GET

FILE='D:\Mithun\DXC\datsetv3.sav'.

DATASET NAME DataSet1 WINDOW=FRONT.

SORT CASES BY category (A).

DATASET ACTIVATE DataSet1.

SAVE OUTFILE='D:\Mithun\DXC\datsetv3.sav'

/COMPRESSED.

SORT CASES BY category (A).

SORT CASES BY category (D).

GET DATA

/TYPE=XLSX

/FILE='D:\Mithun\Capstone 2022\Anand capstone2.xlsx'

/SHEET=name 'Sheet1'

/CELLRANGE=FULL

/READNAMES=ON

/DATATYPEMIN PERCENTAGE=95.0

/HIDDEN IGNORE=YES.

EXECUTE.

DATASET NAME DataSet2 WINDOW=FRONT.

LOGISTIC REGRESSION VARIABLES churn

/METHOD=ENTER SumofQuantity SumofPrice SumofShipCost SumofPackingCost SumofDiscount SumofTax

SumofInvoiced SumofCOGS SumofInvoicedInBaseCurrency SumofGrossMargin SumofMRP

/CRITERIA=PIN(.05) POUT(.10) ITERATE(20) CUT(.5).

**Logistic Regression**

|  |  |  |
| --- | --- | --- |
| **Notes** | | |
| Output Created | | 24-AUG-2022 11:13:06 |
| Comments | |  |
| Input | Active Dataset | DataSet2 |
| Filter | <none> |
| Weight | <none> |
| Split File | <none> |
| N of Rows in Working Data File | 15907 |
| Missing Value Handling | Definition of Missing | User-defined missing values are treated as missing |
| Syntax | | LOGISTIC REGRESSION VARIABLES churn  /METHOD=ENTER SumofQuantity SumofPrice SumofShipCost SumofPackingCost SumofDiscount SumofTax  SumofInvoiced SumofCOGS SumofInvoicedInBaseCurrency SumofGrossMargin SumofMRP  /CRITERIA=PIN(.05) POUT(.10) ITERATE(20) CUT(.5). |
| Resources | Processor Time | 00:00:00.13 |
| Elapsed Time | 00:00:00.23 |

[DataSet2]

|  |
| --- |
| **Warnings** |
| Due to redundancies, degrees of freedom have been reduced for one or more variables. |

|  |  |  |  |
| --- | --- | --- | --- |
| **Case Processing Summary** | | | |
| Unweighted Casesa | | N | Percent |
| Selected Cases | Included in Analysis | 15907 | 100.0 |
| Missing Cases | 0 | .0 |
| Total | 15907 | 100.0 |
| Unselected Cases | | 0 | .0 |
| Total | | 15907 | 100.0 |
| a. If weight is in effect, see classification table for the total number of cases. | | | |

|  |  |
| --- | --- |
| **Dependent Variable Encoding** | |
| Original Value | Internal Value |
| 0 | 0 |
| 1 | 1 |

**Block 0: Beginning Block**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Classification Tablea,b** | | | | | |
|  | Observed | | Predicted | | |
|  | churn | | Percentage Correct |
|  | 0 | 1 |
| Step 0 | churn | 0 | 0 | 2582 | .0 |
| 1 | 0 | 13325 | 100.0 |
| Overall Percentage | |  |  | 83.8 |
| a. Constant is included in the model. | | | | | |
| b. The cut value is .500 | | | | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Variables in the Equation** | | | | | | | |
|  | | B | S.E. | Wald | df | Sig. | Exp(B) |
| Step 0 | Constant | 1.641 | .022 | 5824.967 | 1 | .000 | 5.161 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Variables not in the Equationa** | | | | | |
|  | | | Score | df | Sig. |
| Step 0 | Variables | Sum of Quantity | 2925.787 | 1 | .000 |
| Sum of Price | 2891.834 | 1 | .000 |
| Sum of Ship Cost | 910.357 | 1 | .000 |
| Sum of Discount | 101.934 | 1 | .000 |
| Sum of Tax | 2035.401 | 1 | .000 |
| Sum of Invoiced | 2637.198 | 1 | .000 |
| Sum of COGS | 1972.062 | 1 | .000 |
| Sum of Invoiced In Base Currency | 2637.198 | 1 | .000 |
| Sum of Gross Margin | 1295.966 | 1 | .000 |
| Sum of MRP | 2767.455 | 1 | .000 |
| a. Residual Chi-Squares are not computed because of redundancies. | | | | | |

**Block 1: Method = Enter**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Omnibus Tests of Model Coefficients** | | | | |
|  | | Chi-square | df | Sig. |
| Step 1 | Step | 4035.843 | 8 | .000 |
| Block | 4035.843 | 8 | .000 |
| Model | 4035.843 | 8 | .000 |

|  |  |  |  |
| --- | --- | --- | --- |
| **Model Summary** | | | |
| Step | -2 Log likelihood | Cox & Snell R Square | Nagelkerke R Square |
| 1 | 10073.492a | .224 | .381 |
| a. Estimation terminated at iteration number 6 because parameter estimates changed by less than .001. | | | |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Classification Tablea** | | | | | |
|  | Observed | | Predicted | | |
|  | churn | | Percentage Correct |
|  | 0 | 1 |
| Step 1 | churn | 0 | 908 | 1674 | 35.2 |
| 1 | 383 | 12942 | 97.1 |
| Overall Percentage | |  |  | 87.1 |
| a. The cut value is .500 | | | | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Variables in the Equation** | | | | | | | |
|  | | B | S.E. | Wald | df | Sig. | Exp(B) |
| Step 1a | Sum of Quantity | -.441 | .028 | 254.723 | 1 | .000 | .643 |
| Sum of Price | -.001 | .000 | 116.051 | 1 | .000 | .999 |
| Sum of Ship Cost | -.001 | .000 | 2.615 | 1 | .106 | .999 |
| Sum of Discount | .001 | .000 | 52.615 | 1 | .000 | 1.001 |
| Sum of Tax | .001 | .001 | 3.104 | 1 | .078 | 1.001 |
| Sum of Invoiced | .001 | .000 | 50.842 | 1 | .000 | 1.001 |
| Sum of COGS | .000 | .000 | 2.031 | 1 | .154 | 1.000 |
| Sum of MRP | .000 | .000 | .034 | 1 | .854 | 1.000 |
| Constant | 3.656 | .052 | 4997.536 | 1 | .000 | 38.691 |
| a. Variable(s) entered on step 1: Sum of Quantity, Sum of Price, Sum of Ship Cost, Sum of Discount, Sum of Tax, Sum of Invoiced, Sum of COGS, Sum of MRP. | | | | | | | |

LOGISTIC REGRESSION VARIABLES churn

/METHOD=FSTEP(COND) SumofQuantity SumofPrice SumofShipCost SumofPackingCost SumofDiscount

SumofTax SumofInvoiced SumofCOGS SumofInvoicedInBaseCurrency SumofGrossMargin SumofMRP

/CRITERIA=PIN(.05) POUT(.10) ITERATE(20) CUT(.5).

**Logistic Regression**

|  |  |  |
| --- | --- | --- |
| **Notes** | | |
| Output Created | | 24-AUG-2022 11:15:07 |
| Comments | |  |
| Input | Active Dataset | DataSet2 |
| Filter | <none> |
| Weight | <none> |
| Split File | <none> |
| N of Rows in Working Data File | 15907 |
| Missing Value Handling | Definition of Missing | User-defined missing values are treated as missing |
| Syntax | | LOGISTIC REGRESSION VARIABLES churn  /METHOD=FSTEP(COND) SumofQuantity SumofPrice SumofShipCost SumofPackingCost SumofDiscount  SumofTax SumofInvoiced SumofCOGS SumofInvoicedInBaseCurrency SumofGrossMargin SumofMRP  /CRITERIA=PIN(.05) POUT(.10) ITERATE(20) CUT(.5). |
| Resources | Processor Time | 00:00:00.36 |
| Elapsed Time | 00:00:00.37 |

|  |  |  |  |
| --- | --- | --- | --- |
| **Case Processing Summary** | | | |
| Unweighted Casesa | | N | Percent |
| Selected Cases | Included in Analysis | 15907 | 100.0 |
| Missing Cases | 0 | .0 |
| Total | 15907 | 100.0 |
| Unselected Cases | | 0 | .0 |
| Total | | 15907 | 100.0 |
| a. If weight is in effect, see classification table for the total number of cases. | | | |

|  |  |
| --- | --- |
| **Dependent Variable Encoding** | |
| Original Value | Internal Value |
| 0 | 0 |
| 1 | 1 |

**Block 0: Beginning Block**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Classification Tablea,b** | | | | | |
|  | Observed | | Predicted | | |
|  | churn | | Percentage Correct |
|  | 0 | 1 |
| Step 0 | churn | 0 | 0 | 2582 | .0 |
| 1 | 0 | 13325 | 100.0 |
| Overall Percentage | |  |  | 83.8 |
| a. Constant is included in the model. | | | | | |
| b. The cut value is .500 | | | | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Variables in the Equation** | | | | | | | |
|  | | B | S.E. | Wald | df | Sig. | Exp(B) |
| Step 0 | Constant | 1.641 | .022 | 5824.967 | 1 | .000 | 5.161 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Variables not in the Equationa** | | | | | |
|  | | | Score | df | Sig. |
| Step 0 | Variables | Sum of Quantity | 2925.787 | 1 | .000 |
| Sum of Price | 2891.834 | 1 | .000 |
| Sum of Ship Cost | 910.357 | 1 | .000 |
| Sum of Discount | 101.934 | 1 | .000 |
| Sum of Tax | 2035.401 | 1 | .000 |
| Sum of Invoiced | 2637.198 | 1 | .000 |
| Sum of COGS | 1972.062 | 1 | .000 |
| Sum of Invoiced In Base Currency | 2637.198 | 1 | .000 |
| Sum of Gross Margin | 1295.966 | 1 | .000 |
| Sum of MRP | 2767.455 | 1 | .000 |
| a. Residual Chi-Squares are not computed because of redundancies. | | | | | |

**Block 1: Method = Forward Stepwise (Conditional)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Omnibus Tests of Model Coefficients** | | | | |
|  | | Chi-square | df | Sig. |
| Step 1 | Step | 3713.799 | 1 | .000 |
| Block | 3713.799 | 1 | .000 |
| Model | 3713.799 | 1 | .000 |
| Step 2 | Step | 199.926 | 1 | .000 |
| Block | 3913.726 | 2 | .000 |
| Model | 3913.726 | 2 | .000 |
| Step 3 | Step | 57.815 | 1 | .000 |
| Block | 3971.541 | 3 | .000 |
| Model | 3971.541 | 3 | .000 |
| Step 4 | Step | 56.751 | 1 | .000 |
| Block | 4028.292 | 4 | .000 |
| Model | 4028.292 | 4 | .000 |

|  |  |  |  |
| --- | --- | --- | --- |
| **Model Summary** | | | |
| Step | -2 Log likelihood | Cox & Snell R Square | Nagelkerke R Square |
| 1 | 10395.535a | .208 | .354 |
| 2 | 10195.609a | .218 | .371 |
| 3 | 10137.794a | .221 | .376 |
| 4 | 10081.043a | .224 | .380 |
| a. Estimation terminated at iteration number 6 because parameter estimates changed by less than .001. | | | |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Classification Tablea** | | | | | |
|  | Observed | | Predicted | | |
|  | churn | | Percentage Correct |
|  | 0 | 1 |
| Step 1 | churn | 0 | 854 | 1728 | 33.1 |
| 1 | 394 | 12931 | 97.0 |
| Overall Percentage | |  |  | 86.7 |
| Step 2 | churn | 0 | 898 | 1684 | 34.8 |
| 1 | 391 | 12934 | 97.1 |
| Overall Percentage | |  |  | 87.0 |
| Step 3 | churn | 0 | 903 | 1679 | 35.0 |
| 1 | 388 | 12937 | 97.1 |
| Overall Percentage | |  |  | 87.0 |
| Step 4 | churn | 0 | 910 | 1672 | 35.2 |
| 1 | 383 | 12942 | 97.1 |
| Overall Percentage | |  |  | 87.1 |
| a. The cut value is .500 | | | | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Variables in the Equation** | | | | | | | |
|  | | B | S.E. | Wald | df | Sig. | Exp(B) |
| Step 1a | Sum of Quantity | -.633 | .013 | 2221.051 | 1 | .000 | .531 |
| Constant | 3.477 | .048 | 5197.876 | 1 | .000 | 32.370 |
| Step 2b | Sum of Quantity | -.439 | .019 | 553.801 | 1 | .000 | .645 |
| Sum of Price | .000 | .000 | 194.588 | 1 | .000 | 1.000 |
| Constant | 3.627 | .051 | 5127.642 | 1 | .000 | 37.602 |
| Step 3c | Sum of Quantity | -.472 | .019 | 598.649 | 1 | .000 | .624 |
| Sum of Price | -.001 | .000 | 176.903 | 1 | .000 | .999 |
| Sum of Invoiced | .000 | .000 | 55.435 | 1 | .000 | 1.000 |
| Constant | 3.668 | .051 | 5104.467 | 1 | .000 | 39.166 |
| Step 4d | Sum of Quantity | -.485 | .019 | 618.215 | 1 | .000 | .616 |
| Sum of Price | -.001 | .000 | 206.503 | 1 | .000 | .999 |
| Sum of Discount | .001 | .000 | 55.886 | 1 | .000 | 1.001 |
| Sum of Invoiced | .001 | .000 | 95.874 | 1 | .000 | 1.001 |
| Constant | 3.646 | .051 | 5025.418 | 1 | .000 | 38.304 |
| a. Variable(s) entered on step 1: Sum of Quantity. | | | | | | | |
| b. Variable(s) entered on step 2: Sum of Price. | | | | | | | |
| c. Variable(s) entered on step 3: Sum of Invoiced. | | | | | | | |
| d. Variable(s) entered on step 4: Sum of Discount. | | | | | | | |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Model if Term Removeda** | | | | | |
| Variable | | Model Log Likelihood | Change in -2 Log Likelihood | df | Sig. of the Change |
| Step 1 | Sum of Quantity | -7063.083 | 3730.631 | 1 | .000 |
| Step 2 | Sum of Quantity | -5407.701 | 619.793 | 1 | .000 |
| Sum of Price | -5198.422 | 201.234 | 1 | .000 |
| Step 3 | Sum of Quantity | -5406.391 | 674.987 | 1 | .000 |
| Sum of Price | -5165.605 | 193.416 | 1 | .000 |
| Sum of Invoiced | -5097.877 | 57.960 | 1 | .000 |
| Step 4 | Sum of Quantity | -5391.457 | 701.872 | 1 | .000 |
| Sum of Price | -5164.305 | 247.567 | 1 | .000 |
| Sum of Discount | -5069.207 | 57.371 | 1 | .000 |
| Sum of Invoiced | -5095.786 | 110.530 | 1 | .000 |
| a. Based on conditional parameter estimates | | | | | |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Variables not in the Equationa** | | | | | |
|  | | | Score | df | Sig. |
| Step 1 | Variables | Sum of Price | 200.369 | 1 | .000 |
| Sum of Ship Cost | 6.495 | 1 | .011 |
| Sum of Discount | .296 | 1 | .586 |
| Sum of Tax | 95.261 | 1 | .000 |
| Sum of Invoiced | 65.900 | 1 | .000 |
| Sum of COGS | 64.649 | 1 | .000 |
| Sum of Invoiced In Base Currency | 65.900 | 1 | .000 |
| Sum of Gross Margin | 3.490 | 1 | .062 |
| Sum of MRP | 177.747 | 1 | .000 |
| Step 2 | Variables | Sum of Ship Cost | 1.162 | 1 | .281 |
| Sum of Discount | 4.392 | 1 | .036 |
| Sum of Tax | 28.030 | 1 | .000 |
| Sum of Invoiced | 56.046 | 1 | .000 |
| Sum of COGS | .078 | 1 | .780 |
| Sum of Invoiced In Base Currency | 56.046 | 1 | .000 |
| Sum of Gross Margin | 27.382 | 1 | .000 |
| Sum of MRP | 7.791 | 1 | .005 |
| Step 3 | Variables | Sum of Ship Cost | 3.535 | 1 | .060 |
| Sum of Discount | 58.769 | 1 | .000 |
| Sum of Tax | .065 | 1 | .799 |
| Sum of COGS | 1.594 | 1 | .207 |
| Sum of Gross Margin | 1.594 | 1 | .207 |
| Sum of MRP | 7.421 | 1 | .006 |
| Step 4 | Variables | Sum of Ship Cost | 1.462 | 1 | .227 |
| Sum of Tax | 2.733 | 1 | .098 |
| Sum of COGS | 2.027 | 1 | .155 |
| Sum of Gross Margin | 2.027 | 1 | .155 |
| Sum of MRP | 1.110 | 1 | .292 |
| a. Residual Chi-Squares are not computed because of redundancies. | | | | | |

LOGISTIC REGRESSION VARIABLES churn

/METHOD=FSTEP(LR) SumofQuantity SumofPrice SumofShipCost SumofPackingCost SumofDiscount SumofTax

SumofInvoiced SumofCOGS SumofInvoicedInBaseCurrency SumofGrossMargin SumofMRP

/CRITERIA=PIN(.05) POUT(.10) ITERATE(20) CUT(.5).

**Logistic Regression**

|  |  |  |
| --- | --- | --- |
| **Notes** | | |
| Output Created | | 24-AUG-2022 11:21:13 |
| Comments | |  |
| Input | Active Dataset | DataSet2 |
| Filter | <none> |
| Weight | <none> |
| Split File | <none> |
| N of Rows in Working Data File | 15907 |
| Missing Value Handling | Definition of Missing | User-defined missing values are treated as missing |
| Syntax | | LOGISTIC REGRESSION VARIABLES churn  /METHOD=FSTEP(LR) SumofQuantity SumofPrice SumofShipCost SumofPackingCost SumofDiscount SumofTax  SumofInvoiced SumofCOGS SumofInvoicedInBaseCurrency SumofGrossMargin SumofMRP  /CRITERIA=PIN(.05) POUT(.10) ITERATE(20) CUT(.5). |
| Resources | Processor Time | 00:00:00.59 |
| Elapsed Time | 00:00:00.61 |

|  |  |  |  |
| --- | --- | --- | --- |
| **Case Processing Summary** | | | |
| Unweighted Casesa | | N | Percent |
| Selected Cases | Included in Analysis | 15907 | 100.0 |
| Missing Cases | 0 | .0 |
| Total | 15907 | 100.0 |
| Unselected Cases | | 0 | .0 |
| Total | | 15907 | 100.0 |
| a. If weight is in effect, see classification table for the total number of cases. | | | |

|  |  |
| --- | --- |
| **Dependent Variable Encoding** | |
| Original Value | Internal Value |
| 0 | 0 |
| 1 | 1 |

**Block 0: Beginning Block**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Classification Tablea,b** | | | | | |
|  | Observed | | Predicted | | |
|  | churn | | Percentage Correct |
|  | 0 | 1 |
| Step 0 | churn | 0 | 0 | 2582 | .0 |
| 1 | 0 | 13325 | 100.0 |
| Overall Percentage | |  |  | 83.8 |
| a. Constant is included in the model. | | | | | |
| b. The cut value is .500 | | | | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Variables in the Equation** | | | | | | | |
|  | | B | S.E. | Wald | df | Sig. | Exp(B) |
| Step 0 | Constant | 1.641 | .022 | 5824.967 | 1 | .000 | 5.161 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Variables not in the Equationa** | | | | | |
|  | | | Score | df | Sig. |
| Step 0 | Variables | Sum of Quantity | 2925.787 | 1 | .000 |
| Sum of Price | 2891.834 | 1 | .000 |
| Sum of Ship Cost | 910.357 | 1 | .000 |
| Sum of Discount | 101.934 | 1 | .000 |
| Sum of Tax | 2035.401 | 1 | .000 |
| Sum of Invoiced | 2637.198 | 1 | .000 |
| Sum of COGS | 1972.062 | 1 | .000 |
| Sum of Invoiced In Base Currency | 2637.198 | 1 | .000 |
| Sum of Gross Margin | 1295.966 | 1 | .000 |
| Sum of MRP | 2767.455 | 1 | .000 |
| a. Residual Chi-Squares are not computed because of redundancies. | | | | | |

