

Results from Analysis –

Part 1 - Checking Attrition Across Certain factors in the dataset

a) Job Involvement –

JobInvolvement	TotalEmployees	AttritionCount	AttritionPercentage
1	83	28	33.7349397590361
2	375	71	18.9333333333333
3	868	125	14.4009216589862
4	144	13	9.02777777777778

suggests a trend where higher job involvement levels are associated with lower attrition rates, and lower job involvement levels are associated with higher attrition rates.

b) Education –

Education	TotalEmployees	AttritionCount	AttritionPercentage
1	170	31	18.2352941176471
3	572	99	17.3076923076923
2	282	44	15.6028368794326
4	398	58	14.572864321608
5	48	5	10.4166666666667

suggests that employees with education levels 'Below College' and 'Bachelor' experienced relatively higher attrition rates, while employees with education levels 'College,' 'Master,' and 'Doctor' had lower to moderate attrition rates.

c) Gender –

Gender	TotalEmployees	AttritionCount	AttritionPercentage
Male	882	150	17.0068027210884
Female	588	87	14.7959183673469

Although attrition in male is higher, the difference isn't too big.

d) Job Role –

JobRole	TotalEmployees	AttritionCount	AttritionPercentage
Sales Representative	83	33	39.7590361445783
Laboratory Technician	259	62	23.9382239382239
Human Resources	52	12	23.0769230769231
Sales Executive	326	57	17.4846625766871
Research Scientist	292	47	16.0958904109589
Manufacturing Director	145	10	6.89655172413793
Healthcare Representative	131	9	6.87022900763359
Manager	102	5	4.90196078431373
Research Director	80	2	2.5

suggests significant variations in attrition rates across different job roles. Job roles like Sales Representative, Laboratory Technician, and Human Resources show higher attrition rates compared to roles like Manager and Research Director, which have lower attrition rates.

e) Department –

Department	TotalEmployees	AttritionCount	AttritionPercentage
Sales	446	92	20.627802690583
Human Resources	63	12	19.047619047619
Research & Development	961	133	13.8397502601457

suggests variations in attrition rates across different departments. The Sales department and Human Resources department have relatively higher attrition rates compared to the Research & Development department.

f) Avg Salary and Age (with and without attrition)

AvgIncomeWithAttrition	AvgIncomeWithoutAttrition	AvgAgeWithAttrition	AvgAgeWithoutAttrition
4787	6832	33	37

suggests that, on average, employees who experienced attrition had lower monthly incomes and were younger compared to employees who did not experience attrition.

Part 2 – Answering Specific Questions

a) Are older employees more likely to leave the company?

AgeCategory	AvgMonthlyIncome	AttritionCount	AttritionPercentage
18-25	2575	44	18.565400843881
26-35	4174	116	48.945147679324
36-45	6001	43	18.143459915611
46-55	8637	26	10.970464135021
56+	6789	8	3.375527426160

suggests variations in attrition rates across different age categories. The highest attrition rate is observed in the 26-35 age group, while the lowest attrition rate is observed in the 56+ age group.

- b) Are employees in certain departments or job roles more likely to experience attrition than others?

Department	JobRole	AttritionCount
Human Resources	Human Resources	12
Research & Development	Healthcare Representative	9
Research & Development	Laboratory Technician	62
Research & Development	Manager	3
Research & Development	Manufacturing Director	10
Research & Development	Research Director	2
Research & Development	Research Scientist	47
Sales	Manager	2
Sales	Sales Executive	57
Sales	Sales Representative	33

The organization should focus on targeted retention strategies based on departmental and job role-specific insights. Addressing challenges in specific roles, such as Laboratory Technicians and Sales Executives, could contribute to overall employee retention.