1.41 | 0.14 |
|  | Q11 | 1.38 | 0.14 |
| Factor 3 | Q12 | 1.43 | 0.14 |
|  | Q13 | 1.72 | 0.16 |
|  | Q14 | 1.51 | 0.13 |
|  | Q16 | 1.48 | 0.14 |
|  | Q17 | 1.58 | 0.14 |
|  | Q19 | 1.34 | 0.12 |
| Factor 4 | Q10 | 1.35 | 0.16 |
|  | Q15 | 1.30 | 0.12 |
|  | Q18 | 1.28 | 0.14 |

**Table 8.** Confirmatory Factor Analysis Result Comparison. This table reports the three criteria in the confirmatory factor analysis: CFI, TLI, and RMSEA.

|  |  |  |  |
| --- | --- | --- | --- |
| **Model** | **CFI** | **TLI** | **RMSEA** |
| Three Latent Factors | 0.835 | 0.812 | 0.114 |
| Four Latent Factors | 0.869 | 0.833 | 0.107 |
| Seven Latent Factors | 0.862 | 0.831 | 0.119 |

**Table 9.** Correlation between 20 PIR Questions

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Q1** | **Q2** | **Q3** | **Q4** | **Q5** | **Q6** | **Q7** | **Q8** | **Q9** | **Q10** | **Q11** | **Q12** | **Q13** | **Q14** | **Q15** | **Q16** | **Q17** | **Q18** | **Q19** |
| **Q2** | 0.71 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Q3** | 0.54 | 0.66 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Q4** | 0.33 | 0.38 | 0.53 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Q5** | 0.52 | 0.56 | 0.63 | 0.49 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Q6** | 0.53 | 0.57 | 0.62 | 0.47 | 0.57 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Q7** | 0.47 | 0.60 | 0.61 | 0.37 | 0.50 | 0.62 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Q8** | 0.23 | 0.34 | 0.43 | 0.38 | 0.39 | 0.45 | 0.42 |  |  |  |  |  |  |  |  |  |  |  |  |
| **Q9** | 0.56 | 0.46 | 0.40 | 0.25 | 0.51 | 0.57 | 0.57 | 0.35 |  |  |  |  |  |  |  |  |  |  |  |
| **Q10** | 0.35 | 0.42 | 0.48 | 0.39 | 0.52 | 0.42 | 0.44 | 0.45 | 0.44 |  |  |  |  |  |  |  |  |  |  |
| **Q11** | 0.51 | 0.49 | 0.37 | 0.34 | 0.53 | 0.45 | 0.52 | 0.49 | 0.68 | 0.46 |  |  |  |  |  |  |  |  |  |
| **Q12** | 0.34 | 0.43 | 0.36 | 0.42 | 0.42 | 0.51 | 0.45 | 0.65 | 0.46 | 0.45 | 0.55 |  |  |  |  |  |  |  |  |
| **Q13** | 0.43 | 0.49 | 0.47 | 0.48 | 0.53 | 0.53 | 0.47 | 0.41 | 0.47 | 0.55 | 0.46 | 0.60 |  |  |  |  |  |  |  |
| **Q14** | 0.44 | 0.48 | 0.39 | 0.40 | 0.53 | 0.56 | 0.36 | 0.47 | 0.45 | 0.44 | 0.49 | 0.62 | 0.61 |  |  |  |  |  |  |
| **Q15** | 0.45 | 0.51 | 0.50 | 0.43 | 0.56 | 0.56 | 0.40 | 0.40 | 0.49 | 0.48 | 0.48 | 0.54 | 0.62 | 0.76 |  |  |  |  |  |
| **Q16** | 0.45 | 0.56 | 0.57 | 0.45 | 0.52 | 0.57 | 0.55 | 0.44 | 0.46 | 0.48 | 0.50 | 0.49 | 0.43 | 0.55 | 0.57 |  |  |  |  |
| **Q17** | 0.52 | 0.49 | 0.35 | 0.44 | 0.44 | 0.53 | 0.41 | 0.37 | 0.54 | 0.55 | 0.55 | 0.55 | 0.63 | 0.64 | 0.57 | 0.55 |  |  |  |
| **Q18** | 0.47 | 0.53 | 0.52 | 0.45 | 0.49 | 0.60 | 0.51 | 0.34 | 0.37 | 0.54 | 0.39 | 0.42 | 0.45 | 0.45 | 0.44 | 0.58 | 0.52 |  |  |
| **Q19** | 0.41 | 0.55 | 0.59 | 0.41 | 0.53 | 0.56 | 0.59 | 0.44 | 0.41 | 0.58 | 0.49 | 0.56 | 0.53 | 0.48 | 0.47 | 0.67 | 0.64 | 0.69 |  |
| **Q20** | 0.52 | 0.57 | 0.46 | 0.40 | 0.44 | 0.48 | 0.51 | 0.30 | 0.50 | 0.39 | 0.47 | 0.41 | 0.41 | 0.48 | 0.45 | 0.45 | 0.55 | 0.60 | 0.56 |