**Block 1: Method = Forward Stepwise (Likelihood Ratio)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Omnibus Tests of Model Coefficients** | | | | |
|  | | Chi-square | df | Sig. |
| Step 1 | Step | 3713.799 | 1 | .000 |
| Block | 3713.799 | 1 | .000 |
| Model | 3713.799 | 1 | .000 |
| Step 2 | Step | 199.926 | 1 | .000 |
| Block | 3913.726 | 2 | .000 |
| Model | 3913.726 | 2 | .000 |
| Step 3 | Step | 57.815 | 1 | .000 |
| Block | 3971.541 | 3 | .000 |
| Model | 3971.541 | 3 | .000 |
| Step 4 | Step | 56.751 | 1 | .000 |
| Block | 4028.292 | 4 | .000 |
| Model | 4028.292 | 4 | .000 |

|  |  |  |  |
| --- | --- | --- | --- |
| **Model Summary** | | | |
| Step | -2 Log likelihood | Cox & Snell R Square | Nagelkerke R Square |
| 1 | 10395.535a | .208 | .354 |
| 2 | 10195.609a | .218 | .371 |
| 3 | 10137.794a | .221 | .376 |
| 4 | 10081.043a | .224 | .380 |
| a. Estimation terminated at iteration number 6 because parameter estimates changed by less than .001. | | | |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Classification Tablea** | | | | | |
|  | Observed | | Predicted | | |
|  | churn | | Percentage Correct |
|  | 0 | 1 |
| Step 1 | churn | 0 | 854 | 1728 | 33.1 |
| 1 | 394 | 12931 | 97.0 |
| Overall Percentage | |  |  | 86.7 |
| Step 2 | churn | 0 | 898 | 1684 | 34.8 |
| 1 | 391 | 12934 | 97.1 |
| Overall Percentage | |  |  | 87.0 |
| Step 3 | churn | 0 | 903 | 1679 | 35.0 |
| 1 | 388 | 12937 | 97.1 |
| Overall Percentage | |  |  | 87.0 |
| Step 4 | churn | 0 | 910 | 1672 | 35.2 |
| 1 | 383 | 12942 | 97.1 |
| Overall Percentage | |  |  | 87.1 |
| a. The cut value is .500 | | | | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Variables in the Equation** | | | | | | | |
|  | | B | S.E. | Wald | df | Sig. | Exp(B) |
| Step 1a | Sum of Quantity | -.633 | .013 | 2221.051 | 1 | .000 | .531 |
| Constant | 3.477 | .048 | 5197.876 | 1 | .000 | 32.370 |
| Step 2b | Sum of Quantity | -.439 | .019 | 553.801 | 1 | .000 | .645 |
| Sum of Price | .000 | .000 | 194.588 | 1 | .000 | 1.000 |
| Constant | 3.627 | .051 | 5127.642 | 1 | .000 | 37.602 |
| Step 3c | Sum of Quantity | -.472 | .019 | 598.649 | 1 | .000 | .624 |
| Sum of Price | -.001 | .000 | 176.903 | 1 | .000 | .999 |
| Sum of Invoiced | .000 | .000 | 55.435 | 1 | .000 | 1.000 |
| Constant | 3.668 | .051 | 5104.467 | 1 | .000 | 39.166 |
| Step 4d | Sum of Quantity | -.485 | .019 | 618.215 | 1 | .000 | .616 |
| Sum of Price | -.001 | .000 | 206.503 | 1 | .000 | .999 |
| Sum of Discount | .001 | .000 | 55.886 | 1 | .000 | 1.001 |
| Sum of Invoiced | .001 | .000 | 95.874 | 1 | .000 | 1.001 |
| Constant | 3.646 | .051 | 5025.418 | 1 | .000 | 38.304 |
| a. Variable(s) entered on step 1: Sum of Quantity. | | | | | | | |
| b. Variable(s) entered on step 2: Sum of Price. | | | | | | | |
| c. Variable(s) entered on step 3: Sum of Invoiced. | | | | | | | |
| d. Variable(s) entered on step 4: Sum of Discount. | | | | | | | |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Model if Term Removed** | | | | | |
| Variable | | Model Log Likelihood | Change in -2 Log Likelihood | df | Sig. of the Change |
| Step 1 | Sum of Quantity | -7054.667 | 3713.799 | 1 | .000 |
| Step 2 | Sum of Quantity | -5403.396 | 611.182 | 1 | .000 |
| Sum of Price | -5197.768 | 199.926 | 1 | .000 |
| Step 3 | Sum of Quantity | -5401.158 | 664.522 | 1 | .000 |
| Sum of Price | -5164.862 | 191.930 | 1 | .000 |
| Sum of Invoiced | -5097.804 | 57.815 | 1 | .000 |
| Step 4 | Sum of Quantity | -5385.704 | 690.365 | 1 | .000 |
| Sum of Price | -5163.531 | 246.019 | 1 | .000 |
| Sum of Discount | -5068.897 | 56.751 | 1 | .000 |
| Sum of Invoiced | -5095.655 | 110.267 | 1 | .000 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Variables not in the Equationa** | | | | | |
|  | | | Score | df | Sig. |
| Step 1 | Variables | Sum of Price | 200.369 | 1 | .000 |
| Sum of Ship Cost | 6.495 | 1 | .011 |
| Sum of Discount | .296 | 1 | .586 |
| Sum of Tax | 95.261 | 1 | .000 |
| Sum of Invoiced | 65.900 | 1 | .000 |
| Sum of COGS | 64.649 | 1 | .000 |
| Sum of Invoiced In Base Currency | 65.900 | 1 | .000 |
| Sum of Gross Margin | 3.490 | 1 | .062 |
| Sum of MRP | 177.747 | 1 | .000 |
| Step 2 | Variables | Sum of Ship Cost | 1.162 | 1 | .281 |
| Sum of Discount | 4.392 | 1 | .036 |
| Sum of Tax | 28.030 | 1 | .000 |
| Sum of Invoiced | 56.046 | 1 | .000 |
| Sum of COGS | .078 | 1 | .780 |
| Sum of Invoiced In Base Currency | 56.046 | 1 | .000 |
| Sum of Gross Margin | 27.382 | 1 | .000 |
| Sum of MRP | 7.791 | 1 | .005 |
| Step 3 | Variables | Sum of Ship Cost | 3.535 | 1 | .060 |
| Sum of Discount | 58.769 | 1 | .000 |
| Sum of Tax | .065 | 1 | .799 |
| Sum of COGS | 1.594 | 1 | .207 |
| Sum of Gross Margin | 1.594 | 1 | .207 |
| Sum of MRP | 7.421 | 1 | .006 |
| Step 4 | Variables | Sum of Ship Cost | 1.462 | 1 | .227 |
| Sum of Tax | 2.733 | 1 | .098 |
| Sum of COGS | 2.027 | 1 | .155 |
| Sum of Gross Margin | 2.027 | 1 | .155 |
| Sum of MRP | 1.110 | 1 | .292 |
| a. Residual Chi-Squares are not computed because of redundancies. | | | | | |

LOGISTIC REGRESSION VARIABLES churn

/METHOD=BSTEP(COND) SumofQuantity SumofPrice SumofShipCost SumofPackingCost SumofDiscount

SumofTax SumofInvoiced SumofCOGS SumofInvoicedInBaseCurrency SumofGrossMargin SumofMRP

/CRITERIA=PIN(.05) POUT(.10) ITERATE(20) CUT(.5).

**Logistic Regression**

|  |  |  |
| --- | --- | --- |
| **Notes** | | |
| Output Created | | 24-AUG-2022 11:30:43 |
| Comments | |  |
| Input | Active Dataset | DataSet2 |
| Filter | <none> |
| Weight | <none> |
| Split File | <none> |
| N of Rows in Working Data File | 15907 |
| Missing Value Handling | Definition of Missing | User-defined missing values are treated as missing |
| Syntax | | LOGISTIC REGRESSION VARIABLES churn  /METHOD=BSTEP(COND) SumofQuantity SumofPrice SumofShipCost SumofPackingCost SumofDiscount  SumofTax SumofInvoiced SumofCOGS SumofInvoicedInBaseCurrency SumofGrossMargin SumofMRP  /CRITERIA=PIN(.05) POUT(.10) ITERATE(20) CUT(.5). |
| Resources | Processor Time | 00:00:00.19 |
| Elapsed Time | 00:00:00.24 |

|  |
| --- |
| **Warnings** |
| Due to redundancies, degrees of freedom have been reduced for one or more variables. |

|  |  |  |  |
| --- | --- | --- | --- |
| **Case Processing Summary** | | | |
| Unweighted Casesa | | N | Percent |
| Selected Cases | Included in Analysis | 15907 | 100.0 |
| Missing Cases | 0 | .0 |
| Total | 15907 | 100.0 |
| Unselected Cases | | 0 | .0 |
| Total | | 15907 | 100.0 |
| a. If weight is in effect, see classification table for the total number of cases. | | | |

|  |  |
| --- | --- |
| **Dependent Variable Encoding** | |
| Original Value | Internal Value |
| 0 | 0 |
| 1 | 1 |

**Block 0: Beginning Block**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Classification Tablea,b** | | | | | |
|  | Observed | | Predicted | | |
|  | churn | | Percentage Correct |
|  | 0 | 1 |
| Step 0 | churn | 0 | 0 | 2582 | .0 |
| 1 | 0 | 13325 | 100.0 |
| Overall Percentage | |  |  | 83.8 |
| a. Constant is included in the model. | | | | | |
| b. The cut value is .500 | | | | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Variables in the Equation** | | | | | | | |
|  | | B | S.E. | Wald | df | Sig. | Exp(B) |
| Step 0 | Constant | 1.641 | .022 | 5824.967 | 1 | .000 | 5.161 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Variables not in the Equationa** | | | | | |
|  | | | Score | df | Sig. |
| Step 0 | Variables | Sum of Quantity | 2925.787 | 1 | .000 |
| Sum of Price | 2891.834 | 1 | .000 |
| Sum of Ship Cost | 910.357 | 1 | .000 |
| Sum of Discount | 101.934 | 1 | .000 |
| Sum of Tax | 2035.401 | 1 | .000 |
| Sum of Invoiced | 2637.198 | 1 | .000 |
| Sum of COGS | 1972.062 | 1 | .000 |
| Sum of Invoiced In Base Currency | 2637.198 | 1 | .000 |
| Sum of Gross Margin | 1295.966 | 1 | .000 |
| Sum of MRP | 2767.455 | 1 | .000 |
| a. Residual Chi-Squares are not computed because of redundancies. | | | | | |

**Block 1: Method = Backward Stepwise (Conditional)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Omnibus Tests of Model Coefficients** | | | | |
|  | | Chi-square | df | Sig. |
| Step 1 | Step | 4035.843 | 8 | .000 |
| Block | 4035.843 | 8 | .000 |
| Model | 4035.843 | 8 | .000 |
| Step 2a | Step | -.034 | 1 | .854 |
| Block | 4035.809 | 7 | .000 |
| Model | 4035.809 | 7 | .000 |
| a. A negative Chi-squares value indicates that the Chi-squares value has decreased from the previous step. | | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Model Summary** | | | |
| Step | -2 Log likelihood | Cox & Snell R Square | Nagelkerke R Square |
| 1 | 10073.492a | .224 | .381 |
| 2 | 10073.526a | .224 | .381 |
| a. Estimation terminated at iteration number 6 because parameter estimates changed by less than .001. | | | |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Classification Tablea** | | | | | |
|  | Observed | | Predicted | | |
|  | churn | | Percentage Correct |
|  | 0 | 1 |
| Step 1 | churn | 0 | 908 | 1674 | 35.2 |
| 1 | 383 | 12942 | 97.1 |
| Overall Percentage | |  |  | 87.1 |
| Step 2 | churn | 0 | 906 | 1676 | 35.1 |
| 1 | 384 | 12941 | 97.1 |
| Overall Percentage | |  |  | 87.0 |
| a. The cut value is .500 | | | | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Variables in the Equation** | | | | | | | |
|  | | B | S.E. | Wald | df | Sig. | Exp(B) |
| Step 1a | Sum of Quantity | -.441 | .028 | 254.723 | 1 | .000 | .643 |
| Sum of Price | -.001 | .000 | 116.051 | 1 | .000 | .999 |
| Sum of Ship Cost | -.001 | .000 | 2.615 | 1 | .106 | .999 |
| Sum of Discount | .001 | .000 | 52.615 | 1 | .000 | 1.001 |
| Sum of Tax | .001 | .001 | 3.104 | 1 | .078 | 1.001 |
| Sum of Invoiced | .001 | .000 | 50.842 | 1 | .000 | 1.001 |
| Sum of COGS | .000 | .000 | 2.031 | 1 | .154 | 1.000 |
| Sum of MRP | .000 | .000 | .034 | 1 | .854 | 1.000 |
| Constant | 3.656 | .052 | 4997.536 | 1 | .000 | 38.691 |
| Step 2a | Sum of Quantity | -.442 | .027 | 265.279 | 1 | .000 | .642 |
| Sum of Price | -.001 | .000 | 172.062 | 1 | .000 | .999 |
| Sum of Ship Cost | -.001 | .000 | 2.734 | 1 | .098 | .999 |
| Sum of Discount | .001 | .000 | 56.683 | 1 | .000 | 1.001 |
| Sum of Tax | .001 | .001 | 3.124 | 1 | .077 | 1.001 |
| Sum of Invoiced | .001 | .000 | 52.768 | 1 | .000 | 1.001 |
| Sum of COGS | .000 | .000 | 3.028 | 1 | .082 | 1.000 |
| Constant | 3.656 | .052 | 4997.852 | 1 | .000 | 38.694 |
| a. Variable(s) entered on step 1: Sum of Quantity, Sum of Price, Sum of Ship Cost, Sum of Discount, Sum of Tax, Sum of Invoiced, Sum of COGS, Sum of MRP. | | | | | | | |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Model if Term Removeda** | | | | | |
| Variable | | Model Log Likelihood | Change in -2 Log Likelihood | df | Sig. of the Change |
| Step 1 | Sum of Quantity | -5173.279 | 273.067 | 1 | .000 |
| Sum of Price | -5101.743 | 129.994 | 1 | .000 |
| Sum of Ship Cost | -5038.056 | 2.621 | 1 | .105 |
| Sum of Discount | -5063.808 | 54.124 | 1 | .000 |
| Sum of Tax | -5038.302 | 3.111 | 1 | .078 |
| Sum of Invoiced | -5064.151 | 54.810 | 1 | .000 |
| Sum of COGS | -5037.761 | 2.030 | 1 | .154 |
| Sum of MRP | -5036.763 | .034 | 1 | .854 |
| Step 2 | Sum of Quantity | -5179.250 | 284.975 | 1 | .000 |
| Sum of Price | -5138.245 | 202.965 | 1 | .000 |
| Sum of Ship Cost | -5038.133 | 2.741 | 1 | .098 |
| Sum of Discount | -5066.082 | 58.638 | 1 | .000 |
| Sum of Tax | -5038.328 | 3.131 | 1 | .077 |
| Sum of Invoiced | -5065.139 | 56.753 | 1 | .000 |
| Sum of COGS | -5038.276 | 3.026 | 1 | .082 |
| a. Based on conditional parameter estimates | | | | | |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Variables not in the Equation** | | | | | |
|  | | | Score | df | Sig. |
| Step 2a | Variables | Sum of MRP | .034 | 1 | .854 |
| Overall Statistics | | .034 | 1 | .854 |
| a. Variable(s) removed on step 2: Sum of MRP. | | | | | |

LOGISTIC REGRESSION VARIABLES churn

/METHOD=BSTEP(LR) SumofQuantity SumofPrice SumofShipCost SumofPackingCost SumofDiscount SumofTax

SumofInvoiced SumofCOGS SumofInvoicedInBaseCurrency SumofGrossMargin SumofMRP

/CRITERIA=PIN(.05) POUT(.10) ITERATE(20) CUT(.5).

**Logistic Regression**

|  |  |  |
| --- | --- | --- |
| **Notes** | | |
| Output Created | | 24-AUG-2022 11:33:45 |
| Comments | |  |
| Input | Active Dataset | DataSet2 |
| Filter | <none> |
| Weight | <none> |
| Split File | <none> |
| N of Rows in Working Data File | 15907 |
| Missing Value Handling | Definition of Missing | User-defined missing values are treated as missing |
| Syntax | | LOGISTIC REGRESSION VARIABLES churn  /METHOD=BSTEP(LR) SumofQuantity SumofPrice SumofShipCost SumofPackingCost SumofDiscount SumofTax  SumofInvoiced SumofCOGS SumofInvoicedInBaseCurrency SumofGrossMargin SumofMRP  /CRITERIA=PIN(.05) POUT(.10) ITERATE(20) CUT(.5). |
| Resources | Processor Time | 00:00:00.78 |
| Elapsed Time | 00:00:00.76 |

|  |
| --- |
| **Warnings** |
| Due to redundancies, degrees of freedom have been reduced for one or more variables. |

|  |  |  |  |
| --- | --- | --- | --- |
| **Case Processing Summary** | | | |
| Unweighted Casesa | | N | Percent |
| Selected Cases | Included in Analysis | 15907 | 100.0 |
| Missing Cases | 0 | .0 |
| Total | 15907 | 100.0 |
| Unselected Cases | | 0 | .0 |
| Total | | 15907 | 100.0 |
| a. If weight is in effect, see classification table for the total number of cases. | | | |

|  |  |
| --- | --- |
| **Dependent Variable Encoding** | |
| Original Value | Internal Value |
| 0 | 0 |
| 1 | 1 |

**Block 0: Beginning Block**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Classification Tablea,b** | | | | | |
|  | Observed | | Predicted | | |
|  | churn | | Percentage Correct |
|  | 0 | 1 |
| Step 0 | churn | 0 | 0 | 2582 | .0 |
| 1 | 0 | 13325 | 100.0 |
| Overall Percentage | |  |  | 83.8 |
| a. Constant is included in the model. | | | | | |
| b. The cut value is .500 | | | | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Variables in the Equation** | | | | | | | |
|  | | B | S.E. | Wald | df | Sig. | Exp(B) |
| Step 0 | Constant | 1.641 | .022 | 5824.967 | 1 | .000 | 5.161 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Variables not in the Equationa** | | | | | |
|  | | | Score | df | Sig. |
| Step 0 | Variables | Sum of Quantity | 2925.787 | 1 | .000 |
| Sum of Price | 2891.834 | 1 | .000 |
| Sum of Ship Cost | 910.357 | 1 | .000 |
| Sum of Discount | 101.934 | 1 | .000 |
| Sum of Tax | 2035.401 | 1 | .000 |
| Sum of Invoiced | 2637.198 | 1 | .000 |
| Sum of COGS | 1972.062 | 1 | .000 |
| Sum of Invoiced In Base Currency | 2637.198 | 1 | .000 |
| Sum of Gross Margin | 1295.966 | 1 | .000 |
| Sum of MRP | 2767.455 | 1 | .000 |
| a. Residual Chi-Squares are not computed because of redundancies. | | | | | |

**Block 1: Method = Backward Stepwise (Likelihood Ratio)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Omnibus Tests of Model Coefficients** | | | | |
|  | | Chi-square | df | Sig. |
| Step 1 | Step | 4035.843 | 8 | .000 |
| Block | 4035.843 | 8 | .000 |
| Model | 4035.843 | 8 | .000 |
| Step 2a | Step | -.034 | 1 | .854 |
| Block | 4035.809 | 7 | .000 |
| Model | 4035.809 | 7 | .000 |
| a. A negative Chi-squares value indicates that the Chi-squares value has decreased from the previous step. | | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Model Summary** | | | |
| Step | -2 Log likelihood | Cox & Snell R Square | Nagelkerke R Square |
| 1 | 10073.492a | .224 | .381 |
| 2 | 10073.526a | .224 | .381 |
| a. Estimation terminated at iteration number 6 because parameter estimates changed by less than .001. | | | |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Classification Tablea** | | | | | |
|  | Observed | | Predicted | | |
|  | churn | | Percentage Correct |
|  | 0 | 1 |
| Step 1 | churn | 0 | 908 | 1674 | 35.2 |
| 1 | 383 | 12942 | 97.1 |
| Overall Percentage | |  |  | 87.1 |
| Step 2 | churn | 0 | 906 | 1676 | 35.1 |
| 1 | 384 | 12941 | 97.1 |
| Overall Percentage | |  |  | 87.0 |
| a. The cut value is .500 | | | | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Variables in the Equation** | | | | | | | |
|  | | B | S.E. | Wald | df | Sig. | Exp(B) |
| Step 1a | Sum of Quantity | -.441 | .028 | 254.723 | 1 | .000 | .643 |
| Sum of Price | -.001 | .000 | 116.051 | 1 | .000 | .999 |
| Sum of Ship Cost | -.001 | .000 | 2.615 | 1 | .106 | .999 |
| Sum of Discount | .001 | .000 | 52.615 | 1 | .000 | 1.001 |
| Sum of Tax | .001 | .001 | 3.104 | 1 | .078 | 1.001 |
| Sum of Invoiced | .001 | .000 | 50.842 | 1 | .000 | 1.001 |
| Sum of COGS | .000 | .000 | 2.031 | 1 | .154 | 1.000 |
| Sum of MRP | .000 | .000 | .034 | 1 | .854 | 1.000 |
| Constant | 3.656 | .052 | 4997.536 | 1 | .000 | 38.691 |
| Step 2a | Sum of Quantity | -.442 | .027 | 265.279 | 1 | .000 | .642 |
| Sum of Price | -.001 | .000 | 172.062 | 1 | .000 | .999 |
| Sum of Ship Cost | -.001 | .000 | 2.734 | 1 | .098 | .999 |
| Sum of Discount | .001 | .000 | 56.683 | 1 | .000 | 1.001 |
| Sum of Tax | .001 | .001 | 3.124 | 1 | .077 | 1.001 |
| Sum of Invoiced | .001 | .000 | 52.768 | 1 | .000 | 1.001 |
| Sum of COGS | .000 | .000 | 3.028 | 1 | .082 | 1.000 |
| Constant | 3.656 | .052 | 4997.852 | 1 | .000 | 38.694 |
| a. Variable(s) entered on step 1: Sum of Quantity, Sum of Price, Sum of Ship Cost, Sum of Discount, Sum of Tax, Sum of Invoiced, Sum of COGS, Sum of MRP. | | | | | | | |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Model if Term Removed** | | | | | |
| Variable | | Model Log Likelihood | Change in -2 Log Likelihood | df | Sig. of the Change |
| Step 1 | Sum of Quantity | -5171.264 | 269.035 | 1 | .000 |
| Sum of Price | -5101.134 | 128.776 | 1 | .000 |
| Sum of Ship Cost | -5038.056 | 2.620 | 1 | .105 |
| Sum of Discount | -5063.461 | 53.429 | 1 | .000 |
| Sum of Tax | -5038.301 | 3.111 | 1 | .078 |
| Sum of Invoiced | -5064.060 | 54.629 | 1 | .000 |
| Sum of COGS | -5037.761 | 2.030 | 1 | .154 |
| Sum of MRP | -5036.763 | .034 | 1 | .854 |
| Step 2 | Sum of Quantity | -5177.174 | 280.822 | 1 | .000 |
| Sum of Price | -5137.684 | 201.842 | 1 | .000 |
| Sum of Ship Cost | -5038.133 | 2.741 | 1 | .098 |
| Sum of Discount | -5065.708 | 57.891 | 1 | .000 |
| Sum of Tax | -5038.328 | 3.130 | 1 | .077 |
| Sum of Invoiced | -5065.043 | 56.561 | 1 | .000 |
| Sum of COGS | -5038.276 | 3.025 | 1 | .082 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Variables not in the Equation** | | | | | |
|  | | | Score | df | Sig. |
| Step 2a | Variables | Sum of MRP | .034 | 1 | .854 |
| Overall Statistics | | .034 | 1 | .854 |
| a. Variable(s) removed on step 2: Sum of MRP. | | | | | |

LOGISTIC REGRESSION VARIABLES churn

/METHOD=FSTEP(COND) SumofQuantity SumofPrice SumofShipCost SumofPackingCost SumofDiscount

SumofTax SumofInvoiced SumofCOGS SumofInvoicedInBaseCurrency SumofGrossMargin SumofMRP

/SAVE=PRED PGROUP

/CRITERIA=PIN(.05) POUT(.10) ITERATE(20) CUT(.5).

