



BHARATIYA VIDYA BHAVAN'S
SARDAR PATEL INSTITUTE OF TECHNOLOGY
(Empowered Autonomous Institute Affiliated to University of Mumbai)
[Knowledge is Nectar]

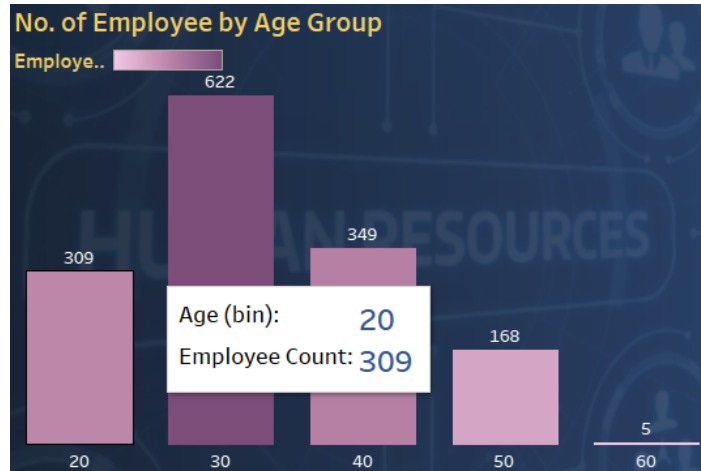
Department of Computer Engineering

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DIV	BE COMPS [ADV -> BATCH F]
ADV EXP 9	

AIM	To use Rstudio and do Linear and Logistic Regression on Housing Dataset
Dataset Particulars	<p>Name: HR_Attrition.csv</p> <p>Link: https://github.com/tkseneee/Dataset/blob/master/HR_attrition.csv</p> <p>Column Details :</p> <ol style="list-style-type: none">1) Age: Age of the employee2) Attrition: Whether the employee has left the company (Yes/No)3) BusinessTravel: Frequency of business travel (Non-Travel, Travel_Rarely, Travel_Frequently)4) Department: Department of the employee (Research & Development, Sales, Human Resources)5) DistanceFromHome: Distance from home to work (in kilometers)6) EducationField: Field of study (Life Sciences, Medical, Marketing, Technical Degree, Other)7) EnvironmentSatisfaction: Level of satisfaction with the work environment (Low, Medium, High, Very High)8) Gender: Gender of the employee (Male, Female)9) JobInvolvement: Level of involvement in the job (Low, Medium, High, Very High)10) JobLevel: Job level (1-5)11) JobRole: Job role (Sales Executive, Research Scientist, Laboratory Technician, etc.)12) JobSatisfaction: Level of job satisfaction (Low, Medium, High, Very High)13) MonthlyIncome: Monthly income of the employee

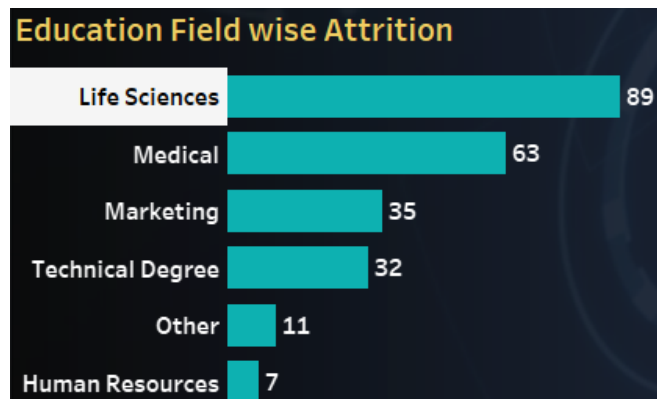
	<div>14) NumCompaniesWorked: Number of companies worked for prior to current job</div> <div>15) OverTime: Whether the employee works overtime (Yes/No)</div> <div>16) PercentSalaryHike: Percentage salary hike in the last year</div> <div>17) PerformanceRating: Performance rating (Low, Good, Excellent, Outstanding)</div>												
Analysis	<div><div><div>Employee Count</div><div>1,470</div></div><div><div>Attrition Count</div><div>237</div></div><div><div>Active Employees</div><div>1,233</div></div><div><div>Avg. Age</div><div>37</div></div><div><div>Attrition by Gender</div><div><div>Male 150</div><div>Female 87</div></div></div></div> <div><div>1) Our Dataset shows data of employees among which 150 are male and 87 are female</div><div>2) The avg age combined is 37 years</div></div> <div><div>1) Pie Chart</div><div><div>Department wise Attrition</div><table><tr><th>Department</th><th>Count</th><th>Percentage</th></tr><tr><td>HR</td><td>12</td><td>5.06%</td></tr><tr><td>R&D</td><td>92</td><td>38.82%</td></tr><tr><td>Sales</td><td>133</td><td>56.12%</td></tr></table></div></div> <div><div>1) Among the 3 departments our Data comprises of [HR , R&D , Sales]</div><div>2) Highest Attrition is found in R&D.</div><div>3) The many reasons can be , insufficient pay / job roles with less regard such as Laboratory Technician , Healthcare Representative , less job satisfaction , lesser PercentSalaryHike or more over time hours etc</div></div>	Department	Count	Percentage	HR	12	5.06%	R&D	92	38.82%	Sales	133	56.12%
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2) Histogram



