casestudy2\_codebook

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## 1. Summary of the data

## [1] "Age" "Attrition" "BusinssTrvl" "DailyRate" "Department"   
## [6] "DistncFrmHm" "Education" "EducatinFld" "EmployeeCnt" "EmployeNmbr"  
## [11] "EnvrnmntSts" "Gender" "HourlyRate" "JobInvlvmnt" "JobLevel"   
## [16] "JobRole" "JobSatsfctn" "MaritalStts" "MonthlyIncm" "MonthlyRate"  
## [21] "NmCmpnsWrkd" "Over18" "OverTime" "PrcntSlryHk" "PrfrmncRtng"  
## [26] "RltnshpStsf" "StandardHrs" "StckOptnLvl" "TtlWrkngYrs" "TrnngTmsLsY"  
## [31] "WorkLifBlnc" "YersAtCmpny" "YrsInCrrntR" "YrsSncLstPr" "YrsWthCrrMn"

## Age Attrition BusinssTrvl DailyRate   
## Min. :18.00 No :1233 Non-Travel : 150 Min. : 102.0   
## 1st Qu.:30.00 Yes: 237 Travel\_Frequently: 277 1st Qu.: 465.0   
## Median :36.00 Travel\_Rarely :1043 Median : 802.0   
## Mean :36.92 Mean : 802.5   
## 3rd Qu.:43.00 3rd Qu.:1157.0   
## Max. :60.00 Max. :1499.0   
##   
## Department DistncFrmHm Education   
## Human Resources : 63 Min. : 1.000 Min. :1.000   
## Research & Development:961 1st Qu.: 2.000 1st Qu.:2.000   
## Sales :446 Median : 7.000 Median :3.000   
## Mean : 9.193 Mean :2.913   
## 3rd Qu.:14.000 3rd Qu.:4.000   
## Max. :29.000 Max. :5.000   
##   
## EducatinFld EmployeeCnt EmployeNmbr EnvrnmntSts   
## Human Resources : 27 Min. :1 Min. : 1.0 Min. :1.000   
## Life Sciences :606 1st Qu.:1 1st Qu.: 491.2 1st Qu.:2.000   
## Marketing :159 Median :1 Median :1020.5 Median :3.000   
## Medical :464 Mean :1 Mean :1024.9 Mean :2.722   
## Other : 82 3rd Qu.:1 3rd Qu.:1555.8 3rd Qu.:4.000   
## Technical Degree:132 Max. :1 Max. :2068.0 Max. :4.000   
##   
## Gender HourlyRate JobInvlvmnt JobLevel   
## Female:588 Min. : 30.00 Min. :1.00 Min. :1.000   
## Male :882 1st Qu.: 48.00 1st Qu.:2.00 1st Qu.:1.000   
## Median : 66.00 Median :3.00 Median :2.000   
## Mean : 65.89 Mean :2.73 Mean :2.064   
## 3rd Qu.: 83.75 3rd Qu.:3.00 3rd Qu.:3.000   
## Max. :100.00 Max. :4.00 Max. :5.000   
##   
## JobRole JobSatsfctn MaritalStts   
## Sales Executive :326 Min. :1.000 Divorced:327   
## Research Scientist :292 1st Qu.:2.000 Married :673   
## Laboratory Technician :259 Median :3.000 Single :470   
## Manufacturing Director :145 Mean :2.729   
## Healthcare Representative:131 3rd Qu.:4.000   
## Manager :102 Max. :4.000   
## (Other) :215   
## MonthlyIncm MonthlyRate NmCmpnsWrkd Over18 OverTime   
## Min. : 1009 Min. : 2094 Min. :0.000 Y:1470 No :1054   
## 1st Qu.: 2911 1st Qu.: 8047 1st Qu.:1.000 Yes: 416   
## Median : 4919 Median :14236 Median :2.000   
## Mean : 6503 Mean :14313 Mean :2.693   
## 3rd Qu.: 8379 3rd Qu.:20462 3rd Qu.:4.000   
## Max. :19999 Max. :26999 Max. :9.000   
##   
## PrcntSlryHk PrfrmncRtng RltnshpStsf StandardHrs  
## Min. :11.00 Min. :3.000 Min. :1.000 Min. :80   
## 1st Qu.:12.00 1st Qu.:3.000 1st Qu.:2.000 1st Qu.:80   
## Median :14.00 Median :3.000 Median :3.000 Median :80   
## Mean :15.21 Mean :3.154 Mean :2.712 Mean :80   
## 3rd Qu.:18.00 3rd Qu.:3.000 3rd Qu.:4.000 3rd Qu.:80   
## Max. :25.00 Max. :4.000 Max. :4.000 Max. :80   
##   
## StckOptnLvl TtlWrkngYrs TrnngTmsLsY WorkLifBlnc   
## Min. :0.0000 Min. : 0.00 Min. :0.000 Min. :1.000   
## 1st Qu.:0.0000 1st Qu.: 6.00 1st Qu.:2.000 1st Qu.:2.000   
## Median :1.0000 Median :10.00 Median :3.000 Median :3.000   
## Mean :0.7939 Mean :11.28 Mean :2.799 Mean :2.761   
## 3rd Qu.:1.0000 3rd Qu.:15.00 3rd Qu.:3.000 3rd Qu.:3.000   
## Max. :3.0000 Max. :40.00 Max. :6.000 Max. :4.000   
##   
## YersAtCmpny YrsInCrrntR YrsSncLstPr YrsWthCrrMn   
## Min. : 0.000 Min. : 0.000 Min. : 0.000 Min. : 0.000   
## 1st Qu.: 3.000 1st Qu.: 2.000 1st Qu.: 0.000 1st Qu.: 2.000   
## Median : 5.000 Median : 3.000 Median : 1.000 Median : 3.000   
## Mean : 7.008 Mean : 4.229 Mean : 2.188 Mean : 4.123   
## 3rd Qu.: 9.000 3rd Qu.: 7.000 3rd Qu.: 3.000 3rd Qu.: 7.000   
## Max. :40.000 Max. :18.000 Max. :15.000 Max. :17.000   
##

