

**ورشة عمل عن كتابة التقارير الإدارية الإحصائية**

Example A:

1. Introduction:
2. Demographics:

Table

|  |  |  |
| --- | --- | --- |
| Statistic | Mean | Standard deviation (n-1) |
| Age | 38.922 | 10.488 |
| Tenure | 5.013 | 2.892 |
| Balance | 76485.889 | 62397.405 |
| Num Of Products | 1.530 | 0.582 |
| Estimated Salary | 100090.240 | 57510.493 |

Table

|  |  |  |  |
| --- | --- | --- | --- |
| Variable\Statistic | Categories | Frequency per category | Rel. frequency per category (%) |
| Geography | France | 5014.000 | 50.140 |
|  | Germany | 2509.000 | 25.090 |
|  | Spain | 2477.000 | 24.770 |
| Gender | Female | 4543.000 | 45.430 |
|  | Male | 5457.000 | 54.570 |
| Has Cr Card | no | 2945.000 | 29.450 |
|  | yes | 7055.000 | 70.550 |
| Is Active Member | no | 4849.000 | 48.490 |
|  | yes | 5151.000 | 51.510 |
| Exited | no | 7963.000 | 79.630 |
|   | yes | 2037.000 | 20.370 |

Figure

Figure



Figure

Figure

1. Comparison Analysis

C.1 Compare between Gender level

Table : Percentages / Row (Gender / Exited):

|  |  |  |  |
| --- | --- | --- | --- |
|   | no | yes | Total |
| Female | 74.928 | 25.072 | 100.000 |
| Male | 83.544 | 16.456 | 100.000 |
| Total | 79.63 | 20.37 | 100 |

Table : Percentages / Column (Gender / Exited):

|  |  |  |  |
| --- | --- | --- | --- |
|   | no | yes | Total |
| Female | 42.748 | 55.916 | 45.430 |
| Male | 57.252 | 44.084 | 54.570 |
| Total | 100 | 100 | 100 |

Table : Percentages / Total (Gender / Exited):

|  |  |  |  |
| --- | --- | --- | --- |
|   | no | yes | Total |
| Female | 34.040 | 11.390 | 45.430 |
| Male | 45.590 | 8.980 | 54.570 |
| Total | 79.630 | 20.370 | 100.000 |



Figure

C.2 Compare between Country level

Table

|  |  |  |  |
| --- | --- | --- | --- |
| Geography | Exited | Frequency | Proportion |
| France | no | 4204 | 0.420 |
|  | yes | 810 | 0.081 |
| Germany | no | 1695 | 0.170 |
|  | yes | 814 | 0.081 |
| Spain | no | 2064 | 0.206 |
|   | yes | 413 | 0.041 |

Figure



C3. Compare between Age group level

Figure

Figure

Table

|  |  |  |  |
| --- | --- | --- | --- |
| Age | Exited | Frequency | Proportion |
| from 30 to 42 | no | 4454 | 0.445 |
|  | yes | 684 | 0.068 |
| from 42 to 55 | no | 1149 | 0.115 |
|  | yes | 863 | 0.086 |
| from 55 to 67 | no | 371 | 0.037 |
|  | yes | 319 | 0.032 |
| from 67 to 79 | no | 155 | 0.016 |
|  | yes | 22 | 0.002 |
| from 80 and more | no | 14 | 0.001 |
|  | yes | 1 | 0.000 |
| less than 30 | no | 1820 | 0.182 |
|   | yes | 148 | 0.015 |



1. Which are the most risk factor(s) that will increase the chance of Exit from Bank

Table

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Source | DF | Chi-square (Wald) | Pr > Wald | Chi-square (LR) | Pr > LR |
| Age | 1 | 797.167 | < 0.0001 | 867.862 | < 0.0001 |
| Tenure | 1 | 2.908 | 0.088 | 2.910 | 0.088 |
| Balance | 1 | 26.369 | < 0.0001 | 26.301 | < 0.0001 |
| NumOfProducts | 1 | 4.714 | 0.030 | 4.747 | 0.029 |
| EstimatedSalary | 1 | 1.071 | 0.301 | 1.071 | 0.301 |
| Geography | 2 | 145.044 | < 0.0001 | 144.929 | < 0.0001 |
| HasCrCard | 1 | 0.524 | 0.469 | 0.523 | 0.470 |
| IsActiveMember | 1 | 350.089 | < 0.0001 | 375.803 | < 0.0001 |
| Gender | 1 | 93.648 | < 0.0001 | 94.410 | < 0.0001 |

Figure

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Variables | Age | Tenure | Balance | NumOfProducts | EstimatedSalary |
| Age | **1** | -0.010 | **0.033** | **-0.059** | -0.002 |
| Tenure | -0.010 | **1** | -0.010 | 0.013 | 0.008 |
| Balance | **0.033** | -0.010 | **1** | **-0.317** | 0.012 |
| NumOfProducts | **-0.059** | 0.013 | **-0.317** | **1** | 0.013 |
| EstimatedSalary | -0.002 | 0.008 | 0.012 | 0.013 | **1** |
| *Values in bold are different from 0 with a significance level alpha=0.05* |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Variables | Age | Tenure | Balance | NumOfProducts | EstimatedSalary |
| Age | **1** | 0.298 | **0.001** | **< 0.0001** | 0.808 |
| Tenure | 0.298 | **1** | 0.342 | 0.197 | 0.437 |
| Balance | **0.001** | 0.342 | **1** | **< 0.0001** | 0.239 |
| NumOfProducts | **< 0.0001** | 0.197 | **< 0.0001** | **1** | 0.209 |
| EstimatedSalary | 0.808 | 0.437 | 0.239 | 0.209 | **1** |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Variable | Observations | Obs. with missing data | Obs. without missing data | Minimum | Maximum | Mean | Std. deviation |
| Age | 10000 | 0 | 10000 | 18.000 | 92.000 | 38.922 | 10.488 |
| Tenure | 10000 | 0 | 10000 | 0.000 | 10.000 | 5.013 | 2.892 |
| Balance | 10000 | 0 | 10000 | 0.000 | 250898.090 | 76485.889 | 62397.405 |
| NumOfProducts | 10000 | 0 | 10000 | 1.000 | 4.000 | 1.530 | 0.582 |
| EstimatedSalary | 10000 | 0 | 10000 | 11.580 | 199992.480 | 100090.240 | 57510.493 |