**Logistic Regression**

|  |  |  |
| --- | --- | --- |
| **Notes** | | |
| Output Created | | 24-AUG-2022 11:40:01 |
| Comments | |  |
| Input | Active Dataset | DataSet2 |
| Filter | <none> |
| Weight | <none> |
| Split File | <none> |
| N of Rows in Working Data File | 15907 |
| Missing Value Handling | Definition of Missing | User-defined missing values are treated as missing |
| Syntax | | LOGISTIC REGRESSION VARIABLES churn  /METHOD=FSTEP(COND) SumofQuantity SumofPrice SumofShipCost SumofPackingCost SumofDiscount  SumofTax SumofInvoiced SumofCOGS SumofInvoicedInBaseCurrency SumofGrossMargin SumofMRP  /SAVE=PRED PGROUP  /CRITERIA=PIN(.05) POUT(.10) ITERATE(20) CUT(.5). |
| Resources | Processor Time | 00:00:00.39 |
| Elapsed Time | 00:00:00.44 |
| Variables Created or Modified | PRE\_1 | Predicted probability |
| PGR\_1 | Predicted group |

|  |  |  |  |
| --- | --- | --- | --- |
| **Case Processing Summary** | | | |
| Unweighted Casesa | | N | Percent |
| Selected Cases | Included in Analysis | 15907 | 100.0 |
| Missing Cases | 0 | .0 |
| Total | 15907 | 100.0 |
| Unselected Cases | | 0 | .0 |
| Total | | 15907 | 100.0 |
| a. If weight is in effect, see classification table for the total number of cases. | | | |

|  |  |
| --- | --- |
| **Dependent Variable Encoding** | |
| Original Value | Internal Value |
| 0 | 0 |
| 1 | 1 |

**Block 0: Beginning Block**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Classification Tablea,b** | | | | | |
|  | Observed | | Predicted | | |
|  | churn | | Percentage Correct |
|  | 0 | 1 |
| Step 0 | churn | 0 | 0 | 2582 | .0 |
| 1 | 0 | 13325 | 100.0 |
| Overall Percentage | |  |  | 83.8 |
| a. Constant is included in the model. | | | | | |
| b. The cut value is .500 | | | | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Variables in the Equation** | | | | | | | |
|  | | B | S.E. | Wald | df | Sig. | Exp(B) |
| Step 0 | Constant | 1.641 | .022 | 5824.967 | 1 | .000 | 5.161 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Variables not in the Equationa** | | | | | |
|  | | | Score | df | Sig. |
| Step 0 | Variables | Sum of Quantity | 2925.787 | 1 | .000 |
| Sum of Price | 2891.834 | 1 | .000 |
| Sum of Ship Cost | 910.357 | 1 | .000 |
| Sum of Discount | 101.934 | 1 | .000 |
| Sum of Tax | 2035.401 | 1 | .000 |
| Sum of Invoiced | 2637.198 | 1 | .000 |
| Sum of COGS | 1972.062 | 1 | .000 |
| Sum of Invoiced In Base Currency | 2637.198 | 1 | .000 |
| Sum of Gross Margin | 1295.966 | 1 | .000 |
| Sum of MRP | 2767.455 | 1 | .000 |
| a. Residual Chi-Squares are not computed because of redundancies. | | | | | |

**Block 1: Method = Forward Stepwise (Conditional)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Omnibus Tests of Model Coefficients** | | | | |
|  | | Chi-square | df | Sig. |
| Step 1 | Step | 3713.799 | 1 | .000 |
| Block | 3713.799 | 1 | .000 |
| Model | 3713.799 | 1 | .000 |
| Step 2 | Step | 199.926 | 1 | .000 |
| Block | 3913.726 | 2 | .000 |
| Model | 3913.726 | 2 | .000 |
| Step 3 | Step | 57.815 | 1 | .000 |
| Block | 3971.541 | 3 | .000 |
| Model | 3971.541 | 3 | .000 |
| Step 4 | Step | 56.751 | 1 | .000 |
| Block | 4028.292 | 4 | .000 |
| Model | 4028.292 | 4 | .000 |

|  |  |  |  |
| --- | --- | --- | --- |
| **Model Summary** | | | |
| Step | -2 Log likelihood | Cox & Snell R Square | Nagelkerke R Square |
| 1 | 10395.535a | .208 | .354 |
| 2 | 10195.609a | .218 | .371 |
| 3 | 10137.794a | .221 | .376 |
| 4 | 10081.043a | .224 | .380 |
| a. Estimation terminated at iteration number 6 because parameter estimates changed by less than .001. | | | |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Classification Tablea** | | | | | |
|  | Observed | | Predicted | | |
|  | churn | | Percentage Correct |
|  | 0 | 1 |
| Step 1 | churn | 0 | 854 | 1728 | 33.1 |
| 1 | 394 | 12931 | 97.0 |
| Overall Percentage | |  |  | 86.7 |
| Step 2 | churn | 0 | 898 | 1684 | 34.8 |
| 1 | 391 | 12934 | 97.1 |
| Overall Percentage | |  |  | 87.0 |
| Step 3 | churn | 0 | 903 | 1679 | 35.0 |
| 1 | 388 | 12937 | 97.1 |
| Overall Percentage | |  |  | 87.0 |
| Step 4 | churn | 0 | 910 | 1672 | 35.2 |
| 1 | 383 | 12942 | 97.1 |
| Overall Percentage | |  |  | 87.1 |
| a. The cut value is .500 | | | | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Variables in the Equation** | | | | | | | |
|  | | B | S.E. | Wald | df | Sig. | Exp(B) |
| Step 1a | Sum of Quantity | -.633 | .013 | 2221.051 | 1 | .000 | .531 |
| Constant | 3.477 | .048 | 5197.876 | 1 | .000 | 32.370 |
| Step 2b | Sum of Quantity | -.439 | .019 | 553.801 | 1 | .000 | .645 |
| Sum of Price | .000 | .000 | 194.588 | 1 | .000 | 1.000 |
| Constant | 3.627 | .051 | 5127.642 | 1 | .000 | 37.602 |
| Step 3c | Sum of Quantity | -.472 | .019 | 598.649 | 1 | .000 | .624 |
| Sum of Price | -.001 | .000 | 176.903 | 1 | .000 | .999 |
| Sum of Invoiced | .000 | .000 | 55.435 | 1 | .000 | 1.000 |
| Constant | 3.668 | .051 | 5104.467 | 1 | .000 | 39.166 |
| Step 4d | Sum of Quantity | -.485 | .019 | 618.215 | 1 | .000 | .616 |
| Sum of Price | -.001 | .000 | 206.503 | 1 | .000 | .999 |
| Sum of Discount | .001 | .000 | 55.886 | 1 | .000 | 1.001 |
| Sum of Invoiced | .001 | .000 | 95.874 | 1 | .000 | 1.001 |
| Constant | 3.646 | .051 | 5025.418 | 1 | .000 | 38.304 |
| a. Variable(s) entered on step 1: Sum of Quantity. | | | | | | | |
| b. Variable(s) entered on step 2: Sum of Price. | | | | | | | |
| c. Variable(s) entered on step 3: Sum of Invoiced. | | | | | | | |
| d. Variable(s) entered on step 4: Sum of Discount. | | | | | | | |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Model if Term Removeda** | | | | | |
| Variable | | Model Log Likelihood | Change in -2 Log Likelihood | df | Sig. of the Change |
| Step 1 | Sum of Quantity | -7063.083 | 3730.631 | 1 | .000 |
| Step 2 | Sum of Quantity | -5407.701 | 619.793 | 1 | .000 |
| Sum of Price | -5198.422 | 201.234 | 1 | .000 |
| Step 3 | Sum of Quantity | -5406.391 | 674.987 | 1 | .000 |
| Sum of Price | -5165.605 | 193.416 | 1 | .000 |
| Sum of Invoiced | -5097.877 | 57.960 | 1 | .000 |
| Step 4 | Sum of Quantity | -5391.457 | 701.872 | 1 | .000 |
| Sum of Price | -5164.305 | 247.567 | 1 | .000 |
| Sum of Discount | -5069.207 | 57.371 | 1 | .000 |
| Sum of Invoiced | -5095.786 | 110.530 | 1 | .000 |
| a. Based on conditional parameter estimates | | | | | |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Variables not in the Equationa** | | | | | |
|  | | | Score | df | Sig. |
| Step 1 | Variables | Sum of Price | 200.369 | 1 | .000 |
| Sum of Ship Cost | 6.495 | 1 | .011 |
| Sum of Discount | .296 | 1 | .586 |
| Sum of Tax | 95.261 | 1 | .000 |
| Sum of Invoiced | 65.900 | 1 | .000 |
| Sum of COGS | 64.649 | 1 | .000 |
| Sum of Invoiced In Base Currency | 65.900 | 1 | .000 |
| Sum of Gross Margin | 3.490 | 1 | .062 |
| Sum of MRP | 177.747 | 1 | .000 |
| Step 2 | Variables | Sum of Ship Cost | 1.162 | 1 | .281 |
| Sum of Discount | 4.392 | 1 | .036 |
| Sum of Tax | 28.030 | 1 | .000 |
| Sum of Invoiced | 56.046 | 1 | .000 |
| Sum of COGS | .078 | 1 | .780 |
| Sum of Invoiced In Base Currency | 56.046 | 1 | .000 |
| Sum of Gross Margin | 27.382 | 1 | .000 |
| Sum of MRP | 7.791 | 1 | .005 |
| Step 3 | Variables | Sum of Ship Cost | 3.535 | 1 | .060 |
| Sum of Discount | 58.769 | 1 | .000 |
| Sum of Tax | .065 | 1 | .799 |
| Sum of COGS | 1.594 | 1 | .207 |
| Sum of Gross Margin | 1.594 | 1 | .207 |
| Sum of MRP | 7.421 | 1 | .006 |
| Step 4 | Variables | Sum of Ship Cost | 1.462 | 1 | .227 |
| Sum of Tax | 2.733 | 1 | .098 |
| Sum of COGS | 2.027 | 1 | .155 |
| Sum of Gross Margin | 2.027 | 1 | .155 |
| Sum of MRP | 1.110 | 1 | .292 |
| a. Residual Chi-Squares are not computed because of redundancies. | | | | | |

LOGISTIC REGRESSION VARIABLES churn

/METHOD=FSTEP(LR) SumofQuantity SumofPrice SumofShipCost SumofPackingCost SumofDiscount SumofTax

SumofInvoiced SumofCOGS SumofInvoicedInBaseCurrency SumofGrossMargin SumofMRP

/SAVE=PRED PGROUP

/CRITERIA=PIN(.05) POUT(.10) ITERATE(20) CUT(.5).

**Logistic Regression**

|  |  |  |
| --- | --- | --- |
| **Notes** | | |
| Output Created | | 24-AUG-2022 11:40:40 |
| Comments | |  |
| Input | Active Dataset | DataSet2 |
| Filter | <none> |
| Weight | <none> |
| Split File | <none> |
| N of Rows in Working Data File | 15907 |
| Missing Value Handling | Definition of Missing | User-defined missing values are treated as missing |
| Syntax | | LOGISTIC REGRESSION VARIABLES churn  /METHOD=FSTEP(LR) SumofQuantity SumofPrice SumofShipCost SumofPackingCost SumofDiscount SumofTax  SumofInvoiced SumofCOGS SumofInvoicedInBaseCurrency SumofGrossMargin SumofMRP  /SAVE=PRED PGROUP  /CRITERIA=PIN(.05) POUT(.10) ITERATE(20) CUT(.5). |
| Resources | Processor Time | 00:00:00.70 |
| Elapsed Time | 00:00:00.74 |
| Variables Created or Modified | PRE\_1 | Predicted probability |
| PGR\_1 | Predicted group |

|  |  |  |  |
| --- | --- | --- | --- |
| **Case Processing Summary** | | | |
| Unweighted Casesa | | N | Percent |
| Selected Cases | Included in Analysis | 15907 | 100.0 |
| Missing Cases | 0 | .0 |
| Total | 15907 | 100.0 |
| Unselected Cases | | 0 | .0 |
| Total | | 15907 | 100.0 |
| a. If weight is in effect, see classification table for the total number of cases. | | | |

|  |  |
| --- | --- |
| **Dependent Variable Encoding** | |
| Original Value | Internal Value |
| 0 | 0 |
| 1 | 1 |

**Block 0: Beginning Block**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Classification Tablea,b** | | | | | |
|  | Observed | | Predicted | | |
|  | churn | | Percentage Correct |
|  | 0 | 1 |
| Step 0 | churn | 0 | 0 | 2582 | .0 |
| 1 | 0 | 13325 | 100.0 |
| Overall Percentage | |  |  | 83.8 |
| a. Constant is included in the model. | | | | | |
| b. The cut value is .500 | | | | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Variables in the Equation** | | | | | | | |
|  | | B | S.E. | Wald | df | Sig. | Exp(B) |
| Step 0 | Constant | 1.641 | .022 | 5824.967 | 1 | .000 | 5.161 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Variables not in the Equationa** | | | | | |
|  | | | Score | df | Sig. |
| Step 0 | Variables | Sum of Quantity | 2925.787 | 1 | .000 |
| Sum of Price | 2891.834 | 1 | .000 |
| Sum of Ship Cost | 910.357 | 1 | .000 |
| Sum of Discount | 101.934 | 1 | .000 |
| Sum of Tax | 2035.401 | 1 | .000 |
| Sum of Invoiced | 2637.198 | 1 | .000 |
| Sum of COGS | 1972.062 | 1 | .000 |
| Sum of Invoiced In Base Currency | 2637.198 | 1 | .000 |
| Sum of Gross Margin | 1295.966 | 1 | .000 |
| Sum of MRP | 2767.455 | 1 | .000 |
| a. Residual Chi-Squares are not computed because of redundancies. | | | | | |

**Block 1: Method = Forward Stepwise (Likelihood Ratio)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Omnibus Tests of Model Coefficients** | | | | |
|  | | Chi-square | df | Sig. |
| Step 1 | Step | 3713.799 | 1 | .000 |
| Block | 3713.799 | 1 | .000 |
| Model | 3713.799 | 1 | .000 |
| Step 2 | Step | 199.926 | 1 | .000 |
| Block | 3913.726 | 2 | .000 |
| Model | 3913.726 | 2 | .000 |
| Step 3 | Step | 57.815 | 1 | .000 |
| Block | 3971.541 | 3 | .000 |
| Model | 3971.541 | 3 | .000 |
| Step 4 | Step | 56.751 | 1 | .000 |
| Block | 4028.292 | 4 | .000 |
| Model | 4028.292 | 4 | .000 |

|  |  |  |  |
| --- | --- | --- | --- |
| **Model Summary** | | | |
| Step | -2 Log likelihood | Cox & Snell R Square | Nagelkerke R Square |
| 1 | 10395.535a | .208 | .354 |
| 2 | 10195.609a | .218 | .371 |
| 3 | 10137.794a | .221 | .376 |
| 4 | 10081.043a | .224 | .380 |
| a. Estimation terminated at iteration number 6 because parameter estimates changed by less than .001. | | | |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Classification Tablea** | | | | | |
|  | Observed | | Predicted | | |
|  | churn | | Percentage Correct |
|  | 0 | 1 |
| Step 1 | churn | 0 | 854 | 1728 | 33.1 |
| 1 | 394 | 12931 | 97.0 |
| Overall Percentage | |  |  | 86.7 |
| Step 2 | churn | 0 | 898 | 1684 | 34.8 |
| 1 | 391 | 12934 | 97.1 |
| Overall Percentage | |  |  | 87.0 |
| Step 3 | churn | 0 | 903 | 1679 | 35.0 |
| 1 | 388 | 12937 | 97.1 |
| Overall Percentage | |  |  | 87.0 |
| Step 4 | churn | 0 | 910 | 1672 | 35.2 |
| 1 | 383 | 12942 | 97.1 |
| Overall Percentage | |  |  | 87.1 |
| a. The cut value is .500 | | | | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Variables in the Equation** | | | | | | | |
|  | | B | S.E. | Wald | df | Sig. | Exp(B) |
| Step 1a | Sum of Quantity | -.633 | .013 | 2221.051 | 1 | .000 | .531 |
| Constant | 3.477 | .048 | 5197.876 | 1 | .000 | 32.370 |
| Step 2b | Sum of Quantity | -.439 | .019 | 553.801 | 1 | .000 | .645 |
| Sum of Price | .000 | .000 | 194.588 | 1 | .000 | 1.000 |
| Constant | 3.627 | .051 | 5127.642 | 1 | .000 | 37.602 |
| Step 3c | Sum of Quantity | -.472 | .019 | 598.649 | 1 | .000 | .624 |
| Sum of Price | -.001 | .000 | 176.903 | 1 | .000 | .999 |
| Sum of Invoiced | .000 | .000 | 55.435 | 1 | .000 | 1.000 |
| Constant | 3.668 | .051 | 5104.467 | 1 | .000 | 39.166 |
| Step 4d | Sum of Quantity | -.485 | .019 | 618.215 | 1 | .000 | .616 |
| Sum of Price | -.001 | .000 | 206.503 | 1 | .000 | .999 |
| Sum of Discount | .001 | .000 | 55.886 | 1 | .000 | 1.001 |
| Sum of Invoiced | .001 | .000 | 95.874 | 1 | .000 | 1.001 |
| Constant | 3.646 | .051 | 5025.418 | 1 | .000 | 38.304 |
| a. Variable(s) entered on step 1: Sum of Quantity. | | | | | | | |
| b. Variable(s) entered on step 2: Sum of Price. | | | | | | | |
| c. Variable(s) entered on step 3: Sum of Invoiced. | | | | | | | |
| d. Variable(s) entered on step 4: Sum of Discount. | | | | | | | |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Model if Term Removed** | | | | | |
| Variable | | Model Log Likelihood | Change in -2 Log Likelihood | df | Sig. of the Change |
| Step 1 | Sum of Quantity | -7054.667 | 3713.799 | 1 | .000 |
| Step 2 | Sum of Quantity | -5403.396 | 611.182 | 1 | .000 |
| Sum of Price | -5197.768 | 199.926 | 1 | .000 |
| Step 3 | Sum of Quantity | -5401.158 | 664.522 | 1 | .000 |
| Sum of Price | -5164.862 | 191.930 | 1 | .000 |
| Sum of Invoiced | -5097.804 | 57.815 | 1 | .000 |
| Step 4 | Sum of Quantity | -5385.704 | 690.365 | 1 | .000 |
| Sum of Price | -5163.531 | 246.019 | 1 | .000 |
| Sum of Discount | -5068.897 | 56.751 | 1 | .000 |
| Sum of Invoiced | -5095.655 | 110.267 | 1 | .000 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Variables not in the Equationa** | | | | | |
|  | | | Score | df | Sig. |
| Step 1 | Variables | Sum of Price | 200.369 | 1 | .000 |
| Sum of Ship Cost | 6.495 | 1 | .011 |
| Sum of Discount | .296 | 1 | .586 |
| Sum of Tax | 95.261 | 1 | .000 |
| Sum of Invoiced | 65.900 | 1 | .000 |
| Sum of COGS | 64.649 | 1 | .000 |
| Sum of Invoiced In Base Currency | 65.900 | 1 | .000 |
| Sum of Gross Margin | 3.490 | 1 | .062 |
| Sum of MRP | 177.747 | 1 | .000 |
| Step 2 | Variables | Sum of Ship Cost | 1.162 | 1 | .281 |
| Sum of Discount | 4.392 | 1 | .036 |
| Sum of Tax | 28.030 | 1 | .000 |
| Sum of Invoiced | 56.046 | 1 | .000 |
| Sum of COGS | .078 | 1 | .780 |
| Sum of Invoiced In Base Currency | 56.046 | 1 | .000 |
| Sum of Gross Margin | 27.382 | 1 | .000 |
| Sum of MRP | 7.791 | 1 | .005 |
| Step 3 | Variables | Sum of Ship Cost | 3.535 | 1 | .060 |
| Sum of Discount | 58.769 | 1 | .000 |
| Sum of Tax | .065 | 1 | .799 |
| Sum of COGS | 1.594 | 1 | .207 |
| Sum of Gross Margin | 1.594 | 1 | .207 |
| Sum of MRP | 7.421 | 1 | .006 |
| Step 4 | Variables | Sum of Ship Cost | 1.462 | 1 | .227 |
| Sum of Tax | 2.733 | 1 | .098 |
| Sum of COGS | 2.027 | 1 | .155 |
| Sum of Gross Margin | 2.027 | 1 | .155 |
| Sum of MRP | 1.110 | 1 | .292 |
| a. Residual Chi-Squares are not computed because of redundancies. | | | | | |

LOGISTIC REGRESSION VARIABLES churn

/METHOD=BSTEP(COND) SumofQuantity SumofPrice SumofShipCost SumofPackingCost SumofDiscount

SumofTax SumofInvoiced SumofCOGS SumofInvoicedInBaseCurrency SumofGrossMargin SumofMRP

/SAVE=PRED PGROUP

/CRITERIA=PIN(.05) POUT(.10) ITERATE(20) CUT(.5).