**Table 10.** OLS Regression Without Interaction Terms. This table reports the results from four OLS regressions. The standard errors are reported in parenthesis. \*, \*\*, and \*\*\* indicate significance at 10%, 5% and 1% levels, respectively.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | | | | |
|  | Dependent variable: | | | |
|  |  | | | |
|  | pir | pir\_energizing | pir\_educating | pir\_engaging |
|  | (1) | (2) | (3) | (4) |
|  | | | | |
| Course (Y) | 0.625\*\* | 0.383 | 0.750\*\* | 0.676\*\* |
|  | (0.284) | (0.284) | (0.314) | (0.331) |
| Gender (No Response) | -0.045 | -0.168 | 0.026 | -0.037 |
|  | (0.899) | (0.899) | (0.992) | (1.046) |
| Gender (Female) | -0.110 | -0.021 | -0.109 | -0.248 |
|  | (0.231) | (0.231) | (0.254) | (0.268) |
| Faith (N) | -0.426\* | -0.444\*\* | -0.393 | -0.484\* |
|  | (0.216) | (0.216) | (0.238) | (0.251) |
| Degree (Graduate) | -0.286 | -0.209 | -0.379 | -0.168 |
|  | (0.342) | (0.342) | (0.378) | (0.398) |
| Co-op (Y) | 0.318 | 0.469\* | 0.283 | 0.177 |
|  | (0.241) | (0.241) | (0.266) | (0.281) |
| Club (Y) | 0.508 | 0.486 | 0.410 | 0.789\*\* |
|  | (0.333) | (0.333) | (0.367) | (0.387) |
| Sus Club (Y) | -0.131 | -0.351 | 0.068 | -0.299 |
|  | (0.415) | (0.415) | (0.458) | (0.483) |
| Eval (Above) | 0.702\*\*\* | 0.826\*\*\* | 0.636\*\* | 0.682\*\* |
|  | (0.226) | (0.226) | (0.249) | (0.262) |
| Eval (Below) | -1.072\*\* | -0.759\* | -1.345\*\*\* | -0.860\* |
|  | (0.433) | (0.433) | (0.477) | (0.503) |
| Treatment (Second) | 0.291 | 0.287 | 0.193 | 0.543 |
|  | (0.336) | (0.336) | (0.370) | (0.390) |
| Political (Right) | -0.011 | -0.152 | -0.018 | 0.219 |
|  | (0.230) | (0.230) | (0.253) | (0.267) |
| Belief (Sus) | 0.409\* | 0.519\*\* | 0.363 | 0.358 |
|  | (0.231) | (0.231) | (0.255) | (0.269) |
| Shopping (Sus) | -0.494\* | -0.514\* | -0.523\* | -0.390 |
|  | (0.272) | (0.272) | (0.300) | (0.317) |
| Constant | 6.892\*\*\* | 7.061\*\*\* | 6.870\*\*\* | 6.695\*\*\* |
|  | (0.424) | (0.424) | (0.468) | (0.494) |
|  | | | | |
| Observations | 143 | 143 | 143 | 143 |
| R2 | 0.259 | 0.267 | 0.245 | 0.199 |
| Adjusted R2 | 0.178 | 0.187 | 0.163 | 0.112 |
| Residual Std. Error (df = 128) | 1.196 | 1.196 | 1.319 | 1.391 |
| F Statistic (df = 14; 128) | 3.196\*\*\* | 3.328\*\*\* | 2.972\*\*\* | 2.277\*\*\* |
|  | | | | |
| Note: | \*p<0.1; \*\*p<0.05; \*\*\*p<0.01 | | | |