## 2. variable description

## Loading required package: dataMaid

## Loading required package: ggplot2

## $Age  
## Feature Result   
## [1,] "Variable type" "integer"  
## [2,] "Number of missing obs." "0 (0 %)"  
## [3,] "Number of unique values" "43"   
## [4,] "Median" "36"   
## [5,] "1st and 3rd quartiles" "30; 43"   
## [6,] "Min. and max." "18; 60"   
##   
## $Attrition  
## Feature Result   
## [1,] "Variable type" "factor"   
## [2,] "Number of missing obs." "0 (0 %)"  
## [3,] "Number of unique values" "2"   
## [4,] "Mode" "\"No\""   
##   
## $BusinssTrvl  
## Feature Result   
## [1,] "Variable type" "factor"   
## [2,] "Number of missing obs." "0 (0 %)"   
## [3,] "Number of unique values" "3"   
## [4,] "Mode" "\"Travel\_Rarely\""  
##   
## $DailyRate  
## Feature Result   
## [1,] "Variable type" "integer"   
## [2,] "Number of missing obs." "0 (0 %)"   
## [3,] "Number of unique values" "886"   
## [4,] "Median" "802"   
## [5,] "1st and 3rd quartiles" "465; 1157"  
## [6,] "Min. and max." "102; 1499"  
##   
## $Department  
## Feature Result   
## [1,] "Variable type" "factor"   
## [2,] "Number of missing obs." "0 (0 %)"   
## [3,] "Number of unique values" "3"   
## [4,] "Mode" "\"Research & Development\""  
##   
## $DistncFrmHm  
## Feature Result   
## [1,] "Variable type" "integer"  
## [2,] "Number of missing obs." "0 (0 %)"  
## [3,] "Number of unique values" "29"   
## [4,] "Median" "7"   
## [5,] "1st and 3rd quartiles" "2; 14"   
## [6,] "Min. and max." "1; 29"   
##   
## $Education  
## Feature Result   
## [1,] "Variable type" "integer"  
## [2,] "Number of missing obs." "0 (0 %)"  
## [3,] "Number of unique values" "5"   
## [4,] "Median" "3"   
## [5,] "1st and 3rd quartiles" "2; 4"   
## [6,] "Min. and max." "1; 5"   
##   
## $EducatinFld  
## Feature Result   
## [1,] "Variable type" "factor"   
## [2,] "Number of missing obs." "0 (0 %)"   
## [3,] "Number of unique values" "6"   
## [4,] "Mode" "\"Life Sciences\""  
##   
## $EmployeeCnt  
## Feature Result   
## [1,] "Variable type" "integer"  
## [2,] "Number of missing obs." "0 (0 %)"  
## [3,] "Number of unique values" "1"   
## [4,] "Median" "1"   
## [5,] "1st and 3rd quartiles" "1; 1"   
## [6,] "Min. and max." "1; 1"   
##   
## $EmployeNmbr  
## Feature Result   
## [1,] "Variable type" "integer"   
## [2,] "Number of missing obs." "0 (0 %)"   
## [3,] "Number of unique values" "1470"   
## [4,] "Median" "1020.5"   
## [5,] "1st and 3rd quartiles" "491.25; 1555.75"  
## [6,] "Min. and max." "1; 2068"   
##   
## $EnvrnmntSts  
## Feature Result   
## [1,] "Variable type" "integer"  
## [2,] "Number of missing obs." "0 (0 %)"  
## [3,] "Number of unique values" "4"   
## [4,] "Median" "3"   
## [5,] "1st and 3rd quartiles" "2; 4"   
## [6,] "Min. and max." "1; 4"   
##   
## $Gender  
## Feature Result   
## [1,] "Variable type" "factor"   
## [2,] "Number of missing obs." "0 (0 %)"   
## [3,] "Number of unique values" "2"   