**Logistic Regression**

|  |  |  |
| --- | --- | --- |
| **Notes** | | |
| Output Created | | 24-AUG-2022 11:41:14 |
| Comments | |  |
| Input | Active Dataset | DataSet2 |
| Filter | <none> |
| Weight | <none> |
| Split File | <none> |
| N of Rows in Working Data File | 15907 |
| Missing Value Handling | Definition of Missing | User-defined missing values are treated as missing |
| Syntax | | LOGISTIC REGRESSION VARIABLES churn  /METHOD=BSTEP(COND) SumofQuantity SumofPrice SumofShipCost SumofPackingCost SumofDiscount  SumofTax SumofInvoiced SumofCOGS SumofInvoicedInBaseCurrency SumofGrossMargin SumofMRP  /SAVE=PRED PGROUP  /CRITERIA=PIN(.05) POUT(.10) ITERATE(20) CUT(.5). |
| Resources | Processor Time | 00:00:00.31 |
| Elapsed Time | 00:00:00.34 |
| Variables Created or Modified | PRE\_1 | Predicted probability |
| PGR\_1 | Predicted group |

|  |
| --- |
| **Warnings** |
| Due to redundancies, degrees of freedom have been reduced for one or more variables. |

|  |  |  |  |
| --- | --- | --- | --- |
| **Case Processing Summary** | | | |
| Unweighted Casesa | | N | Percent |
| Selected Cases | Included in Analysis | 15907 | 100.0 |
| Missing Cases | 0 | .0 |
| Total | 15907 | 100.0 |
| Unselected Cases | | 0 | .0 |
| Total | | 15907 | 100.0 |
| a. If weight is in effect, see classification table for the total number of cases. | | | |

|  |  |
| --- | --- |
| **Dependent Variable Encoding** | |
| Original Value | Internal Value |
| 0 | 0 |
| 1 | 1 |

**Block 0: Beginning Block**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Classification Tablea,b** | | | | | |
|  | Observed | | Predicted | | |
|  | churn | | Percentage Correct |
|  | 0 | 1 |
| Step 0 | churn | 0 | 0 | 2582 | .0 |
| 1 | 0 | 13325 | 100.0 |
| Overall Percentage | |  |  | 83.8 |
| a. Constant is included in the model. | | | | | |
| b. The cut value is .500 | | | | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Variables in the Equation** | | | | | | | |
|  | | B | S.E. | Wald | df | Sig. | Exp(B) |
| Step 0 | Constant | 1.641 | .022 | 5824.967 | 1 | .000 | 5.161 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Variables not in the Equationa** | | | | | |
|  | | | Score | df | Sig. |
| Step 0 | Variables | Sum of Quantity | 2925.787 | 1 | .000 |
| Sum of Price | 2891.834 | 1 | .000 |
| Sum of Ship Cost | 910.357 | 1 | .000 |
| Sum of Discount | 101.934 | 1 | .000 |
| Sum of Tax | 2035.401 | 1 | .000 |
| Sum of Invoiced | 2637.198 | 1 | .000 |
| Sum of COGS | 1972.062 | 1 | .000 |
| Sum of Invoiced In Base Currency | 2637.198 | 1 | .000 |
| Sum of Gross Margin | 1295.966 | 1 | .000 |
| Sum of MRP | 2767.455 | 1 | .000 |
| a. Residual Chi-Squares are not computed because of redundancies. | | | | | |

**Block 1: Method = Backward Stepwise (Conditional)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Omnibus Tests of Model Coefficients** | | | | |
|  | | Chi-square | df | Sig. |
| Step 1 | Step | 4035.843 | 8 | .000 |
| Block | 4035.843 | 8 | .000 |
| Model | 4035.843 | 8 | .000 |
| Step 2a | Step | -.034 | 1 | .854 |
| Block | 4035.809 | 7 | .000 |
| Model | 4035.809 | 7 | .000 |
| a. A negative Chi-squares value indicates that the Chi-squares value has decreased from the previous step. | | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Model Summary** | | | |
| Step | -2 Log likelihood | Cox & Snell R Square | Nagelkerke R Square |
| 1 | 10073.492a | .224 | .381 |
| 2 | 10073.526a | .224 | .381 |
| a. Estimation terminated at iteration number 6 because parameter estimates changed by less than .001. | | | |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Classification Tablea** | | | | | |
|  | Observed | | Predicted | | |
|  | churn | | Percentage Correct |
|  | 0 | 1 |
| Step 1 | churn | 0 | 908 | 1674 | 35.2 |
| 1 | 383 | 12942 | 97.1 |
| Overall Percentage | |  |  | 87.1 |
| Step 2 | churn | 0 | 906 | 1676 | 35.1 |
| 1 | 384 | 12941 | 97.1 |
| Overall Percentage | |  |  | 87.0 |
| a. The cut value is .500 | | | | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Variables in the Equation** | | | | | | | |
|  | | B | S.E. | Wald | df | Sig. | Exp(B) |
| Step 1a | Sum of Quantity | -.441 | .028 | 254.723 | 1 | .000 | .643 |
| Sum of Price | -.001 | .000 | 116.051 | 1 | .000 | .999 |
| Sum of Ship Cost | -.001 | .000 | 2.615 | 1 | .106 | .999 |
| Sum of Discount | .001 | .000 | 52.615 | 1 | .000 | 1.001 |
| Sum of Tax | .001 | .001 | 3.104 | 1 | .078 | 1.001 |
| Sum of Invoiced | .001 | .000 | 50.842 | 1 | .000 | 1.001 |
| Sum of COGS | .000 | .000 | 2.031 | 1 | .154 | 1.000 |
| Sum of MRP | .000 | .000 | .034 | 1 | .854 | 1.000 |
| Constant | 3.656 | .052 | 4997.536 | 1 | .000 | 38.691 |
| Step 2a | Sum of Quantity | -.442 | .027 | 265.279 | 1 | .000 | .642 |
| Sum of Price | -.001 | .000 | 172.062 | 1 | .000 | .999 |
| Sum of Ship Cost | -.001 | .000 | 2.734 | 1 | .098 | .999 |
| Sum of Discount | .001 | .000 | 56.683 | 1 | .000 | 1.001 |
| Sum of Tax | .001 | .001 | 3.124 | 1 | .077 | 1.001 |
| Sum of Invoiced | .001 | .000 | 52.768 | 1 | .000 | 1.001 |
| Sum of COGS | .000 | .000 | 3.028 | 1 | .082 | 1.000 |
| Constant | 3.656 | .052 | 4997.852 | 1 | .000 | 38.694 |
| a. Variable(s) entered on step 1: Sum of Quantity, Sum of Price, Sum of Ship Cost, Sum of Discount, Sum of Tax, Sum of Invoiced, Sum of COGS, Sum of MRP. | | | | | | | |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Model if Term Removeda** | | | | | |
| Variable | | Model Log Likelihood | Change in -2 Log Likelihood | df | Sig. of the Change |
| Step 1 | Sum of Quantity | -5173.279 | 273.067 | 1 | .000 |
| Sum of Price | -5101.743 | 129.994 | 1 | .000 |
| Sum of Ship Cost | -5038.056 | 2.621 | 1 | .105 |
| Sum of Discount | -5063.808 | 54.124 | 1 | .000 |
| Sum of Tax | -5038.302 | 3.111 | 1 | .078 |
| Sum of Invoiced | -5064.151 | 54.810 | 1 | .000 |
| Sum of COGS | -5037.761 | 2.030 | 1 | .154 |
| Sum of MRP | -5036.763 | .034 | 1 | .854 |
| Step 2 | Sum of Quantity | -5179.250 | 284.975 | 1 | .000 |
| Sum of Price | -5138.245 | 202.965 | 1 | .000 |
| Sum of Ship Cost | -5038.133 | 2.741 | 1 | .098 |
| Sum of Discount | -5066.082 | 58.638 | 1 | .000 |
| Sum of Tax | -5038.328 | 3.131 | 1 | .077 |
| Sum of Invoiced | -5065.139 | 56.753 | 1 | .000 |
| Sum of COGS | -5038.276 | 3.026 | 1 | .082 |
| a. Based on conditional parameter estimates | | | | | |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Variables not in the Equation** | | | | | |
|  | | | Score | df | Sig. |
| Step 2a | Variables | Sum of MRP | .034 | 1 | .854 |
| Overall Statistics | | .034 | 1 | .854 |
| a. Variable(s) removed on step 2: Sum of MRP. | | | | | |

LOGISTIC REGRESSION VARIABLES churn

/METHOD=BSTEP(LR) SumofQuantity SumofPrice SumofShipCost SumofPackingCost SumofDiscount SumofTax

SumofInvoiced SumofCOGS SumofInvoicedInBaseCurrency SumofGrossMargin SumofMRP

/SAVE=PRED PGROUP

/CRITERIA=PIN(.05) POUT(.10) ITERATE(20) CUT(.5).

**Logistic Regression**

|  |  |  |
| --- | --- | --- |
| **Notes** | | |
| Output Created | | 24-AUG-2022 11:41:37 |
| Comments | |  |
| Input | Active Dataset | DataSet2 |
| Filter | <none> |
| Weight | <none> |
| Split File | <none> |
| N of Rows in Working Data File | 15907 |
| Missing Value Handling | Definition of Missing | User-defined missing values are treated as missing |
| Syntax | | LOGISTIC REGRESSION VARIABLES churn  /METHOD=BSTEP(LR) SumofQuantity SumofPrice SumofShipCost SumofPackingCost SumofDiscount SumofTax  SumofInvoiced SumofCOGS SumofInvoicedInBaseCurrency SumofGrossMargin SumofMRP  /SAVE=PRED PGROUP  /CRITERIA=PIN(.05) POUT(.10) ITERATE(20) CUT(.5). |
| Resources | Processor Time | 00:00:00.89 |
| Elapsed Time | 00:00:00.91 |
| Variables Created or Modified | PRE\_1 | Predicted probability |
| PGR\_1 | Predicted group |

|  |
| --- |
| **Warnings** |
| Due to redundancies, degrees of freedom have been reduced for one or more variables. |

|  |  |  |  |
| --- | --- | --- | --- |
| **Case Processing Summary** | | | |
| Unweighted Casesa | | N | Percent |
| Selected Cases | Included in Analysis | 15907 | 100.0 |
| Missing Cases | 0 | .0 |
| Total | 15907 | 100.0 |
| Unselected Cases | | 0 | .0 |
| Total | | 15907 | 100.0 |
| a. If weight is in effect, see classification table for the total number of cases. | | | |

|  |  |
| --- | --- |
| **Dependent Variable Encoding** | |
| Original Value | Internal Value |
| 0 | 0 |
| 1 | 1 |

**Block 0: Beginning Block**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Classification Tablea,b** | | | | | |
|  | Observed | | Predicted | | |
|  | churn | | Percentage Correct |
|  | 0 | 1 |
| Step 0 | churn | 0 | 0 | 2582 | .0 |
| 1 | 0 | 13325 | 100.0 |
| Overall Percentage | |  |  | 83.8 |
| a. Constant is included in the model. | | | | | |
| b. The cut value is .500 | | | | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Variables in the Equation** | | | | | | | |
|  | | B | S.E. | Wald | df | Sig. | Exp(B) |
| Step 0 | Constant | 1.641 | .022 | 5824.967 | 1 | .000 | 5.161 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Variables not in the Equationa** | | | | | |
|  | | | Score | df | Sig. |
| Step 0 | Variables | Sum of Quantity | 2925.787 | 1 | .000 |
| Sum of Price | 2891.834 | 1 | .000 |
| Sum of Ship Cost | 910.357 | 1 | .000 |
| Sum of Discount | 101.934 | 1 | .000 |
| Sum of Tax | 2035.401 | 1 | .000 |
| Sum of Invoiced | 2637.198 | 1 | .000 |
| Sum of COGS | 1972.062 | 1 | .000 |
| Sum of Invoiced In Base Currency | 2637.198 | 1 | .000 |
| Sum of Gross Margin | 1295.966 | 1 | .000 |
| Sum of MRP | 2767.455 | 1 | .000 |
| a. Residual Chi-Squares are not computed because of redundancies. | | | | | |

**Block 1: Method = Backward Stepwise (Likelihood Ratio)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Omnibus Tests of Model Coefficients** | | | | |
|  | | Chi-square | df | Sig. |
| Step 1 | Step | 4035.843 | 8 | .000 |
| Block | 4035.843 | 8 | .000 |
| Model | 4035.843 | 8 | .000 |
| Step 2a | Step | -.034 | 1 | .854 |
| Block | 4035.809 | 7 | .000 |
| Model | 4035.809 | 7 | .000 |
| a. A negative Chi-squares value indicates that the Chi-squares value has decreased from the previous step. | | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Model Summary** | | | |
| Step | -2 Log likelihood | Cox & Snell R Square | Nagelkerke R Square |
| 1 | 10073.492a | .224 | .381 |
| 2 | 10073.526a | .224 | .381 |
| a. Estimation terminated at iteration number 6 because parameter estimates changed by less than .001. | | | |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Classification Tablea** | | | | | |
|  | Observed | | Predicted | | |
|  | churn | | Percentage Correct |
|  | 0 | 1 |
| Step 1 | churn | 0 | 908 | 1674 | 35.2 |
| 1 | 383 | 12942 | 97.1 |
| Overall Percentage | |  |  | 87.1 |
| Step 2 | churn | 0 | 906 | 1676 | 35.1 |
| 1 | 384 | 12941 | 97.1 |
| Overall Percentage | |  |  | 87.0 |
| a. The cut value is .500 | | | | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Variables in the Equation** | | | | | | | |
|  | | B | S.E. | Wald | df | Sig. | Exp(B) |
| Step 1a | Sum of Quantity | -.441 | .028 | 254.723 | 1 | .000 | .643 |
| Sum of Price | -.001 | .000 | 116.051 | 1 | .000 | .999 |
| Sum of Ship Cost | -.001 | .000 | 2.615 | 1 | .106 | .999 |
| Sum of Discount | .001 | .000 | 52.615 | 1 | .000 | 1.001 |
| Sum of Tax | .001 | .001 | 3.104 | 1 | .078 | 1.001 |
| Sum of Invoiced | .001 | .000 | 50.842 | 1 | .000 | 1.001 |
| Sum of COGS | .000 | .000 | 2.031 | 1 | .154 | 1.000 |
| Sum of MRP | .000 | .000 | .034 | 1 | .854 | 1.000 |
| Constant | 3.656 | .052 | 4997.536 | 1 | .000 | 38.691 |
| Step 2a | Sum of Quantity | -.442 | .027 | 265.279 | 1 | .000 | .642 |
| Sum of Price | -.001 | .000 | 172.062 | 1 | .000 | .999 |
| Sum of Ship Cost | -.001 | .000 | 2.734 | 1 | .098 | .999 |
| Sum of Discount | .001 | .000 | 56.683 | 1 | .000 | 1.001 |
| Sum of Tax | .001 | .001 | 3.124 | 1 | .077 | 1.001 |
| Sum of Invoiced | .001 | .000 | 52.768 | 1 | .000 | 1.001 |
| Sum of COGS | .000 | .000 | 3.028 | 1 | .082 | 1.000 |
| Constant | 3.656 | .052 | 4997.852 | 1 | .000 | 38.694 |
| a. Variable(s) entered on step 1: Sum of Quantity, Sum of Price, Sum of Ship Cost, Sum of Discount, Sum of Tax, Sum of Invoiced, Sum of COGS, Sum of MRP. | | | | | | | |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Model if Term Removed** | | | | | |
| Variable | | Model Log Likelihood | Change in -2 Log Likelihood | df | Sig. of the Change |
| Step 1 | Sum of Quantity | -5171.264 | 269.035 | 1 | .000 |
| Sum of Price | -5101.134 | 128.776 | 1 | .000 |
| Sum of Ship Cost | -5038.056 | 2.620 | 1 | .105 |
| Sum of Discount | -5063.461 | 53.429 | 1 | .000 |
| Sum of Tax | -5038.301 | 3.111 | 1 | .078 |
| Sum of Invoiced | -5064.060 | 54.629 | 1 | .000 |
| Sum of COGS | -5037.761 | 2.030 | 1 | .154 |
| Sum of MRP | -5036.763 | .034 | 1 | .854 |
| Step 2 | Sum of Quantity | -5177.174 | 280.822 | 1 | .000 |
| Sum of Price | -5137.684 | 201.842 | 1 | .000 |
| Sum of Ship Cost | -5038.133 | 2.741 | 1 | .098 |
| Sum of Discount | -5065.708 | 57.891 | 1 | .000 |
| Sum of Tax | -5038.328 | 3.130 | 1 | .077 |
| Sum of Invoiced | -5065.043 | 56.561 | 1 | .000 |
| Sum of COGS | -5038.276 | 3.025 | 1 | .082 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Variables not in the Equation** | | | | | |
|  | | | Score | df | Sig. |
| Step 2a | Variables | Sum of MRP | .034 | 1 | .854 |
| Overall Statistics | | .034 | 1 | .854 |
| a. Variable(s) removed on step 2: Sum of MRP. | | | | | |

SAVE OUTFILE='D:\Mithun\Capstone 2022\Anand capstone2.sav'

/COMPRESSED.

\* Decision Tree.

TREE churn [n] BY SumofQuantity [s] SumofReturnQty [n] SumofPrice [s] SumofShipCost [s]

SumofPackingCost [n] SumofDiscount [s] SumofTax [s] SumofInvoiced [s] SumofCOGS [s]

SumofInvoicedInBaseCurrency [s] SumofGrossMargin [s] SumofMRP [s]

/TREE DISPLAY=TOPDOWN NODES=STATISTICS BRANCHSTATISTICS=YES NODEDEFS=YES SCALE=AUTO

/DEPCATEGORIES USEVALUES=[VALID]

/PRINT MODELSUMMARY CLASSIFICATION RISK

/SAVE PREDVAL PREDPROB

/METHOD TYPE=CHAID

/GROWTHLIMIT MAXDEPTH=AUTO MINPARENTSIZE=100 MINCHILDSIZE=50

/VALIDATION TYPE=NONE OUTPUT=BOTHSAMPLES

/CHAID ALPHASPLIT=0.05 ALPHAMERGE=0.05 SPLITMERGED=NO CHISQUARE=PEARSON CONVERGE=0.001

MAXITERATIONS=100 ADJUST=BONFERRONI INTERVALS=10

/COSTS EQUAL

/MISSING NOMINALMISSING=MISSING.