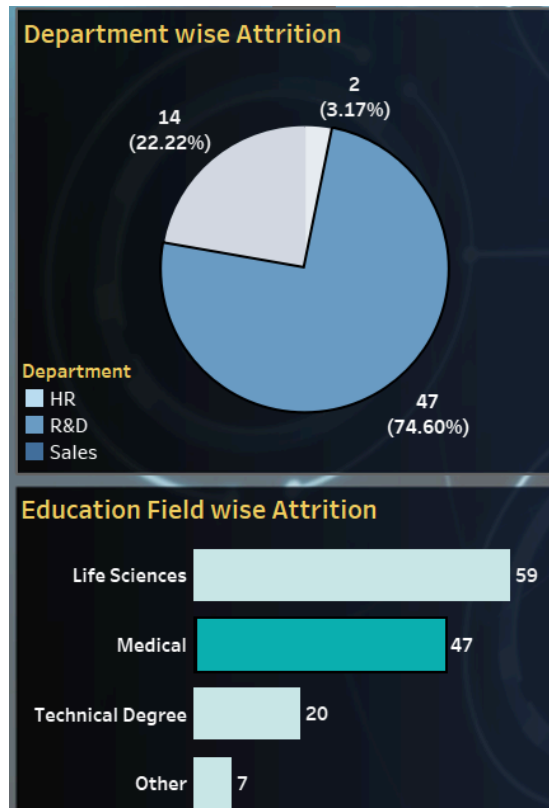
- 1) The working class comprises of the age group of 20 - 40 years

3) Bar Graph



- 1) Understanding the attrition rate as compared to the previous education of the employees.
- 2) Life science have maximum attritions followed by Medical
- 3) Max employees of the R&D dept have life sciences and Medical as their edu background.
- 4) As previously discussed , R&D dept has high attrition rate owing to many other factors
- 5) Hence taking up edu like life sciences and Medical will lead you to a carrer in R&D which will then result in the person leaving this company .

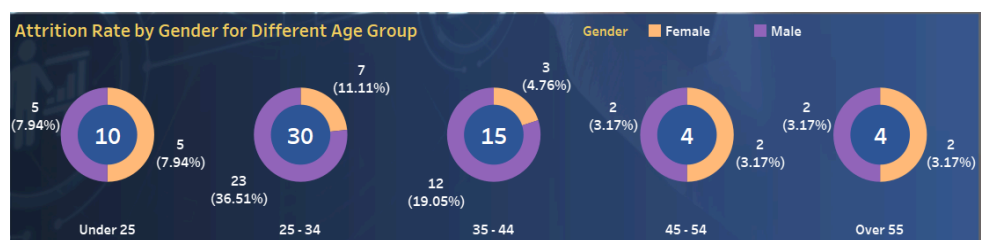
- 6) From the companies perspective raise standards of living , give better employees opportunities to R&D personnel
- 7) From employees perspective ,try to add better courses / skills so you are deemed to get better pay than normal R&D employees such as Laboratory Technician , Healthcare Representative.



1) A comparative study of R&D employees and their edu field .

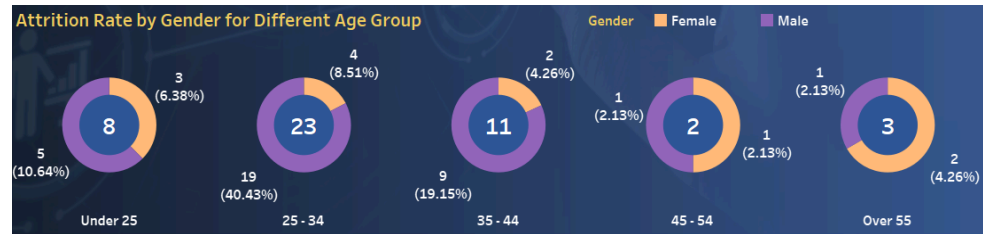
2) Out of 89 Life science and 53 med ; 59 life science and 47 med have taken up R&D dept in the company

4) Hollow Pie chart



- 1) Shows a interdependence of Age , Gender and attrition level in the company
- 2) The company has higher number of Males than females
- 3) As the working class age was 20 - 40 : major attrition is seen in the age grp of 25-34

- 4) See the graphs below to understand the relevance of R&D dept people in this nested pie chart \
- 5) Out of 30, 23 people in the age bracket of 25-34 are from R&D dept
- 6) This suggests that for both the gender, R&D dept has similar opinions



Conclusion

By performing this experiment I learnt hands on on tableau software. I've understood the how prev education shapes the careers role in future and its dependence with other fields such as gender, salary hikes, job satisfaction etc