## [4,] "Mode" "\"Male\""  
##   
## $HourlyRate  
## Feature Result   
## [1,] "Variable type" "integer"   
## [2,] "Number of missing obs." "0 (0 %)"   
## [3,] "Number of unique values" "71"   
## [4,] "Median" "66"   
## [5,] "1st and 3rd quartiles" "48; 83.75"  
## [6,] "Min. and max." "30; 100"   
##   
## $JobInvlvmnt  
## Feature Result   
## [1,] "Variable type" "integer"  
## [2,] "Number of missing obs." "0 (0 %)"  
## [3,] "Number of unique values" "4"   
## [4,] "Median" "3"   
## [5,] "1st and 3rd quartiles" "2; 3"   
## [6,] "Min. and max." "1; 4"   
##   
## $JobLevel  
## Feature Result   
## [1,] "Variable type" "integer"  
## [2,] "Number of missing obs." "0 (0 %)"  
## [3,] "Number of unique values" "5"   
## [4,] "Median" "2"   
## [5,] "1st and 3rd quartiles" "1; 3"   
## [6,] "Min. and max." "1; 5"   
##   
## $JobRole  
## Feature Result   
## [1,] "Variable type" "factor"   
## [2,] "Number of missing obs." "0 (0 %)"   
## [3,] "Number of unique values" "9"   
## [4,] "Mode" "\"Sales Executive\""  
##   
## $JobSatsfctn  
## Feature Result   
## [1,] "Variable type" "integer"  
## [2,] "Number of missing obs." "0 (0 %)"  
## [3,] "Number of unique values" "4"   
## [4,] "Median" "3"   
## [5,] "1st and 3rd quartiles" "2; 4"   
## [6,] "Min. and max." "1; 4"   
##   
## $MaritalStts  
## Feature Result   
## [1,] "Variable type" "factor"   
## [2,] "Number of missing obs." "0 (0 %)"   
## [3,] "Number of unique values" "3"   
## [4,] "Mode" "\"Married\""  
##   
## $MonthlyIncm  
## Feature Result   
## [1,] "Variable type" "integer"   
## [2,] "Number of missing obs." "0 (0 %)"   
## [3,] "Number of unique values" "1349"   
## [4,] "Median" "4919"   
## [5,] "1st and 3rd quartiles" "2911; 8379"   
## [6,] "Min. and max." "1009; 19999"  
##   
## $MonthlyRate  
## Feature Result   
## [1,] "Variable type" "integer"   
## [2,] "Number of missing obs." "0 (0 %)"   
## [3,] "Number of unique values" "1427"   
## [4,] "Median" "14235.5"   
## [5,] "1st and 3rd quartiles" "8047; 20461.5"  
## [6,] "Min. and max." "2094; 26999"   
##   
## $NmCmpnsWrkd  
## Feature Result   
## [1,] "Variable type" "integer"  
## [2,] "Number of missing obs." "0 (0 %)"  
## [3,] "Number of unique values" "10"   
## [4,] "Median" "2"   
## [5,] "1st and 3rd quartiles" "1; 4"   
## [6,] "Min. and max." "0; 9"   
##   
## $Over18  
## Feature Result   
## [1,] "Variable type" "factor"   
## [2,] "Number of missing obs." "0 (0 %)"  
## [3,] "Number of unique values" "1"   
## [4,] "Mode" "\"Y\""   
##   
## $OverTime  
## Feature Result   
## [1,] "Variable type" "factor"   
## [2,] "Number of missing obs." "0 (0 %)"  
## [3,] "Number of unique values" "2"   
## [4,] "Mode" "\"No\""   
##   
## $PrcntSlryHk  
## Feature Result   
## [1,] "Variable type" "integer"  
## [2,] "Number of missing obs." "0 (0 %)"  
## [3,] "Number of unique values" "15"   
## [4,] "Median" "14"   
## [5,] "1st and 3rd quartiles" "12; 18"   