**Classification Tree**

|  |  |  |  |
| --- | --- | --- | --- |
| **Notes** | | | |
| Output Created | | | 24-AUG-2022 11:44:58 |
| Comments | | |  |
| Input | Data | | D:\Mithun\Capstone 2022\Anand capstone2.sav |
| Active Dataset | | DataSet2 |
| Filter | | <none> |
| Weight | | <none> |
| Split File | | <none> |
| N of Rows in Working Data File | | 15907 |
| Missing Value Handling | Definition of Missing | | Handling of user-defined missing values of nominal independent variables depends on the growing method. |
| Cases Used | | Only cases with valid data for the dependent variable and some or all independent variables are used in computing any statistics. |
| Syntax | | | TREE churn [n] BY SumofQuantity [s] SumofReturnQty [n] SumofPrice [s] SumofShipCost [s]  SumofPackingCost [n] SumofDiscount [s] SumofTax [s] SumofInvoiced [s] SumofCOGS [s]  SumofInvoicedInBaseCurrency [s] SumofGrossMargin [s] SumofMRP [s]  /TREE DISPLAY=TOPDOWN NODES=STATISTICS BRANCHSTATISTICS=YES NODEDEFS=YES SCALE=AUTO  /DEPCATEGORIES USEVALUES=[VALID]  /PRINT MODELSUMMARY CLASSIFICATION RISK  /SAVE PREDVAL PREDPROB  /METHOD TYPE=CHAID  /GROWTHLIMIT MAXDEPTH=AUTO MINPARENTSIZE=100 MINCHILDSIZE=50  /VALIDATION TYPE=NONE OUTPUT=BOTHSAMPLES  /CHAID ALPHASPLIT=0.05 ALPHAMERGE=0.05 SPLITMERGED=NO CHISQUARE=PEARSON CONVERGE=0.001  MAXITERATIONS=100 ADJUST=BONFERRONI INTERVALS=10  /COSTS EQUAL  /MISSING NOMINALMISSING=MISSING. |
| Resources | Processor Time | | 00:00:03.48 |
| Elapsed Time | | 00:00:04.42 |
| Variables Created or Modified | Predicted Values | | PredictedValue |
| Predicted Probabilities | churn = 0 | PredictedProbability\_1 |
| churn = 1 | PredictedProbability\_2 |
| Files Saved | Rules File | |  |

[DataSet2] D:\Mithun\Capstone 2022\Anand capstone2.sav

|  |
| --- |
| **Warnings** |
| Gain summary Tables are not displayed because profits are undefined. |
| Target category gains tables are not displayed because target categories are undefined. |

|  |  |  |
| --- | --- | --- |
| **Model Summary** | | |
| Specifications | Growing Method | CHAID |
| Dependent Variable | churn |
| Independent Variables | Sum of Quantity, Sum of Return Qty, Sum of Price, Sum of Ship Cost, Sum of Packing Cost, Sum of Discount, Sum of Tax, Sum of Invoiced, Sum of COGS, Sum of Invoiced In Base Currency, Sum of Gross Margin, Sum of MRP |
| Validation | None |
| Maximum Tree Depth | 3 |
| Minimum Cases in Parent Node | 100 |
| Minimum Cases in Child Node | 50 |
| Results | Independent Variables Included | Sum of Quantity, Sum of Return Qty, Sum of Discount, Sum of Ship Cost, Sum of Price, Sum of MRP, Sum of Tax, Sum of COGS |
| Number of Nodes | 39 |
| Number of Terminal Nodes | 27 |
| Depth | 3 |

Diagram, schematic

Description automatically generated

|  |  |
| --- | --- |
| **Risk** | |
| Estimate | Std. Error |
| .116 | .003 |
| Growing Method: CHAID  Dependent Variable: churn | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Classification** | | | |
| Observed | Predicted | | |
| 0 | 1 | Percent Correct |
| 0 | 1127 | 1455 | 43.6% |
| 1 | 390 | 12935 | 97.1% |
| Overall Percentage | 9.5% | 90.5% | 88.4% |
| Growing Method: CHAID  Dependent Variable: churn | | | |

\* Decision Tree.

TREE churn [n] BY SumofQuantity [s] SumofReturnQty [n] SumofPrice [s] SumofShipCost [s]

SumofPackingCost [n] SumofDiscount [s] SumofTax [s] SumofInvoiced [s] SumofCOGS [s]

SumofInvoicedInBaseCurrency [s] SumofGrossMargin [s] SumofMRP [s]

/TREE DISPLAY=TOPDOWN NODES=STATISTICS BRANCHSTATISTICS=YES NODEDEFS=YES SCALE=AUTO

/DEPCATEGORIES USEVALUES=[VALID]

/PRINT MODELSUMMARY CLASSIFICATION RISK

/SAVE PREDVAL PREDPROB

/METHOD TYPE=EXHAUSTIVECHAID

/GROWTHLIMIT MAXDEPTH=AUTO MINPARENTSIZE=100 MINCHILDSIZE=50

/VALIDATION TYPE=NONE OUTPUT=BOTHSAMPLES

/CHAID ALPHASPLIT=0.05 SPLITMERGED=NO CHISQUARE=PEARSON CONVERGE=0.001 MAXITERATIONS=100

ADJUST=BONFERRONI INTERVALS=10

/COSTS EQUAL

/MISSING NOMINALMISSING=MISSING.

**Classification Tree**

|  |  |  |  |
| --- | --- | --- | --- |
| **Notes** | | | |
| Output Created | | | 24-AUG-2022 11:46:54 |
| Comments | | |  |
| Input | Data | | D:\Mithun\Capstone 2022\Anand capstone2.sav |
| Active Dataset | | DataSet2 |
| Filter | | <none> |
| Weight | | <none> |
| Split File | | <none> |
| N of Rows in Working Data File | | 15907 |
| Missing Value Handling | Definition of Missing | | Handling of user-defined missing values of nominal independent variables depends on the growing method. |
| Cases Used | | Only cases with valid data for the dependent variable and some or all independent variables are used in computing any statistics. |
| Syntax | | | TREE churn [n] BY SumofQuantity [s] SumofReturnQty [n] SumofPrice [s] SumofShipCost [s]  SumofPackingCost [n] SumofDiscount [s] SumofTax [s] SumofInvoiced [s] SumofCOGS [s]  SumofInvoicedInBaseCurrency [s] SumofGrossMargin [s] SumofMRP [s]  /TREE DISPLAY=TOPDOWN NODES=STATISTICS BRANCHSTATISTICS=YES NODEDEFS=YES SCALE=AUTO  /DEPCATEGORIES USEVALUES=[VALID]  /PRINT MODELSUMMARY CLASSIFICATION RISK  /SAVE PREDVAL PREDPROB  /METHOD TYPE=EXHAUSTIVECHAID  /GROWTHLIMIT MAXDEPTH=AUTO MINPARENTSIZE=100 MINCHILDSIZE=50  /VALIDATION TYPE=NONE OUTPUT=BOTHSAMPLES  /CHAID ALPHASPLIT=0.05 SPLITMERGED=NO CHISQUARE=PEARSON CONVERGE=0.001 MAXITERATIONS=100  ADJUST=BONFERRONI INTERVALS=10  /COSTS EQUAL  /MISSING NOMINALMISSING=MISSING. |
| Resources | Processor Time | | 00:00:02.22 |
| Elapsed Time | | 00:00:01.96 |
| Variables Created or Modified | Predicted Values | | PredictedValue |
| Predicted Probabilities | churn = 0 | PredictedProbability\_1 |
| churn = 1 | PredictedProbability\_2 |
| Files Saved | Rules File | |  |

|  |
| --- |
| **Warnings** |
| Gain summary Tables are not displayed because profits are undefined. |
| Target category gains tables are not displayed because target categories are undefined. |

|  |  |  |
| --- | --- | --- |
| **Model Summary** | | |
| Specifications | Growing Method | EXHAUSTIVE CHAID |
| Dependent Variable | churn |
| Independent Variables | Sum of Quantity, Sum of Return Qty, Sum of Price, Sum of Ship Cost, Sum of Packing Cost, Sum of Discount, Sum of Tax, Sum of Invoiced, Sum of COGS, Sum of Invoiced In Base Currency, Sum of Gross Margin, Sum of MRP |
| Validation | None |
| Maximum Tree Depth | 3 |
| Minimum Cases in Parent Node | 100 |
| Minimum Cases in Child Node | 50 |
| Results | Independent Variables Included | Sum of Quantity, Sum of Return Qty, Sum of Discount, Sum of Ship Cost, Sum of Price, Sum of MRP, Sum of Tax, Sum of COGS |
| Number of Nodes | 40 |
| Number of Terminal Nodes | 27 |
| Depth | 3 |

Diagram

Description automatically generated

|  |  |
| --- | --- |
| **Risk** | |
| Estimate | Std. Error |
| .115 | .003 |
| Growing Method: EXHAUSTIVE CHAID  Dependent Variable: churn | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Classification** | | | |
| Observed | Predicted | | |
| 0 | 1 | Percent Correct |
| 0 | 1179 | 1403 | 45.7% |
| 1 | 430 | 12895 | 96.8% |
| Overall Percentage | 10.1% | 89.9% | 88.5% |
| Growing Method: EXHAUSTIVE CHAID  Dependent Variable: churn | | | |

DATASET ACTIVATE DataSet2.

SAVE OUTFILE='D:\Mithun\Capstone 2022\Anand capstone2.sav'

/COMPRESSED.

\* Decision Tree.

TREE churn [n] BY SumofQuantity [s] SumofReturnQty [n] SumofPrice [s] SumofShipCost [s]

SumofPackingCost [n] SumofDiscount [s] SumofTax [s] SumofInvoiced [s] SumofCOGS [s]

SumofInvoicedInBaseCurrency [s] SumofGrossMargin [s] SumofMRP [s]

/TREE DISPLAY=TOPDOWN NODES=STATISTICS BRANCHSTATISTICS=YES NODEDEFS=YES SCALE=AUTO

/DEPCATEGORIES USEVALUES=[VALID]

/PRINT MODELSUMMARY CLASSIFICATION RISK

/SAVE PREDVAL PREDPROB

/METHOD TYPE=CRT MAXSURROGATES=AUTO PRUNE=NONE

/GROWTHLIMIT MAXDEPTH=AUTO MINPARENTSIZE=100 MINCHILDSIZE=50

/VALIDATION TYPE=NONE OUTPUT=BOTHSAMPLES

/CRT IMPURITY=GINI MINIMPROVEMENT=0.0001

/COSTS EQUAL

/PRIORS FROMDATA ADJUST=NO

/MISSING NOMINALMISSING=MISSING.

**Classification Tree**

|  |  |  |  |
| --- | --- | --- | --- |
| **Notes** | | | |
| Output Created | | | 24-AUG-2022 11:47:43 |
| Comments | | |  |
| Input | Data | | D:\Mithun\Capstone 2022\Anand capstone2.sav |
| Active Dataset | | DataSet2 |
| Filter | | <none> |
| Weight | | <none> |
| Split File | | <none> |
| N of Rows in Working Data File | | 15907 |
| Missing Value Handling | Definition of Missing | | Handling of user-defined missing values of nominal independent variables depends on the growing method. |
| Cases Used | | Only cases with valid data for the dependent variable and some or all independent variables are used in computing any statistics. |
| Syntax | | | TREE churn [n] BY SumofQuantity [s] SumofReturnQty [n] SumofPrice [s] SumofShipCost [s]  SumofPackingCost [n] SumofDiscount [s] SumofTax [s] SumofInvoiced [s] SumofCOGS [s]  SumofInvoicedInBaseCurrency [s] SumofGrossMargin [s] SumofMRP [s]  /TREE DISPLAY=TOPDOWN NODES=STATISTICS BRANCHSTATISTICS=YES NODEDEFS=YES SCALE=AUTO  /DEPCATEGORIES USEVALUES=[VALID]  /PRINT MODELSUMMARY CLASSIFICATION RISK  /SAVE PREDVAL PREDPROB  /METHOD TYPE=CRT MAXSURROGATES=AUTO PRUNE=NONE  /GROWTHLIMIT MAXDEPTH=AUTO MINPARENTSIZE=100 MINCHILDSIZE=50  /VALIDATION TYPE=NONE OUTPUT=BOTHSAMPLES  /CRT IMPURITY=GINI MINIMPROVEMENT=0.0001  /COSTS EQUAL  /PRIORS FROMDATA ADJUST=NO  /MISSING NOMINALMISSING=MISSING. |
| Resources | Processor Time | | 00:00:03.91 |
| Elapsed Time | | 00:00:03.12 |
| Variables Created or Modified | Predicted Values | | PredictedValue |
| Predicted Probabilities | churn = 0 | PredictedProbability\_1 |
| churn = 1 | PredictedProbability\_2 |
| Files Saved | Rules File | |  |

|  |
| --- |
| **Warnings** |
| Gain summary Tables are not displayed because profits are undefined. |
| Target category gains tables are not displayed because target categories are undefined. |

|  |  |  |
| --- | --- | --- |
| **Model Summary** | | |
| Specifications | Growing Method | CRT |
| Dependent Variable | churn |
| Independent Variables | Sum of Quantity, Sum of Return Qty, Sum of Price, Sum of Ship Cost, Sum of Packing Cost, Sum of Discount, Sum of Tax, Sum of Invoiced, Sum of COGS, Sum of Invoiced In Base Currency, Sum of Gross Margin, Sum of MRP |
| Validation | None |
| Maximum Tree Depth | 5 |
| Minimum Cases in Parent Node | 100 |
| Minimum Cases in Child Node | 50 |
| Results | Independent Variables Included | Sum of Quantity, Sum of MRP, Sum of COGS, Sum of Invoiced, Sum of Invoiced In Base Currency, Sum of Price, Sum of Ship Cost, Sum of Tax, Sum of Gross Margin, Sum of Discount, Sum of Return Qty |
| Number of Nodes | 25 |
| Number of Terminal Nodes | 13 |
| Depth | 5 |

Diagram, schematic

Description automatically generated

|  |  |
| --- | --- |
| **Risk** | |
| Estimate | Std. Error |
| .116 | .003 |
| Growing Method: CRT  Dependent Variable: churn | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Classification** | | | |
| Observed | Predicted | | |
| 0 | 1 | Percent Correct |
| 0 | 1294 | 1288 | 50.1% |
| 1 | 551 | 12774 | 95.9% |
| Overall Percentage | 11.6% | 88.4% | 88.4% |
| Growing Method: CRT  Dependent Variable: churn | | | |

DATASET ACTIVATE DataSet2.

SAVE OUTFILE='D:\Mithun\Capstone 2022\Anand capstone2.sav'

/COMPRESSED.

\* Decision Tree.

TREE churn [n] BY SumofQuantity [s] SumofReturnQty [n] SumofPrice [s] SumofShipCost [s]

SumofPackingCost [n] SumofDiscount [s] SumofTax [s] SumofInvoiced [s] SumofCOGS [s]

SumofInvoicedInBaseCurrency [s] SumofGrossMargin [s] SumofMRP [s]

/TREE DISPLAY=TOPDOWN NODES=STATISTICS BRANCHSTATISTICS=YES NODEDEFS=YES SCALE=AUTO

/DEPCATEGORIES USEVALUES=[VALID]

/PRINT MODELSUMMARY CLASSIFICATION RISK

/SAVE PREDVAL PREDPROB

/METHOD TYPE=QUEST MAXSURROGATES=AUTO PRUNE=NONE

/GROWTHLIMIT MAXDEPTH=AUTO MINPARENTSIZE=100 MINCHILDSIZE=50

/VALIDATION TYPE=NONE OUTPUT=BOTHSAMPLES

/QUEST ALPHASPLIT=0.05

/COSTS EQUAL

/PRIORS FROMDATA ADJUST=NO

/MISSING NOMINALMISSING=MISSING.

**Classification Tree**

|  |  |  |  |
| --- | --- | --- | --- |
| **Notes** | | | |
| Output Created | | | 24-AUG-2022 11:48:18 |
| Comments | | |  |
| Input | Data | | D:\Mithun\Capstone 2022\Anand capstone2.sav |
| Active Dataset | | DataSet2 |
| Filter | | <none> |
| Weight | | <none> |
| Split File | | <none> |
| N of Rows in Working Data File | | 15907 |
| Missing Value Handling | Definition of Missing | | Handling of user-defined missing values of nominal independent variables depends on the growing method. |
| Cases Used | | Only cases with valid data for the dependent variable and some or all independent variables are used in computing any statistics. |
| Syntax | | | TREE churn [n] BY SumofQuantity [s] SumofReturnQty [n] SumofPrice [s] SumofShipCost [s]  SumofPackingCost [n] SumofDiscount [s] SumofTax [s] SumofInvoiced [s] SumofCOGS [s]  SumofInvoicedInBaseCurrency [s] SumofGrossMargin [s] SumofMRP [s]  /TREE DISPLAY=TOPDOWN NODES=STATISTICS BRANCHSTATISTICS=YES NODEDEFS=YES SCALE=AUTO  /DEPCATEGORIES USEVALUES=[VALID]  /PRINT MODELSUMMARY CLASSIFICATION RISK  /SAVE PREDVAL PREDPROB  /METHOD TYPE=QUEST MAXSURROGATES=AUTO PRUNE=NONE  /GROWTHLIMIT MAXDEPTH=AUTO MINPARENTSIZE=100 MINCHILDSIZE=50  /VALIDATION TYPE=NONE OUTPUT=BOTHSAMPLES  /QUEST ALPHASPLIT=0.05  /COSTS EQUAL  /PRIORS FROMDATA ADJUST=NO  /MISSING NOMINALMISSING=MISSING. |
| Resources | Processor Time | | 00:00:00.94 |
| Elapsed Time | | 00:00:00.83 |
| Variables Created or Modified | Predicted Values | | PredictedValue |
| Predicted Probabilities | churn = 0 | PredictedProbability\_1 |
| churn = 1 | PredictedProbability\_2 |
| Files Saved | Rules File | |  |

|  |
| --- |
| **Warnings** |
| Gain summary Tables are not displayed because profits are undefined. |
| Target category gains tables are not displayed because target categories are undefined. |

|  |  |  |
| --- | --- | --- |
| **Model Summary** | | |
| Specifications | Growing Method | QUEST |
| Dependent Variable | churn |
| Independent Variables | Sum of Quantity, Sum of Return Qty, Sum of Price, Sum of Ship Cost, Sum of Packing Cost, Sum of Discount, Sum of Tax, Sum of Invoiced, Sum of COGS, Sum of Invoiced In Base Currency, Sum of Gross Margin, Sum of MRP |
| Validation | None |
| Maximum Tree Depth | 5 |
| Minimum Cases in Parent Node | 100 |
| Minimum Cases in Child Node | 50 |
| Results | Independent Variables Included | Sum of Quantity, Sum of MRP, Sum of COGS, Sum of Price, Sum of Invoiced, Sum of Invoiced In Base Currency, Sum of Ship Cost, Sum of Return Qty, Sum of Tax, Sum of Gross Margin |
| Number of Nodes | 23 |
| Number of Terminal Nodes | 12 |
| Depth | 5 |

Diagram, schematic

Description automatically generated

|  |  |
| --- | --- |
| **Risk** | |
| Estimate | Std. Error |
| .129 | .003 |
| Growing Method: QUEST  Dependent Variable: churn | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Classification** | | | |
| Observed | Predicted | | |
| 0 | 1 | Percent Correct |
| 0 | 924 | 1658 | 35.8% |
| 1 | 396 | 12929 | 97.0% |
| Overall Percentage | 8.3% | 91.7% | 87.1% |
| Growing Method: QUEST  Dependent Variable: churn | | | |

DATASET ACTIVATE DataSet2.

SAVE OUTFILE='D:\Mithun\Capstone 2022\Anand capstone2.sav'

/COMPRESSED.

\*Nearest Neighbor Analysis.

KNN churn (MLEVEL=N) BY SumofReturnQty SumofPackingCost WITH SumofQuantity SumofPrice

SumofShipCost SumofDiscount SumofTax SumofInvoiced SumofCOGS SumofInvoicedInBaseCurrency

SumofGrossMargin SumofMRP

/RESCALE COVARIATE=ADJNORMALIZED

/MODEL NEIGHBORS=FIXED(K=3) METRIC=EUCLID FEATURES=ALL

/CRITERIA WEIGHTFEATURES=NO

/PARTITION TRAINING=70 HOLDOUT=30

/SAVE PREDVAL PREDPROB MAXCAT(25)

/PRINT CPS

/VIEWMODEL DISPLAY=YES

/MISSING USERMISSING=EXCLUDE.

