

## FACTORS LEADING TO EMPLOYEE ATTRITION

1. Total working years: Employees that have worked for more than 8 years are more likely to experience attrition. But still those who have worked for quite a while are more likely to retire on the same job rather than moving to other organisation.
2. Years since last promotion is also major factor that might lead to employee attrition. Employees who have stayed long without a promotion are more likely to leave as compared to those who are regularly.
3. Business travels open up employees to new opportunities thus able to easily accept opportunities as they arise as well as the exposure they get while meeting other professionals who might encourage them to move from their current positions.
4. Distance from home should not be overlooked since those who resides next to the office have less hassle as compared to those coming from

## Cross section analysis of the employee attrition data

```
In [36]: employee[['Attrition', 'BusinessTravel', 'Department', 'YearsInCurrentRole', 'YearsSinceLastPromotion']]
```

Out[36]:

	Attrition	BusinessTravel	Department	YearsInCurrentRole	YearsSinceLastPromotion
0	Yes	Travel_Rarely	Sales	4	0
1	No	Travel_Frequently	Research & Development	7	1
2	Yes	Travel_Rarely	Research & Development	0	0
3	No	Travel_Frequently	Research & Development	7	3
4	No	Travel_Rarely	Research & Development	2	2
...	...	...	...	...	...
1465	No	Travel_Frequently	Research & Development	2	0
1466	No	Travel_Rarely	Research & Development	7	1
1467	No	Travel_Rarely	Research & Development	2	0
1468	No	Travel_Frequently	Sales	6	0
1469	No	Travel_Rarely	Research & Development	3	1

1470 rows × 5 columns

```
In [ ]:
```

Attrition

```
In [44]: employee[employee.Attrition == 'Yes']
```

Out[44]:

	Age	Attrition	BusinessTravel	DailyRate	Department	DistanceFromHome	Education	EducationField	EmployeeCount	EmployeeNumber	...	Relations
0	41	Yes	Travel_Rarely	1102	Sales	1	2	Life Sciences	1	1	...	
2	37	Yes	Travel_Rarely	1373	Research & Development	2	2	Other	1	4	...	
14	28	Yes	Travel_Rarely	103	Research & Development	24	3	Life Sciences	1	19	...	
21	36	Yes	Travel_Rarely	1218	Sales	9	4	Life Sciences	1	27	...	
24	34	Yes	Travel_Rarely	699	Research & Development	6	1	Medical	1	31	...	
...	...	...	...	...	...	...	...	...	...	...	...	
1438	23	Yes	Travel_Frequently	638	Sales	9	3	Marketing	1	2023	...	
1442	29	Yes	Travel_Rarely	1092	Research & Development	1	4	Medical	1	2027	...	
1444	56	Yes	Travel_Rarely	310	Research & Development	7	2	Technical Degree	1	2032	...	
1452	50	Yes	Travel_Frequently	878	Sales	1	4	Life Sciences	1	2044	...	
1461	50	Yes	Travel_Rarely	410	Sales	28	3	Marketing	1	2055	...	

237 rows × 35 columns

# MEAN INCOME CALCULATION

```
In [50]: employee.mean()
Out[50]: Age 36.923810
DailyRate 802.485714
DistanceFromHome 9.192517
Education 2.912925
EmployeeCount 1.000000
EmployeeNumber 1024.865306
EnvironmentSatisfaction 2.721769
HourlyRate 65.891156
JobInvolvement 2.729932
JobLevel 2.063946
JobSatisfaction 2.728571
MonthlyIncome 6502.931293
MonthlyRate 14313.103401
NumCompaniesWorked 2.693197
PercentSalaryHike 15.209524
PerformanceRating 3.153741
RelationshipSatisfaction 2.712245
StandardHours 80.000000
StockOptionLevel 0.793878
TotalWorkingYears 11.279592
TrainingTimesLastYear 2.799320
WorkLifeBalance 2.761224
YearsAtCompany 7.008163
YearsInCurrentRole 4.229252
YearsSinceLastPromotion 2.187755
YearsWithCurrManager 4.123129
dtype: float64
```

employee.mean().MonthlyIncome  
6502.931292517007