## [6,] "Min. and max." "11; 25"   
##   
## $PrfrmncRtng  
## Feature Result   
## [1,] "Variable type" "integer"  
## [2,] "Number of missing obs." "0 (0 %)"  
## [3,] "Number of unique values" "2"   
## [4,] "Median" "3"   
## [5,] "1st and 3rd quartiles" "3; 3"   
## [6,] "Min. and max." "3; 4"   
##   
## $RltnshpStsf  
## Feature Result   
## [1,] "Variable type" "integer"  
## [2,] "Number of missing obs." "0 (0 %)"  
## [3,] "Number of unique values" "4"   
## [4,] "Median" "3"   
## [5,] "1st and 3rd quartiles" "2; 4"   
## [6,] "Min. and max." "1; 4"   
##   
## $StandardHrs  
## Feature Result   
## [1,] "Variable type" "integer"  
## [2,] "Number of missing obs." "0 (0 %)"  
## [3,] "Number of unique values" "1"   
## [4,] "Median" "80"   
## [5,] "1st and 3rd quartiles" "80; 80"   
## [6,] "Min. and max." "80; 80"   
##   
## $StckOptnLvl  
## Feature Result   
## [1,] "Variable type" "integer"  
## [2,] "Number of missing obs." "0 (0 %)"  
## [3,] "Number of unique values" "4"   
## [4,] "Median" "1"   
## [5,] "1st and 3rd quartiles" "0; 1"   
## [6,] "Min. and max." "0; 3"   
##   
## $TtlWrkngYrs  
## Feature Result   
## [1,] "Variable type" "integer"  
## [2,] "Number of missing obs." "0 (0 %)"  
## [3,] "Number of unique values" "40"   
## [4,] "Median" "10"   
## [5,] "1st and 3rd quartiles" "6; 15"   
## [6,] "Min. and max." "0; 40"   
##   
## $TrnngTmsLsY  
## Feature Result   
## [1,] "Variable type" "integer"  
## [2,] "Number of missing obs." "0 (0 %)"  
## [3,] "Number of unique values" "7"   
## [4,] "Median" "3"   
## [5,] "1st and 3rd quartiles" "2; 3"   
## [6,] "Min. and max." "0; 6"   
##   
## $WorkLifBlnc  
## Feature Result   
## [1,] "Variable type" "integer"  
## [2,] "Number of missing obs." "0 (0 %)"  
## [3,] "Number of unique values" "4"   
## [4,] "Median" "3"   
## [5,] "1st and 3rd quartiles" "2; 3"   
## [6,] "Min. and max." "1; 4"   
##   
## $YersAtCmpny  
## Feature Result   
## [1,] "Variable type" "integer"  
## [2,] "Number of missing obs." "0 (0 %)"  
## [3,] "Number of unique values" "37"   
## [4,] "Median" "5"   
## [5,] "1st and 3rd quartiles" "3; 9"   
## [6,] "Min. and max." "0; 40"   
##   
## $YrsInCrrntR  
## Feature Result   
## [1,] "Variable type" "integer"  
## [2,] "Number of missing obs." "0 (0 %)"  
## [3,] "Number of unique values" "19"   
## [4,] "Median" "3"   
## [5,] "1st and 3rd quartiles" "2; 7"   
## [6,] "Min. and max." "0; 18"   
##   
## $YrsSncLstPr  
## Feature Result   
## [1,] "Variable type" "integer"  
## [2,] "Number of missing obs." "0 (0 %)"  
## [3,] "Number of unique values" "16"   
## [4,] "Median" "1"   
## [5,] "1st and 3rd quartiles" "0; 3"   
## [6,] "Min. and max." "0; 15"   
##   
## $YrsWthCrrMn  
## Feature Result   
## [1,] "Variable type" "integer"  
## [2,] "Number of missing obs." "0 (0 %)"  
## [3,] "Number of unique values" "18"   
## [4,] "Median" "3"   
## [5,] "1st and 3rd quartiles" "2; 7"   
## [6,] "Min. and max." "0; 17"