**Nearest Neighbor Analysis**

|  |  |  |  |
| --- | --- | --- | --- |
| **Notes** | | | |
| Output Created | | | 24-AUG-2022 11:51:06 |
| Comments | | |  |
| Input | Data | | D:\Mithun\Capstone 2022\Anand capstone2.sav |
| Active Dataset | | DataSet2 |
| Filter | | <none> |
| Weight | | <none> |
| Split File | | <none> |
| N of Rows in Working Data File | | 15907 |
| Syntax | | | KNN churn (MLEVEL=N) BY SumofReturnQty SumofPackingCost WITH SumofQuantity SumofPrice  SumofShipCost SumofDiscount SumofTax SumofInvoiced SumofCOGS SumofInvoicedInBaseCurrency  SumofGrossMargin SumofMRP  /RESCALE COVARIATE=ADJNORMALIZED  /MODEL NEIGHBORS=FIXED(K=3) METRIC=EUCLID FEATURES=ALL  /CRITERIA WEIGHTFEATURES=NO  /PARTITION TRAINING=70 HOLDOUT=30  /SAVE PREDVAL PREDPROB MAXCAT(25)  /PRINT CPS  /VIEWMODEL DISPLAY=YES  /MISSING USERMISSING=EXCLUDE. |
| Resources | Processor Time | | 00:00:04.88 |
| Elapsed Time | | 00:00:05.74 |
| Variables Created or Modified | Predicted Value | | KNN\_PredictedValue |
| Predicted Probability | churn = 0 | KNN\_Probability\_1 |
| churn = 1 | KNN\_Probability\_2 |

|  |
| --- |
| **Warnings** |
| One or more cases in the holdout sample have factor category values that do not occur in the training sample. These cases are excluded from the analysis. |

|  |  |  |  |
| --- | --- | --- | --- |
| **Case Processing Summary** | | | |
|  | | N | Percent |
| Sample | Training | 11168 | 70.2% |
| Holdout | 4737 | 29.8% |
| Valid | | 15905 | 100.0% |
| Excluded | | 2 |  |
| Total | | 15907 |  |

**null : null**

Chart

Description automatically generated with medium confidence

\*Multilayer Perceptron Network.

MLP churn (MLEVEL=N) WITH SumofQuantity SumofReturnQty SumofPrice SumofShipCost SumofPackingCost

SumofDiscount SumofTax SumofInvoiced SumofCOGS SumofInvoicedInBaseCurrency SumofGrossMargin SumofMRP

/RESCALE COVARIATE=STANDARDIZED

/PARTITION TRAINING=7 TESTING=3 HOLDOUT=0

/ARCHITECTURE AUTOMATIC=YES (MINUNITS=1 MAXUNITS=50)

/CRITERIA TRAINING=BATCH OPTIMIZATION=SCALEDCONJUGATE LAMBDAINITIAL=0.0000005

SIGMAINITIAL=0.00005 INTERVALCENTER=0 INTERVALOFFSET=0.5 MEMSIZE=1000

/PRINT CPS NETWORKINFO SUMMARY CLASSIFICATION

/PLOT NETWORK

/SAVE PREDVAL PSEUDOPROB

/STOPPINGRULES ERRORSTEPS= 1 (DATA=AUTO) TRAININGTIMER=ON (MAXTIME=15) MAXEPOCHS=AUTO

ERRORCHANGE=1.0E-4 ERRORRATIO=0.001

/MISSING USERMISSING=EXCLUDE .

**Multilayer Perceptron**

|  |  |  |  |
| --- | --- | --- | --- |
| **Notes** | | | |
| Output Created | | | 24-AUG-2022 11:52:02 |
| Comments | | |  |
| Input | Data | | D:\Mithun\Capstone 2022\Anand capstone2.sav |
| Active Dataset | | DataSet2 |
| Filter | | <none> |
| Weight | | <none> |
| Split File | | <none> |
| N of Rows in Working Data File | | 15907 |
| Missing Value Handling | Definition of Missing | | User- and system-missing values are treated as missing. |
| Cases Used | | Statistics are based on cases with valid data for all variables used by the procedure. |
| Weight Handling | | | not applicable |
| Syntax | | | MLP churn (MLEVEL=N) WITH SumofQuantity SumofReturnQty SumofPrice SumofShipCost SumofPackingCost  SumofDiscount SumofTax SumofInvoiced SumofCOGS SumofInvoicedInBaseCurrency SumofGrossMargin SumofMRP  /RESCALE COVARIATE=STANDARDIZED  /PARTITION TRAINING=7 TESTING=3 HOLDOUT=0  /ARCHITECTURE AUTOMATIC=YES (MINUNITS=1 MAXUNITS=50)  /CRITERIA TRAINING=BATCH OPTIMIZATION=SCALEDCONJUGATE LAMBDAINITIAL=0.0000005  SIGMAINITIAL=0.00005 INTERVALCENTER=0 INTERVALOFFSET=0.5 MEMSIZE=1000  /PRINT CPS NETWORKINFO SUMMARY CLASSIFICATION  /PLOT NETWORK  /SAVE PREDVAL PSEUDOPROB  /STOPPINGRULES ERRORSTEPS= 1 (DATA=AUTO) TRAININGTIMER=ON (MAXTIME=15) MAXEPOCHS=AUTO  ERRORCHANGE=1.0E-4 ERRORRATIO=0.001  /MISSING USERMISSING=EXCLUDE . |
| Resources | Processor Time | | 00:00:02.00 |
| Elapsed Time | | 00:00:02.43 |
| Variables Created or Modified | Predicted Value | | MLP\_PredictedValue |
| Predicted Pseudo-Probability | churn=0 | MLP\_PseudoProbability\_1 |
| churn=1 | MLP\_PseudoProbability\_2 |

|  |
| --- |
| **Warnings** |
| The following independent variables are constant in the training sample and are excluded from the analysis: SumofPackingCost. |

|  |  |  |  |
| --- | --- | --- | --- |
| **Case Processing Summary** | | | |
|  | | N | Percent |
| Sample | Training | 11206 | 70.4% |
| Testing | 4701 | 29.6% |
| Valid | | 15907 | 100.0% |
| Excluded | | 0 |  |
| Total | | 15907 |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **Network Information** | | | |
| Input Layer | Covariates | 1 | Sum of Quantity |
| 2 | Sum of Return Qty |
| 3 | Sum of Price |
| 4 | Sum of Ship Cost |
| 5 | Sum of Discount |
| 6 | Sum of Tax |
| 7 | Sum of Invoiced |
| 8 | Sum of COGS |
| 9 | Sum of Invoiced In Base Currency |
| 10 | Sum of Gross Margin |
| 11 | Sum of MRP |
| Number of Unitsa | | 11 |
| Rescaling Method for Covariates | | Standardized |
| Hidden Layer(s) | Number of Hidden Layers | | 1 |
| Number of Units in Hidden Layer 1a | | 6 |
| Activation Function | | Hyperbolic tangent |
| Output Layer | Dependent Variables | 1 | churn |
| Number of Units | | 2 |
| Activation Function | | Softmax |
| Error Function | | Cross-entropy |
| a. Excluding the bias unit | | | |

Diagram

Description automatically generated

|  |  |  |
| --- | --- | --- |
| **Model Summary** | | |
| Training | Cross Entropy Error | 2923.794 |
| Percent Incorrect Predictions | 11.9% |
| Stopping Rule Used | 1 consecutive step(s) with no decrease in errora |
| Training Time | 0:00:00.70 |
| Testing | Cross Entropy Error | 1209.011 |
| Percent Incorrect Predictions | 12.1% |
| Dependent Variable: churn | | |
| a. Error computations are based on the testing sample. | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Classification** | | | | |
| Sample | Observed | Predicted | | |
| 0 | 1 | Percent Correct |
| Training | 0 | 860 | 949 | 47.5% |
| 1 | 382 | 9015 | 95.9% |
| Overall Percent | 11.1% | 88.9% | 88.1% |
| Testing | 0 | 392 | 381 | 50.7% |
| 1 | 188 | 3740 | 95.2% |
| Overall Percent | 12.3% | 87.7% | 87.9% |
| Dependent Variable: churn | | | | |

\*Radial Basis Function Network.

RBF churn (MLEVEL=N) WITH SumofQuantity SumofReturnQty SumofPrice SumofShipCost SumofPackingCost

SumofDiscount SumofTax SumofInvoiced SumofCOGS SumofInvoicedInBaseCurrency SumofGrossMargin SumofMRP

/RESCALE COVARIATE=STANDARDIZED

/PARTITION TRAINING=7 TESTING=3 HOLDOUT=0

/ARCHITECTURE MINUNITS=AUTO MAXUNITS=AUTO HIDDENFUNCTION=NRBF

/CRITERIA OVERLAP=AUTO

/PRINT CPS NETWORKINFO SUMMARY CLASSIFICATION

/PLOT NETWORK

/SAVE PREDVAL PSEUDOPROB

/MISSING USERMISSING=EXCLUDE .

DATASET ACTIVATE DataSet1.

\*Automatic Linear Modeling.

LINEAR

/FIELDS TARGET=Performance\_Score INPUTS=category No\_of\_hours\_workedperday No\_of\_hours\_workedinmonth No\_of\_days\_absent Numberofdaysworked Gender Distance\_from\_home No\_of\_shift\_changes Modal\_shift Age Working\_Since Work\_experience Job\_role Ethnicity OvertimeWorkhours Overtimecost Salary Absenteeismrate

/BUILD\_OPTIONS OBJECTIVE=STANDARD USE\_AUTO\_DATA\_PREPARATION=TRUE CONFIDENCE\_LEVEL=95 MODEL\_SELECTION=FORWARDSTEPWISE CRITERIA\_FORWARD\_STEPWISE=AICC REPLICATE\_RESULTS=TRUE SEED=54752075

/ENSEMBLES COMBINING\_RULE\_CONTINUOUS=MEAN COMPONENT\_MODELS\_N=10.

REGRESSION

/MISSING LISTWISE

/STATISTICS COEFF OUTS R ANOVA

/CRITERIA=PIN(.05) POUT(.10)

/NOORIGIN

/DEPENDENT Performance\_Score

/METHOD=ENTER category No\_of\_hours\_workedinmonth Numberofdaysworked Gender Distance\_from\_home

No\_of\_shift\_changes Modal\_shift Age Working\_Since Work\_experience Job\_role Ethnicity SLA\_Score

Overtimecost Salary.

SORT CASES BY Job\_role.

SPLIT FILE SEPARATE BY Job\_role.

REGRESSION

/MISSING LISTWISE

/STATISTICS COEFF OUTS R ANOVA

/CRITERIA=PIN(.05) POUT(.10)

/NOORIGIN

/DEPENDENT Performance\_Score

/METHOD=ENTER category No\_of\_hours\_workedinmonth Gender Distance\_from\_home No\_of\_shift\_changes

Modal\_shift Age Working\_Since Work\_experience Job\_role Ethnicity Overtimecost Salary.

REGRESSION

/MISSING LISTWISE

/STATISTICS COEFF OUTS R ANOVA

/CRITERIA=PIN(.05) POUT(.10)

/NOORIGIN

/DEPENDENT Performance\_Score

/METHOD=ENTER category No\_of\_hours\_workedinmonth Gender Distance\_from\_home No\_of\_shift\_changes

Modal\_shift Age Working\_Since Work\_experience Ethnicity Overtimecost Salary.

REGRESSION

/MISSING LISTWISE

/STATISTICS COEFF OUTS R ANOVA

/CRITERIA=PIN(.05) POUT(.10)

/NOORIGIN

/DEPENDENT Performance\_Score

/METHOD=ENTER category No\_of\_hours\_workedinmonth Gender Distance\_from\_home No\_of\_shift\_changes

Modal\_shift Age Working\_Since Work\_experience Ethnicity Overtimecost Salary

No\_of\_hours\_workedperday Absenteeismrate on\_schedule\_completion OvertimeWorkhours.

**Regression**

|  |  |  |
| --- | --- | --- |
| **Notes** | | |
| Output Created | | 24-AUG-2022 16:32:20 |
| Comments | |  |
| Input | Data | D:\Mithun\DXC\datsetv3.sav |
| Active Dataset | DataSet1 |
| Filter | <none> |
| Weight | <none> |
| Split File | Job\_role |
| N of Rows in Working Data File | 499 |
| Missing Value Handling | Definition of Missing | User-defined missing values are treated as missing. |
| Cases Used | Statistics are based on cases with no missing values for any variable used. |
| Syntax | | REGRESSION  /MISSING LISTWISE  /STATISTICS COEFF OUTS R ANOVA  /CRITERIA=PIN(.05) POUT(.10)  /NOORIGIN  /DEPENDENT Performance\_Score  /METHOD=ENTER category No\_of\_hours\_workedinmonth Gender Distance\_from\_home No\_of\_shift\_changes  Modal\_shift Age Working\_Since Work\_experience Ethnicity Overtimecost Salary  No\_of\_hours\_workedperday Absenteeismrate on\_schedule\_completion OvertimeWorkhours. |
| Resources | Processor Time | 00:00:00.02 |
| Elapsed Time | 00:00:00.02 |
| Memory Required | 16880 bytes |
| Additional Memory Required for Residual Plots | 0 bytes |

**Job\_role = 1**

|  |  |  |  |
| --- | --- | --- | --- |
| **Variables Entered/Removeda,b** | | | |
| Model | Variables Entered | Variables Removed | Method |
| 1 | OvertimeWorkhours, Working\_Since, Absenteeismrate, Modal\_shift, Work\_experience, Distance\_from\_home, Age, No\_of\_hours\_workedperday, No\_of\_shift\_changes, category, Gender, Ethnicity, on\_schedule\_completionc | . | Enter |
| a. Job\_role = 1 | | | |
| b. Dependent Variable: Performance\_Score | | | |
| c. Tolerance = .000 limit reached. | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Model Summarya** | | | | |
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
| 1 | .561b | .315 | .219 | 2.341 |
| a. Job\_role = 1 | | | | |
| b. Predictors: (Constant), OvertimeWorkhours, Working\_Since, Absenteeismrate, Modal\_shift, Work\_experience, Distance\_from\_home, Age, No\_of\_hours\_workedperday, No\_of\_shift\_changes, category, Gender, Ethnicity, on\_schedule\_completion | | | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **ANOVAa,b** | | | | | | |
| Model | | Sum of Squares | df | Mean Square | F | Sig. |
| 1 | Regression | 234.306 | 13 | 18.024 | 3.288 | .000c |
| Residual | 509.751 | 93 | 5.481 |  |  |
| Total | 744.056 | 106 |  |  |  |
| a. Job\_role = 1 | | | | | | |
| b. Dependent Variable: Performance\_Score | | | | | | |
| c. Predictors: (Constant), OvertimeWorkhours, Working\_Since, Absenteeismrate, Modal\_shift, Work\_experience, Distance\_from\_home, Age, No\_of\_hours\_workedperday, No\_of\_shift\_changes, category, Gender, Ethnicity, on\_schedule\_completion | | | | | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Coefficientsa,b** | | | | | | |
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
| B | Std. Error | Beta |
| 1 | (Constant) | 7.528 | 3.094 |  | 2.434 | .017 |
| category | .010 | .232 | .005 | .045 | .964 |
| Gender | 1.223 | .540 | .231 | 2.266 | .026 |
| Distance\_from\_home | -.066 | .047 | -.143 | -1.408 | .162 |
| No\_of\_shift\_changes | -.726 | .261 | -.296 | -2.787 | .006 |
| Modal\_shift | -.701 | .251 | -.272 | -2.791 | .006 |
| Age | -.065 | .026 | -.252 | -2.554 | .012 |
| Working\_Since | .018 | .014 | .118 | 1.276 | .205 |
| Work\_experience | .003 | .008 | .030 | .301 | .764 |
| Ethnicity | -.306 | .186 | -.173 | -1.643 | .104 |
| No\_of\_hours\_workedperday | -.207 | .119 | -.167 | -1.737 | .086 |
| Absenteeismrate | .029 | .063 | .043 | .458 | .648 |
| on\_schedule\_completion | .041 | .025 | .195 | 1.668 | .099 |
| OvertimeWorkhours | .032 | .090 | .037 | .361 | .719 |
| a. Job\_role = 1 | | | | | | |
| b. Dependent Variable: Performance\_Score | | | | | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Excluded Variablesa,b** | | | | | | |
| Model | | Beta In | t | Sig. | Partial Correlation | Collinearity Statistics |
| Tolerance |
| 1 | No\_of\_hours\_workedinmonth | .c | . | . | . | .000 |
| Overtimecost | .c | . | . | . | .000 |
| Salary | .c | . | . | . | .000 |
| a. Job\_role = 1 | | | | | | |
| b. Dependent Variable: Performance\_Score | | | | | | |
| c. Predictors in the Model: (Constant), OvertimeWorkhours, Working\_Since, Absenteeismrate, Modal\_shift, Work\_experience, Distance\_from\_home, Age, No\_of\_hours\_workedperday, No\_of\_shift\_changes, category, Gender, Ethnicity, on\_schedule\_completion | | | | | | |

**Job\_role = 2**

|  |  |  |  |
| --- | --- | --- | --- |
| **Variables Entered/Removeda,b** | | | |
| Model | Variables Entered | Variables Removed | Method |
| 1 | OvertimeWorkhours, Working\_Since, No\_of\_hours\_workedperday, on\_schedule\_completion, Gender, Ethnicity, No\_of\_shift\_changes, category, Age, Distance\_from\_home, Modal\_shift, Absenteeismrate, Work\_experiencec | . | Enter |
| a. Job\_role = 2 | | | |
| b. Dependent Variable: Performance\_Score | | | |
| c. Tolerance = .000 limit reached. | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Model Summarya** | | | | |
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
| 1 | .626b | .392 | .309 | 2.150 |
| a. Job\_role = 2 | | | | |
| b. Predictors: (Constant), OvertimeWorkhours, Working\_Since, No\_of\_hours\_workedperday, on\_schedule\_completion, Gender, Ethnicity, No\_of\_shift\_changes, category, Age, Distance\_from\_home, Modal\_shift, Absenteeismrate, Work\_experience | | | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **ANOVAa,b** | | | | | | |
| Model | | Sum of Squares | df | Mean Square | F | Sig. |
| 1 | Regression | 283.645 | 13 | 21.819 | 4.718 | .000c |
| Residual | 439.328 | 95 | 4.625 |  |  |
| Total | 722.972 | 108 |  |  |  |
| a. Job\_role = 2 | | | | | | |
| b. Dependent Variable: Performance\_Score | | | | | | |
| c. Predictors: (Constant), OvertimeWorkhours, Working\_Since, No\_of\_hours\_workedperday, on\_schedule\_completion, Gender, Ethnicity, No\_of\_shift\_changes, category, Age, Distance\_from\_home, Modal\_shift, Absenteeismrate, Work\_experience | | | | | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Coefficientsa,b** | | | | | | |
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
| B | Std. Error | Beta |
| 1 | (Constant) | 15.288 | 2.528 |  | 6.046 | .000 |
| category | .122 | .217 | .049 | .563 | .574 |
| Gender | -1.718 | .462 | -.333 | -3.717 | .000 |
| Distance\_from\_home | -.104 | .039 | -.244 | -2.641 | .010 |
| No\_of\_shift\_changes | .085 | .206 | .036 | .414 | .680 |
| Modal\_shift | -.155 | .211 | -.072 | -.737 | .463 |
| Age | -.079 | .022 | -.337 | -3.650 | .000 |
| Working\_Since | -.040 | .013 | -.298 | -3.117 | .002 |
| Work\_experience | -.005 | .008 | -.063 | -.618 | .538 |
| Ethnicity | -.021 | .164 | -.013 | -.130 | .897 |
| No\_of\_hours\_workedperday | -.101 | .107 | -.079 | -.943 | .348 |
| Absenteeismrate | .021 | .064 | .033 | .332 | .740 |
| on\_schedule\_completion | .002 | .019 | .011 | .120 | .905 |
| OvertimeWorkhours | -.267 | .072 | -.341 | -3.700 | .000 |
| a. Job\_role = 2 | | | | | | |
| b. Dependent Variable: Performance\_Score | | | | | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Excluded Variablesa,b** | | | | | | |
| Model | | Beta In | t | Sig. | Partial Correlation | Collinearity Statistics |
| Tolerance |
| 1 | No\_of\_hours\_workedinmonth | .c | . | . | . | .000 |
| Overtimecost | .c | . | . | . | .000 |
| Salary | .c | . | . | . | .000 |
| a. Job\_role = 2 | | | | | | |
| b. Dependent Variable: Performance\_Score | | | | | | |
| c. Predictors in the Model: (Constant), OvertimeWorkhours, Working\_Since, No\_of\_hours\_workedperday, on\_schedule\_completion, Gender, Ethnicity, No\_of\_shift\_changes, category, Age, Distance\_from\_home, Modal\_shift, Absenteeismrate, Work\_experience | | | | | | |