**Table 11.** OLS Regression With Interaction Terms. This table reports the results from four OLS regressions. The standard errors are reported in parenthesis. \*, \*\*, and \*\*\* indicate significance at 10%, 5% and 1% levels, respectively.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | | | | |
|  | *Dependent variable:* | | | |
|  |  | | | |
|  | pir | pir\_energizing | pir\_educating | pir\_engaging |
|  | (1) | (2) | (3) | (4) |
|  | | | | |
| Course (Y) | 0.630\*\* | 0.388 | 0.755\*\* | 0.682\*\* |
|  | (0.282) | (0.282) | (0.312) | (0.328) |
| Gender (No Response) | -0.204 | -0.335 | -0.117 | -0.224 |
|  | (0.897) | (0.896) | (0.993) | (1.043) |
| Gender (Female) | -0.159 | -0.072 | -0.153 | -0.305 |
|  | (0.230) | (0.230) | (0.255) | (0.268) |
| Faith (N) | -0.434\*\* | -0.452\*\* | -0.399\* | -0.493\*\* |
|  | (0.214) | (0.214) | (0.237) | (0.249) |
| Degree (Graduate) | -0.277 | -0.200 | -0.371 | -0.157 |
|  | (0.340) | (0.339) | (0.376) | (0.395) |
| Co-op (Y) | 0.317 | 0.469\* | 0.282 | 0.176 |
|  | (0.239) | (0.239) | (0.265) | (0.278) |
| Club (Y) | 0.514 | 0.492 | 0.415 | 0.796\*\* |
|  | (0.330) | (0.330) | (0.366) | (0.384) |
| Sus Club (Y) | -0.123 | -0.343 | 0.075 | -0.290 |
|  | (0.412) | (0.411) | (0.456) | (0.479) |
| Eval (Above) | 0.707\*\*\* | 0.831\*\*\* | 0.641\*\* | 0.688\*\*\* |
|  | (0.224) | (0.223) | (0.248) | (0.260) |
| Eval (Below) | -1.110\*\* | -0.798\* | -1.379\*\*\* | -0.904\* |
|  | (0.430) | (0.429) | (0.476) | (0.500) |
| Treatment (Second) | 0.264 | 0.259 | 0.168 | 0.511 |
|  | (0.333) | (0.333) | (0.369) | (0.388) |
| Political (Right) | 0.352 | 0.229 | 0.308 | 0.646\* |
|  | (0.308) | (0.308) | (0.342) | (0.359) |
| Belief (Sus) | 0.743\*\* | 0.869\*\*\* | 0.664\*\* | 0.751\*\* |
|  | (0.299) | (0.298) | (0.331) | (0.347) |
| Shopping (Sus) | -0.476\* | -0.496\* | -0.507\* | -0.370 |
|  | (0.270) | (0.270) | (0.299) | (0.314) |
| Political (Right) \* Belief (Sus) | -0.777\* | -0.815\* | -0.699 | -0.915\* |
|  | (0.446) | (0.445) | (0.493) | (0.518) |
| Constant | 6.691\*\*\* | 6.850\*\*\* | 6.688\*\*\* | 6.458\*\*\* |
|  | (0.437) | (0.436) | (0.483) | (0.508) |
|  | | | | |
| Observations | 143 | 143 | 143 | 143 |
| R2 | 0.276 | 0.286 | 0.257 | 0.219 |
| Adjusted R2 | 0.191 | 0.201 | 0.169 | 0.126 |
| Residual Std. Error (df = 127) | 1.187 | 1.185 | 1.314 | 1.380 |
| F Statistic (df = 15; 127) | 3.234\*\*\* | 3.387\*\*\* | 2.930\*\*\* | 2.368\*\*\* |
|  | | | | |
| *Note:* | \*p<0.1; \*\*p<0.05; \*\*\*p<0.01 | | | |

**Table 12**. Correlation between 3 Latent Factors.

This table reports the correlation between three sub-categories in the PIR system.

|  |  |  |
| --- | --- | --- |
|  | Energizing | Educating |
| Educating | 0.79 |  |
| Engaging | 0.74 | 0.79 |

**Table 13**. Correlation between 7 Latent Factors

This table reports the correlation between seven sub-categories in the PIR system.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Governance | Culture | Program | Learn | Support | Model |
| Culture | 0.68 |  |  |  |  |  |
| Program | 0.60 | 0.73 |  |  |  |  |
| Learn | 0.58 | 0.67 | 0.79 |  |  |  |
| Support | 0.60 | 0.71 | 0.68 | 0.74 |  |  |
| Model | 0.62 | 0.67 | 0.68 | 0.69 | 0.72 |  |
| Public | 0.63 | 0.67 | 0.69 | 0.65 | 0.66 | 0.8 |

**Figure 1**. Box plots of PIR scores by academic discipline

Chart

Description automatically generated

**Appendi**x A

Table AA. PIR Tiers

|  |  |  |  |
| --- | --- | --- | --- |
| Level | Range | Difference | Characterization |
| Level 1 | 1 - 4.2 |  | Beginning |
| Level 2 | 4.3 - 5.8 | 1.5 points | Emerging |
| Level 3 | 5.9 - 7.3 | 1.4 points | Progressing |
| Level 4 | 7.4 - 8.7 | 1.3 points | Transforming |
| Level 5 | 8.8 -10 | 1.2 points | Pioneering |