**Job\_role = 3**

|  |  |  |  |
| --- | --- | --- | --- |
| **Variables Entered/Removeda,b** | | | |
| Model | Variables Entered | Variables Removed | Method |
| 1 | OvertimeWorkhours, Distance\_from\_home, Work\_experience, Salary, Gender, Working\_Since, on\_schedule\_completion, Modal\_shift, category, Ethnicity, Age, No\_of\_shift\_changes, Absenteeismratec | . | Enter |
| a. Job\_role = 3 | | | |
| b. Dependent Variable: Performance\_Score | | | |
| c. Tolerance = .000 limit reached. | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Model Summarya** | | | | |
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
| 1 | .782b | .612 | .534 | 1.850 |
| a. Job\_role = 3 | | | | |
| b. Predictors: (Constant), OvertimeWorkhours, Distance\_from\_home, Work\_experience, Salary, Gender, Working\_Since, on\_schedule\_completion, Modal\_shift, category, Ethnicity, Age, No\_of\_shift\_changes, Absenteeismrate | | | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **ANOVAa,b** | | | | | | |
| Model | | Sum of Squares | df | Mean Square | F | Sig. |
| 1 | Regression | 350.446 | 13 | 26.957 | 7.879 | .000c |
| Residual | 222.390 | 65 | 3.421 |  |  |
| Total | 572.835 | 78 |  |  |  |
| a. Job\_role = 3 | | | | | | |
| b. Dependent Variable: Performance\_Score | | | | | | |
| c. Predictors: (Constant), OvertimeWorkhours, Distance\_from\_home, Work\_experience, Salary, Gender, Working\_Since, on\_schedule\_completion, Modal\_shift, category, Ethnicity, Age, No\_of\_shift\_changes, Absenteeismrate | | | | | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Coefficientsa,b** | | | | | | |
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
| B | Std. Error | Beta |
| 1 | (Constant) | 12.516 | 3.608 |  | 3.470 | .001 |
| category | .718 | .300 | .304 | 2.395 | .020 |
| Gender | -.111 | .728 | -.020 | -.152 | .880 |
| Distance\_from\_home | .097 | .055 | .172 | 1.769 | .082 |
| No\_of\_shift\_changes | .233 | .354 | .088 | .656 | .514 |
| Modal\_shift | .302 | .341 | .108 | .886 | .379 |
| Age | .009 | .031 | .032 | .296 | .768 |
| Working\_Since | -.057 | .015 | -.360 | -3.701 | .000 |
| Work\_experience | -.041 | .008 | -.453 | -4.888 | .000 |
| Ethnicity | .229 | .206 | .133 | 1.113 | .270 |
| Salary | .000 | .000 | -.542 | -4.677 | .000 |
| Absenteeismrate | -.027 | .122 | -.034 | -.225 | .823 |
| on\_schedule\_completion | -.041 | .021 | -.164 | -1.913 | .060 |
| OvertimeWorkhours | -.349 | .153 | -.314 | -2.287 | .025 |
| a. Job\_role = 3 | | | | | | |
| b. Dependent Variable: Performance\_Score | | | | | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Excluded Variablesa,b** | | | | | | |
| Model | | Beta In | t | Sig. | Partial Correlation | Collinearity Statistics |
| Tolerance |
| 1 | No\_of\_hours\_workedinmonth | .c | . | . | . | .000 |
| Overtimecost | .c | . | . | . | .000 |
| No\_of\_hours\_workedperday | .c | . | . | . | .000 |
| a. Job\_role = 3 | | | | | | |
| b. Dependent Variable: Performance\_Score | | | | | | |
| c. Predictors in the Model: (Constant), OvertimeWorkhours, Distance\_from\_home, Work\_experience, Salary, Gender, Working\_Since, on\_schedule\_completion, Modal\_shift, category, Ethnicity, Age, No\_of\_shift\_changes, Absenteeismrate | | | | | | |

**Job\_role = 4**

|  |  |  |  |
| --- | --- | --- | --- |
| **Variables Entered/Removeda,b** | | | |
| Model | Variables Entered | Variables Removed | Method |
| 1 | OvertimeWorkhours, Ethnicity, Work\_experience, No\_of\_shift\_changes, Modal\_shift, Working\_Since, Distance\_from\_home, Gender, Age, on\_schedule\_completion, Absenteeismrate, category, Salaryc | . | Enter |
| a. Job\_role = 4 | | | |
| b. Dependent Variable: Performance\_Score | | | |
| c. Tolerance = .000 limit reached. | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Model Summarya** | | | | |
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
| 1 | .585b | .342 | .262 | 2.262 |
| a. Job\_role = 4 | | | | |
| b. Predictors: (Constant), OvertimeWorkhours, Ethnicity, Work\_experience, No\_of\_shift\_changes, Modal\_shift, Working\_Since, Distance\_from\_home, Gender, Age, on\_schedule\_completion, Absenteeismrate, category, Salary | | | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **ANOVAa,b** | | | | | | |
| Model | | Sum of Squares | df | Mean Square | F | Sig. |
| 1 | Regression | 284.417 | 13 | 21.878 | 4.275 | .000c |
| Residual | 547.583 | 107 | 5.118 |  |  |
| Total | 832.000 | 120 |  |  |  |
| a. Job\_role = 4 | | | | | | |
| b. Dependent Variable: Performance\_Score | | | | | | |
| c. Predictors: (Constant), OvertimeWorkhours, Ethnicity, Work\_experience, No\_of\_shift\_changes, Modal\_shift, Working\_Since, Distance\_from\_home, Gender, Age, on\_schedule\_completion, Absenteeismrate, category, Salary | | | | | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Coefficientsa,b** | | | | | | |
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
| B | Std. Error | Beta |
| 1 | (Constant) | .147 | 2.519 |  | .058 | .954 |
| category | .380 | .231 | .152 | 1.644 | .103 |
| Gender | .386 | .491 | .073 | .787 | .433 |
| Distance\_from\_home | -.250 | .046 | -.491 | -5.481 | .000 |
| No\_of\_shift\_changes | -.495 | .255 | -.190 | -1.938 | .055 |
| Modal\_shift | .068 | .228 | .026 | .299 | .765 |
| Age | .045 | .024 | .163 | 1.863 | .065 |
| Working\_Since | -.039 | .013 | -.256 | -2.961 | .004 |
| Work\_experience | .017 | .006 | .241 | 2.813 | .006 |
| Ethnicity | -.085 | .193 | -.042 | -.439 | .661 |
| Salary | -4.913E-5 | .000 | -.129 | -1.259 | .211 |
| Absenteeismrate | .147 | .069 | .209 | 2.138 | .035 |
| on\_schedule\_completion | .066 | .019 | .311 | 3.441 | .001 |
| OvertimeWorkhours | .181 | .071 | .223 | 2.557 | .012 |
| a. Job\_role = 4 | | | | | | |
| b. Dependent Variable: Performance\_Score | | | | | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Excluded Variablesa,b** | | | | | | |
| Model | | Beta In | t | Sig. | Partial Correlation | Collinearity Statistics |
| Tolerance |
| 1 | No\_of\_hours\_workedinmonth | .c | . | . | . | .000 |
| Overtimecost | .c | . | . | . | .000 |
| No\_of\_hours\_workedperday | .c | . | . | . | .000 |
| a. Job\_role = 4 | | | | | | |
| b. Dependent Variable: Performance\_Score | | | | | | |
| c. Predictors in the Model: (Constant), OvertimeWorkhours, Ethnicity, Work\_experience, No\_of\_shift\_changes, Modal\_shift, Working\_Since, Distance\_from\_home, Gender, Age, on\_schedule\_completion, Absenteeismrate, category, Salary | | | | | | |

**Job\_role = 5**

|  |  |  |  |
| --- | --- | --- | --- |
| **Variables Entered/Removeda,b** | | | |
| Model | Variables Entered | Variables Removed | Method |
| 1 | OvertimeWorkhours, Absenteeismrate, Gender, No\_of\_shift\_changes, Distance\_from\_home, on\_schedule\_completion, Work\_experience, Modal\_shift, Ethnicity, category, Working\_Since, No\_of\_hours\_workedperday, Agec | . | Enter |
| a. Job\_role = 5 | | | |
| b. Dependent Variable: Performance\_Score | | | |
| c. Tolerance = .000 limit reached. | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Model Summarya** | | | | |
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
| 1 | .609b | .370 | .252 | 2.551 |
| a. Job\_role = 5 | | | | |
| b. Predictors: (Constant), OvertimeWorkhours, Absenteeismrate, Gender, No\_of\_shift\_changes, Distance\_from\_home, on\_schedule\_completion, Work\_experience, Modal\_shift, Ethnicity, category, Working\_Since, No\_of\_hours\_workedperday, Age | | | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **ANOVAa,b** | | | | | | |
| Model | | Sum of Squares | df | Mean Square | F | Sig. |
| 1 | Regression | 264.068 | 13 | 20.313 | 3.121 | .001c |
| Residual | 449.088 | 69 | 6.509 |  |  |
| Total | 713.157 | 82 |  |  |  |
| a. Job\_role = 5 | | | | | | |
| b. Dependent Variable: Performance\_Score | | | | | | |
| c. Predictors: (Constant), OvertimeWorkhours, Absenteeismrate, Gender, No\_of\_shift\_changes, Distance\_from\_home, on\_schedule\_completion, Work\_experience, Modal\_shift, Ethnicity, category, Working\_Since, No\_of\_hours\_workedperday, Age | | | | | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Coefficientsa,b** | | | | | | |
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
| B | Std. Error | Beta |
| 1 | (Constant) | -2.047 | 3.614 |  | -.566 | .573 |
| category | .004 | .308 | .002 | .012 | .990 |
| Gender | 1.220 | .656 | .208 | 1.860 | .067 |
| Distance\_from\_home | -.054 | .062 | -.100 | -.877 | .383 |
| No\_of\_shift\_changes | .143 | .302 | .055 | .474 | .637 |
| Modal\_shift | -.646 | .344 | -.221 | -1.876 | .065 |
| Age | .022 | .036 | .081 | .612 | .543 |
| Working\_Since | -.070 | .019 | -.445 | -3.693 | .000 |
| Work\_experience | .004 | .011 | .043 | .352 | .726 |
| Ethnicity | -.249 | .262 | -.115 | -.950 | .345 |
| No\_of\_hours\_workedperday | -.015 | .154 | -.013 | -.097 | .923 |
| Absenteeismrate | .011 | .082 | .016 | .132 | .895 |
| on\_schedule\_completion | .102 | .027 | .424 | 3.723 | .000 |
| OvertimeWorkhours | .158 | .133 | .148 | 1.191 | .238 |
| a. Job\_role = 5 | | | | | | |
| b. Dependent Variable: Performance\_Score | | | | | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Excluded Variablesa,b** | | | | | | |
| Model | | Beta In | t | Sig. | Partial Correlation | Collinearity Statistics |
| Tolerance |
| 1 | No\_of\_hours\_workedinmonth | .c | . | . | . | .000 |
| Overtimecost | .c | . | . | . | .000 |
| Salary | .c | . | . | . | .000 |
| a. Job\_role = 5 | | | | | | |
| b. Dependent Variable: Performance\_Score | | | | | | |
| c. Predictors in the Model: (Constant), OvertimeWorkhours, Absenteeismrate, Gender, No\_of\_shift\_changes, Distance\_from\_home, on\_schedule\_completion, Work\_experience, Modal\_shift, Ethnicity, category, Working\_Since, No\_of\_hours\_workedperday, Age | | | | | | |

REGRESSION

/MISSING LISTWISE

/STATISTICS COEFF OUTS R ANOVA

/CRITERIA=PIN(.05) POUT(.10)

/NOORIGIN

/DEPENDENT Performance\_Score

/METHOD=ENTER category No\_of\_hours\_workedinmonth Gender Distance\_from\_home No\_of\_shift\_changes

Modal\_shift Age Working\_Since Work\_experience Ethnicity Overtimecost Salary

No\_of\_hours\_workedperday Absenteeismrate on\_schedule\_completion OvertimeWorkhours.

**Regression**

|  |  |  |
| --- | --- | --- |
| **Notes** | | |
| Output Created | | 24-AUG-2022 16:56:27 |
| Comments | |  |
| Input | Data | D:\Mithun\DXC\datsetv3.sav |
| Active Dataset | DataSet1 |
| Filter | <none> |
| Weight | <none> |
| Split File | Job\_role |
| N of Rows in Working Data File | 499 |
| Missing Value Handling | Definition of Missing | User-defined missing values are treated as missing. |
| Cases Used | Statistics are based on cases with no missing values for any variable used. |
| Syntax | | REGRESSION  /MISSING LISTWISE  /STATISTICS COEFF OUTS R ANOVA  /CRITERIA=PIN(.05) POUT(.10)  /NOORIGIN  /DEPENDENT Performance\_Score  /METHOD=ENTER category No\_of\_hours\_workedinmonth Gender Distance\_from\_home No\_of\_shift\_changes  Modal\_shift Age Working\_Since Work\_experience Ethnicity Overtimecost Salary  No\_of\_hours\_workedperday Absenteeismrate on\_schedule\_completion OvertimeWorkhours. |
| Resources | Processor Time | 00:00:00.05 |
| Elapsed Time | 00:00:00.04 |
| Memory Required | 16880 bytes |
| Additional Memory Required for Residual Plots | 0 bytes |

**Job\_role = 1**

|  |  |  |  |
| --- | --- | --- | --- |
| **Variables Entered/Removeda,b** | | | |
| Model | Variables Entered | Variables Removed | Method |
| 1 | OvertimeWorkhours, Working\_Since, Absenteeismrate, Modal\_shift, Work\_experience, Distance\_from\_home, Age, No\_of\_hours\_workedperday, No\_of\_shift\_changes, category, Gender, Ethnicity, on\_schedule\_completionc | . | Enter |
| a. Job\_role = 1 | | | |
| b. Dependent Variable: Performance\_Score | | | |
| c. Tolerance = .000 limit reached. | | | |

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| --- | --- | --- | --- | --- |
| **Model Summarya** | | | | |
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
| 1 | .561b | .315 | .219 | 2.341 |
| a. Job\_role = 1 | | | | |
| b. Predictors: (Constant), OvertimeWorkhours, Working\_Since, Absenteeismrate, Modal\_shift, Work\_experience, Distance\_from\_home, Age, No\_of\_hours\_workedperday, No\_of\_shift\_changes, category, Gender, Ethnicity, on\_schedule\_completion | | | | |

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| --- | --- | --- | --- | --- | --- | --- |
| **ANOVAa,b** | | | | | | |
| Model | | Sum of Squares | df | Mean Square | F | Sig. |
| 1 | Regression | 234.306 | 13 | 18.024 | 3.288 | .000c |
| Residual | 509.751 | 93 | 5.481 |  |  |
| Total | 744.056 | 106 |  |  |  |
| a. Job\_role = 1 | | | | | | |
| b. Dependent Variable: Performance\_Score | | | | | | |
| c. Predictors: (Constant), OvertimeWorkhours, Working\_Since, Absenteeismrate, Modal\_shift, Work\_experience, Distance\_from\_home, Age, No\_of\_hours\_workedperday, No\_of\_shift\_changes, category, Gender, Ethnicity, on\_schedule\_completion | | | | | | |

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| --- | --- | --- | --- | --- | --- | --- |
| **Coefficientsa,b** | | | | | | |
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
| B | Std. Error | Beta |
| 1 | (Constant) | 7.528 | 3.094 |  | 2.434 | .017 |
| category | .010 | .232 | .005 | .045 | .964 |
| Gender | 1.223 | .540 | .231 | 2.266 | .026 |
| Distance\_from\_home | -.066 | .047 | -.143 | -1.408 | .162 |
| No\_of\_shift\_changes | -.726 | .261 | -.296 | -2.787 | .006 |
| Modal\_shift | -.701 | .251 | -.272 | -2.791 | .006 |
| Age | -.065 | .026 | -.252 | -2.554 | .012 |
| Working\_Since | .018 | .014 | .118 | 1.276 | .205 |
| Work\_experience | .003 | .008 | .030 | .301 | .764 |
| Ethnicity | -.306 | .186 | -.173 | -1.643 | .104 |
| No\_of\_hours\_workedperday | -.207 | .119 | -.167 | -1.737 | .086 |
| Absenteeismrate | .029 | .063 | .043 | .458 | .648 |
| on\_schedule\_completion | .041 | .025 | .195 | 1.668 | .099 |
| OvertimeWorkhours | .032 | .090 | .037 | .361 | .719 |
| a. Job\_role = 1 | | | | | | |
| b. Dependent Variable: Performance\_Score | | | | | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Excluded Variablesa,b** | | | | | | |
| Model | | Beta In | t | Sig. | Partial Correlation | Collinearity Statistics |
| Tolerance |
| 1 | No\_of\_hours\_workedinmonth | .c | . | . | . | .000 |
| Overtimecost | .c | . | . | . | .000 |
| Salary | .c | . | . | . | .000 |
| a. Job\_role = 1 | | | | | | |
| b. Dependent Variable: Performance\_Score | | | | | | |
| c. Predictors in the Model: (Constant), OvertimeWorkhours, Working\_Since, Absenteeismrate, Modal\_shift, Work\_experience, Distance\_from\_home, Age, No\_of\_hours\_workedperday, No\_of\_shift\_changes, category, Gender, Ethnicity, on\_schedule\_completion | | | | | | |

**Job\_role = 2**

|  |  |  |  |
| --- | --- | --- | --- |
| **Variables Entered/Removeda,b** | | | |
| Model | Variables Entered | Variables Removed | Method |
| 1 | OvertimeWorkhours, Working\_Since, No\_of\_hours\_workedperday, on\_schedule\_completion, Gender, Ethnicity, No\_of\_shift\_changes, category, Age, Distance\_from\_home, Modal\_shift, Absenteeismrate, Work\_experiencec | . | Enter |
| a. Job\_role = 2 | | | |
| b. Dependent Variable: Performance\_Score | | | |
| c. Tolerance = .000 limit reached. | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Model Summarya** | | | | |
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
| 1 | .626b | .392 | .309 | 2.150 |
| a. Job\_role = 2 | | | | |
| b. Predictors: (Constant), OvertimeWorkhours, Working\_Since, No\_of\_hours\_workedperday, on\_schedule\_completion, Gender, Ethnicity, No\_of\_shift\_changes, category, Age, Distance\_from\_home, Modal\_shift, Absenteeismrate, Work\_experience | | | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **ANOVAa,b** | | | | | | |
| Model | | Sum of Squares | df | Mean Square | F | Sig. |
| 1 | Regression | 283.645 | 13 | 21.819 | 4.718 | .000c |
| Residual | 439.328 | 95 | 4.625 |  |  |
| Total | 722.972 | 108 |  |  |  |
| a. Job\_role = 2 | | | | | | |
| b. Dependent Variable: Performance\_Score | | | | | | |
| c. Predictors: (Constant), OvertimeWorkhours, Working\_Since, No\_of\_hours\_workedperday, on\_schedule\_completion, Gender, Ethnicity, No\_of\_shift\_changes, category, Age, Distance\_from\_home, Modal\_shift, Absenteeismrate, Work\_experience | | | | | | |

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| --- | --- | --- | --- | --- | --- | --- |
| **Coefficientsa,b** | | | | | | |
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
| B | Std. Error | Beta |
| 1 | (Constant) | 15.288 | 2.528 |  | 6.046 | .000 |
| category | .122 | .217 | .049 | .563 | .574 |
| Gender | -1.718 | .462 | -.333 | -3.717 | .000 |
| Distance\_from\_home | -.104 | .039 | -.244 | -2.641 | .010 |
| No\_of\_shift\_changes | .085 | .206 | .036 | .414 | .680 |
| Modal\_shift | -.155 | .211 | -.072 | -.737 | .463 |
| Age | -.079 | .022 | -.337 | -3.650 | .000 |
| Working\_Since | -.040 | .013 | -.298 | -3.117 | .002 |
| Work\_experience | -.005 | .008 | -.063 | -.618 | .538 |
| Ethnicity | -.021 | .164 | -.013 | -.130 | .897 |
| No\_of\_hours\_workedperday | -.101 | .107 | -.079 | -.943 | .348 |
| Absenteeismrate | .021 | .064 | .033 | .332 | .740 |
| on\_schedule\_completion | .002 | .019 | .011 | .120 | .905 |
| OvertimeWorkhours | -.267 | .072 | -.341 | -3.700 | .000 |
| a. Job\_role = 2 | | | | | | |
| b. Dependent Variable: Performance\_Score | | | | | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Excluded Variablesa,b** | | | | | | |
| Model | | Beta In | t | Sig. | Partial Correlation | Collinearity Statistics |
| Tolerance |
| 1 | No\_of\_hours\_workedinmonth | .c | . | . | . | .000 |
| Overtimecost | .c | . | . | . | .000 |
| Salary | .c | . | . | . | .000 |
| a. Job\_role = 2 | | | | | | |
| b. Dependent Variable: Performance\_Score | | | | | | |
| c. Predictors in the Model: (Constant), OvertimeWorkhours, Working\_Since, No\_of\_hours\_workedperday, on\_schedule\_completion, Gender, Ethnicity, No\_of\_shift\_changes, category, Age, Distance\_from\_home, Modal\_shift, Absenteeismrate, Work\_experience | | | | | | |

**Job\_role = 3**

|  |  |  |  |
| --- | --- | --- | --- |
| **Variables Entered/Removeda,b** | | | |
| Model | Variables Entered | Variables Removed | Method |
| 1 | OvertimeWorkhours, Distance\_from\_home, Work\_experience, Salary, Gender, Working\_Since, on\_schedule\_completion, Modal\_shift, category, Ethnicity, Age, No\_of\_shift\_changes, Absenteeismratec | . | Enter |
| a. Job\_role = 3 | | | |
| b. Dependent Variable: Performance\_Score | | | |
| c. Tolerance = .000 limit reached. | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Model Summarya** | | | | |
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
| 1 | .782b | .612 | .534 | 1.850 |
| a. Job\_role = 3 | | | | |
| b. Predictors: (Constant), OvertimeWorkhours, Distance\_from\_home, Work\_experience, Salary, Gender, Working\_Since, on\_schedule\_completion, Modal\_shift, category, Ethnicity, Age, No\_of\_shift\_changes, Absenteeismrate | | | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **ANOVAa,b** | | | | | | |
| Model | | Sum of Squares | df | Mean Square | F | Sig. |
| 1 | Regression | 350.446 | 13 | 26.957 | 7.879 | .000c |
| Residual | 222.390 | 65 | 3.421 |  |  |
| Total | 572.835 | 78 |  |  |  |
| a. Job\_role = 3 | | | | | | |
| b. Dependent Variable: Performance\_Score | | | | | | |
| c. Predictors: (Constant), OvertimeWorkhours, Distance\_from\_home, Work\_experience, Salary, Gender, Working\_Since, on\_schedule\_completion, Modal\_shift, category, Ethnicity, Age, No\_of\_shift\_changes, Absenteeismrate | | | | | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Coefficientsa,b** | | | | | | |
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
| B | Std. Error | Beta |
| 1 | (Constant) | 12.516 | 3.608 |  | 3.470 | .001 |
| category | .718 | .300 | .304 | 2.395 | .020 |
| Gender | -.111 | .728 | -.020 | -.152 | .880 |
| Distance\_from\_home | .097 | .055 | .172 | 1.769 | .082 |
| No\_of\_shift\_changes | .233 | .354 | .088 | .656 | .514 |
| Modal\_shift | .302 | .341 | .108 | .886 | .379 |
| Age | .009 | .031 | .032 | .296 | .768 |
| Working\_Since | -.057 | .015 | -.360 | -3.701 | .000 |
| Work\_experience | -.041 | .008 | -.453 | -4.888 | .000 |
| Ethnicity | .229 | .206 | .133 | 1.113 | .270 |
| Salary | .000 | .000 | -.542 | -4.677 | .000 |
| Absenteeismrate | -.027 | .122 | -.034 | -.225 | .823 |
| on\_schedule\_completion | -.041 | .021 | -.164 | -1.913 | .060 |
| OvertimeWorkhours | -.349 | .153 | -.314 | -2.287 | .025 |
| a. Job\_role = 3 | | | | | | |
| b. Dependent Variable: Performance\_Score | | | | | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Excluded Variablesa,b** | | | | | | |
| Model | | Beta In | t | Sig. | Partial Correlation | Collinearity Statistics |
| Tolerance |
| 1 | No\_of\_hours\_workedinmonth | .c | . | . | . | .000 |
| Overtimecost | .c | . | . | . | .000 |
| No\_of\_hours\_workedperday | .c | . | . | . | .000 |
| a. Job\_role = 3 | | | | | | |
| b. Dependent Variable: Performance\_Score | | | | | | |
| c. Predictors in the Model: (Constant), OvertimeWorkhours, Distance\_from\_home, Work\_experience, Salary, Gender, Working\_Since, on\_schedule\_completion, Modal\_shift, category, Ethnicity, Age, No\_of\_shift\_changes, Absenteeismrate | | | | | | |

**Job\_role = 4**

|  |  |  |  |
| --- | --- | --- | --- |
| **Variables Entered/Removeda,b** | | | |
| Model | Variables Entered | Variables Removed | Method |
| 1 | OvertimeWorkhours, Ethnicity, Work\_experience, No\_of\_shift\_changes, Modal\_shift, Working\_Since, Distance\_from\_home, Gender, Age, on\_schedule\_completion, Absenteeismrate, category, Salaryc | . | Enter |
| a. Job\_role = 4 | | | |
| b. Dependent Variable: Performance\_Score | | | |
| c. Tolerance = .000 limit reached. | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Model Summarya** | | | | |
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
| 1 | .585b | .342 | .262 | 2.262 |
| a. Job\_role = 4 | | | | |
| b. Predictors: (Constant), OvertimeWorkhours, Ethnicity, Work\_experience, No\_of\_shift\_changes, Modal\_shift, Working\_Since, Distance\_from\_home, Gender, Age, on\_schedule\_completion, Absenteeismrate, category, Salary | | | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **ANOVAa,b** | | | | | | |
| Model | | Sum of Squares | df | Mean Square | F | Sig. |
| 1 | Regression | 284.417 | 13 | 21.878 | 4.275 | .000c |
| Residual | 547.583 | 107 | 5.118 |  |  |
| Total | 832.000 | 120 |  |  |  |
| a. Job\_role = 4 | | | | | | |
| b. Dependent Variable: Performance\_Score | | | | | | |
| c. Predictors: (Constant), OvertimeWorkhours, Ethnicity, Work\_experience, No\_of\_shift\_changes, Modal\_shift, Working\_Since, Distance\_from\_home, Gender, Age, on\_schedule\_completion, Absenteeismrate, category, Salary | | | | | | |

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| --- | --- | --- | --- | --- | --- | --- |
| **Coefficientsa,b** | | | | | | |
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
| B | Std. Error | Beta |
| 1 | (Constant) | .147 | 2.519 |  | .058 | .954 |
| category | .380 | .231 | .152 | 1.644 | .103 |
| Gender | .386 | .491 | .073 | .787 | .433 |
| Distance\_from\_home | -.250 | .046 | -.491 | -5.481 | .000 |
| No\_of\_shift\_changes | -.495 | .255 | -.190 | -1.938 | .055 |
| Modal\_shift | .068 | .228 | .026 | .299 | .765 |
| Age | .045 | .024 | .163 | 1.863 | .065 |
| Working\_Since | -.039 | .013 | -.256 | -2.961 | .004 |
| Work\_experience | .017 | .006 | .241 | 2.813 | .006 |
| Ethnicity | -.085 | .193 | -.042 | -.439 | .661 |
| Salary | -4.913E-5 | .000 | -.129 | -1.259 | .211 |
| Absenteeismrate | .147 | .069 | .209 | 2.138 | .035 |
| on\_schedule\_completion | .066 | .019 | .311 | 3.441 | .001 |
| OvertimeWorkhours | .181 | .071 | .223 | 2.557 | .012 |
| a. Job\_role = 4 | | | | | | |
| b. Dependent Variable: Performance\_Score | | | | | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Excluded Variablesa,b** | | | | | | |
| Model | | Beta In | t | Sig. | Partial Correlation | Collinearity Statistics |
| Tolerance |
| 1 | No\_of\_hours\_workedinmonth | .c | . | . | . | .000 |
| Overtimecost | .c | . | . | . | .000 |
| No\_of\_hours\_workedperday | .c | . | . | . | .000 |
| a. Job\_role = 4 | | | | | | |
| b. Dependent Variable: Performance\_Score | | | | | | |
| c. Predictors in the Model: (Constant), OvertimeWorkhours, Ethnicity, Work\_experience, No\_of\_shift\_changes, Modal\_shift, Working\_Since, Distance\_from\_home, Gender, Age, on\_schedule\_completion, Absenteeismrate, category, Salary | | | | | | |

**Job\_role = 5**

|  |  |  |  |
| --- | --- | --- | --- |
| **Variables Entered/Removeda,b** | | | |
| Model | Variables Entered | Variables Removed | Method |
| 1 | OvertimeWorkhours, Absenteeismrate, Gender, No\_of\_shift\_changes, Distance\_from\_home, on\_schedule\_completion, Work\_experience, Modal\_shift, Ethnicity, category, Working\_Since, No\_of\_hours\_workedperday, Agec | . | Enter |
| a. Job\_role = 5 | | | |
| b. Dependent Variable: Performance\_Score | | | |
| c. Tolerance = .000 limit reached. | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Model Summarya** | | | | |
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
| 1 | .609b | .370 | .252 | 2.551 |
| a. Job\_role = 5 | | | | |
| b. Predictors: (Constant), OvertimeWorkhours, Absenteeismrate, Gender, No\_of\_shift\_changes, Distance\_from\_home, on\_schedule\_completion, Work\_experience, Modal\_shift, Ethnicity, category, Working\_Since, No\_of\_hours\_workedperday, Age | | | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **ANOVAa,b** | | | | | | |
| Model | | Sum of Squares | df | Mean Square | F | Sig. |
| 1 | Regression | 264.068 | 13 | 20.313 | 3.121 | .001c |
| Residual | 449.088 | 69 | 6.509 |  |  |
| Total | 713.157 | 82 |  |  |  |
| a. Job\_role = 5 | | | | | | |
| b. Dependent Variable: Performance\_Score | | | | | | |
| c. Predictors: (Constant), OvertimeWorkhours, Absenteeismrate, Gender, No\_of\_shift\_changes, Distance\_from\_home, on\_schedule\_completion, Work\_experience, Modal\_shift, Ethnicity, category, Working\_Since, No\_of\_hours\_workedperday, Age | | | | | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Coefficientsa,b** | | | | | | |
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
| B | Std. Error | Beta |
| 1 | (Constant) | -2.047 | 3.614 |  | -.566 | .573 |
| category | .004 | .308 | .002 | .012 | .990 |
| Gender | 1.220 | .656 | .208 | 1.860 | .067 |
| Distance\_from\_home | -.054 | .062 | -.100 | -.877 | .383 |
| No\_of\_shift\_changes | .143 | .302 | .055 | .474 | .637 |
| Modal\_shift | -.646 | .344 | -.221 | -1.876 | .065 |
| Age | .022 | .036 | .081 | .612 | .543 |
| Working\_Since | -.070 | .019 | -.445 | -3.693 | .000 |
| Work\_experience | .004 | .011 | .043 | .352 | .726 |
| Ethnicity | -.249 | .262 | -.115 | -.950 | .345 |
| No\_of\_hours\_workedperday | -.015 | .154 | -.013 | -.097 | .923 |
| Absenteeismrate | .011 | .082 | .016 | .132 | .895 |
| on\_schedule\_completion | .102 | .027 | .424 | 3.723 | .000 |
| OvertimeWorkhours | .158 | .133 | .148 | 1.191 | .238 |
| a. Job\_role = 5 | | | | | | |
| b. Dependent Variable: Performance\_Score | | | | | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Excluded Variablesa,b** | | | | | | |
| Model | | Beta In | t | Sig. | Partial Correlation | Collinearity Statistics |
| Tolerance |
| 1 | No\_of\_hours\_workedinmonth | .c | . | . | . | .000 |
| Overtimecost | .c | . | . | . | .000 |
| Salary | .c | . | . | . | .000 |
| a. Job\_role = 5 | | | | | | |
| b. Dependent Variable: Performance\_Score | | | | | | |
| c. Predictors in the Model: (Constant), OvertimeWorkhours, Absenteeismrate, Gender, No\_of\_shift\_changes, Distance\_from\_home, on\_schedule\_completion, Work\_experience, Modal\_shift, Ethnicity, category, Working\_Since, No\_of\_hours\_workedperday, Age | | | | | | |

DESCRIPTIVES VARIABLES=category No\_of\_hours\_workedperday No\_of\_hours\_workedinmonth

No\_of\_days\_absent Numberofdaysworked Gender Distance\_from\_home No\_of\_shift\_changes Modal\_shift Age

Working\_Since Work\_experience Job\_role Ethnicity Performance\_Score on\_schedule\_completion SLA\_Score

OvertimeWorkhours Overtimecost Salary Absenteeismrate

/STATISTICS=MEAN MIN MAX.

**Descriptives**

|  |  |  |
| --- | --- | --- |
| **Notes** | | |
| Output Created | | 24-AUG-2022 16:59:58 |
| Comments | |  |
| Input | Data | D:\Mithun\DXC\datsetv3.sav |
| Active Dataset | DataSet1 |
| Filter | <none> |
| Weight | <none> |
| Split File | Job\_role |
| N of Rows in Working Data File | 499 |
| Missing Value Handling | Definition of Missing | User defined missing values are treated as missing. |
| Cases Used | All non-missing data are used. |
| Syntax | | DESCRIPTIVES VARIABLES=category No\_of\_hours\_workedperday No\_of\_hours\_workedinmonth  No\_of\_days\_absent Numberofdaysworked Gender Distance\_from\_home No\_of\_shift\_changes Modal\_shift Age  Working\_Since Work\_experience Job\_role Ethnicity Performance\_Score on\_schedule\_completion SLA\_Score  OvertimeWorkhours Overtimecost Salary Absenteeismrate  /STATISTICS=MEAN MIN MAX. |
| Resources | Processor Time | 00:00:00.00 |
| Elapsed Time | 00:00:00.00 |

**Job\_role = 1**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Descriptive Statisticsa** | | | | |
|  | N | Minimum | Maximum | Mean |
| category | 107 | 1 | 4 | 2.55 |
| No\_of\_hours\_workedperday | 107 | 1 | 8 | 4.78 |
| No\_of\_hours\_workedinmonth | 107 | 30 | 240 | 143.27 |
| No\_of\_days\_absent | 107 | 1 | 4 | 2.55 |
| Numberofdaysworked | 107 | 26 | 29 | 27.45 |
| Gender | 107 | 1 | 2 | 1.53 |
| Distance\_from\_home | 107 | 1 | 20 | 8.50 |
| No\_of\_shift\_changes | 107 | 1 | 4 | 2.60 |
| Modal\_shift | 107 | 1 | 4 | 2.70 |
| Age | 107 | 21 | 54 | 35.63 |
| Working\_Since | 107 | 2 | 58 | 32.87 |
| Work\_experience | 107 | 1 | 114 | 63.55 |
| Job\_role | 107 | 1 | 1 | 1.00 |
| Ethnicity | 107 | 1 | 5 | 3.00 |
| Performance\_Score | 107 | 1 | 10 | 5.21 |
| on\_schedule\_completion | 107 | 60 | 100 | 77.61 |
| SLA\_Score | 107 | 1 | 10 | 5.90 |
| OvertimeWorkhours | 107 | 1 | 10 | 5.53 |
| Overtimecost | 107 | 102 | 1020 | 564.34 |
| Salary | 107 | 3264 | 25500 | 15177.98 |
| Absenteeismrate | 107 | 3.333333333333334 | 13.333333333333334 | 8.504672897196262 |
| Valid N (listwise) | 107 |  |  |  |
| a. Job\_role = 1 | | | | |

**Job\_role = 2**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Descriptive Statisticsa** | | | | |
|  | N | Minimum | Maximum | Mean |
| category | 109 | 1 | 4 | 2.81 |
| No\_of\_hours\_workedperday | 109 | 1 | 8 | 3.39 |
| No\_of\_hours\_workedinmonth | 109 | 30 | 240 | 101.83 |
| No\_of\_days\_absent | 109 | 1 | 4 | 2.48 |
| Numberofdaysworked | 109 | 26 | 29 | 27.52 |
| Gender | 109 | 1 | 2 | 1.48 |
| Distance\_from\_home | 109 | 1 | 20 | 11.28 |
| No\_of\_shift\_changes | 109 | 1 | 4 | 2.47 |
| Modal\_shift | 109 | 1 | 4 | 2.46 |
| Age | 109 | 20 | 55 | 38.31 |
| Working\_Since | 109 | 1 | 60 | 29.41 |
| Work\_experience | 109 | 4 | 119 | 63.50 |
| Job\_role | 109 | 2 | 2 | 2.00 |
| Ethnicity | 109 | 1 | 5 | 3.19 |
| Performance\_Score | 109 | 1 | 10 | 5.55 |
| on\_schedule\_completion | 109 | 60 | 100 | 80.01 |
| SLA\_Score | 109 | 1 | 10 | 5.34 |
| OvertimeWorkhours | 109 | 1 | 10 | 6.10 |
| Overtimecost | 109 | 102 | 1020 | 622.29 |
| Salary | 109 | 3162 | 25194 | 11009.45 |
| Absenteeismrate | 109 | 3.333333333333334 | 13.333333333333334 | 8.256880733944957 |
| Valid N (listwise) | 109 |  |  |  |
| a. Job\_role = 2 | | | | |

**Job\_role = 3**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Descriptive Statisticsa** | | | | |
|  | N | Minimum | Maximum | Mean |
| category | 79 | 1 | 4 | 2.61 |
| No\_of\_hours\_workedperday | 79 | 1 | 8 | 4.72 |
| No\_of\_hours\_workedinmonth | 79 | 30 | 240 | 141.65 |
| No\_of\_days\_absent | 79 | 1 | 4 | 2.59 |
| Numberofdaysworked | 79 | 26 | 29 | 27.41 |
| Gender | 79 | 1 | 2 | 1.53 |
| Distance\_from\_home | 79 | 3 | 18 | 9.08 |
| No\_of\_shift\_changes | 79 | 1 | 4 | 2.53 |
| Modal\_shift | 79 | 1 | 4 | 2.67 |
| Age | 79 | 22 | 54 | 35.85 |
| Working\_Since | 79 | 2 | 60 | 25.80 |
| Work\_experience | 79 | 1 | 116 | 60.97 |
| Job\_role | 79 | 3 | 3 | 3.00 |
| Ethnicity | 79 | 1 | 5 | 2.82 |
| Performance\_Score | 79 | 1 | 10 | 4.39 |
| on\_schedule\_completion | 79 | 60 | 96 | 78.86 |
| SLA\_Score | 79 | 1 | 10 | 5.38 |
| OvertimeWorkhours | 79 | 1 | 10 | 6.89 |
| Overtimecost | 79 | 102 | 1020 | 702.38 |
| Salary | 79 | 3978 | 25500 | 15150.23 |
| Absenteeismrate | 79 | 3.333333333333334 | 13.333333333333334 | 8.649789029535860 |
| Valid N (listwise) | 79 |  |  |  |
| a. Job\_role = 3 | | | | |

**Job\_role = 4**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Descriptive Statisticsa** | | | | |
|  | N | Minimum | Maximum | Mean |
| category | 121 | 1 | 4 | 2.24 |
| No\_of\_hours\_workedperday | 121 | 1 | 8 | 4.79 |
| No\_of\_hours\_workedinmonth | 121 | 30 | 240 | 143.80 |
| No\_of\_days\_absent | 121 | 1 | 4 | 2.54 |
| Numberofdaysworked | 121 | 26 | 29 | 27.46 |
| Gender | 121 | 1 | 2 | 1.42 |
| Distance\_from\_home | 121 | 1 | 19 | 10.20 |
| No\_of\_shift\_changes | 121 | 1 | 4 | 2.31 |
| Modal\_shift | 121 | 1 | 4 | 2.45 |
| Age | 121 | 21 | 55 | 35.45 |
| Working\_Since | 121 | 3 | 60 | 31.45 |
| Work\_experience | 121 | 1 | 118 | 59.85 |
| Job\_role | 121 | 4 | 4 | 4.00 |
| Ethnicity | 121 | 1 | 5 | 2.69 |
| Performance\_Score | 121 | 1 | 10 | 5.91 |
| on\_schedule\_completion | 121 | 61 | 100 | 80.06 |
| SLA\_Score | 121 | 1 | 10 | 5.88 |
| OvertimeWorkhours | 121 | 1 | 10 | 5.60 |
| Overtimecost | 121 | 102 | 1020 | 570.69 |
| Salary | 121 | 3366 | 25398 | 15238.46 |
| Absenteeismrate | 121 | 3.333333333333334 | 13.333333333333334 | 8.457300275482087 |
| Valid N (listwise) | 121 |  |  |  |
| a. Job\_role = 4 | | | | |

**Job\_role = 5**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Descriptive Statisticsa** | | | | |
|  | N | Minimum | Maximum | Mean |
| category | 83 | 1 | 4 | 2.72 |
| No\_of\_hours\_workedperday | 83 | 1 | 8 | 4.53 |
| No\_of\_hours\_workedinmonth | 83 | 30 | 240 | 135.90 |
| No\_of\_days\_absent | 83 | 1 | 4 | 2.42 |
| Numberofdaysworked | 83 | 26 | 29 | 27.58 |
| Gender | 83 | 1 | 2 | 1.51 |
| Distance\_from\_home | 83 | 1 | 20 | 8.92 |
| No\_of\_shift\_changes | 83 | 1 | 4 | 2.49 |
| Modal\_shift | 83 | 1 | 4 | 2.39 |
| Age | 83 | 20 | 55 | 36.77 |
| Working\_Since | 83 | 3 | 59 | 30.53 |
| Work\_experience | 83 | 3 | 118 | 62.05 |
| Job\_role | 83 | 5 | 5 | 5.00 |
| Ethnicity | 83 | 1 | 5 | 2.82 |
| Performance\_Score | 83 | 1 | 10 | 5.36 |
| on\_schedule\_completion | 83 | 60 | 98 | 78.94 |
| SLA\_Score | 83 | 1 | 10 | 5.41 |
| OvertimeWorkhours | 83 | 1 | 10 | 5.86 |
| Overtimecost | 83 | 102 | 1020 | 597.25 |
| Salary | 83 | 3162 | 25500 | 14459.42 |
| Absenteeismrate | 83 | 3.333333333333334 | 13.333333333333334 | 8.072289156626505 |
| Valid N (listwise) | 83 |  |  |  |
| a. Job\_role = 5 | | | | |