Unveiling Insights and Elevating Employee Performance: The Power of Annual Performance Reviews

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Starting my Data Analytics Journey with a Data Visualization Tools. I have selected Tableau as the first tool in my toolkit and I am trying to document my journey with a blog and also sharing the same with anybody else in the same boat as me.

In this blog, I will walk you through the steps I have taken to create and analyze Employee Performance Data which is presented with the help of Graphs and Charts to showcase important information about HR Metrics and Insights to present to multiple Stakeholders.

In today's competitive business landscape, a company's success is highly reliant on Performant Employees, so it is important to understand the key factors which influence and play a pivotal role in an employee's performance.

Structured Annual Performance Reviews are crucial to every employee's growth as well as organizational excellence. They allow both parties to asses their performance, recognize achievements and find areas for improvement.

To understand this is a better way, I took help of a Dataset from Kaggle: https://bit.ly/empDataset

Data-Wrangling and Cleaning:
The first thing I realized after Analyzing the Data was the lack of an Employee ID column, which will be crucial, especially when running any aggregate functions like Count or Average:

Name	Age	Gender	Projects Completed	Productivity (%)	Satisfaction Rate (%)	Feedback Score	Department	Position	Joining Date	Salary

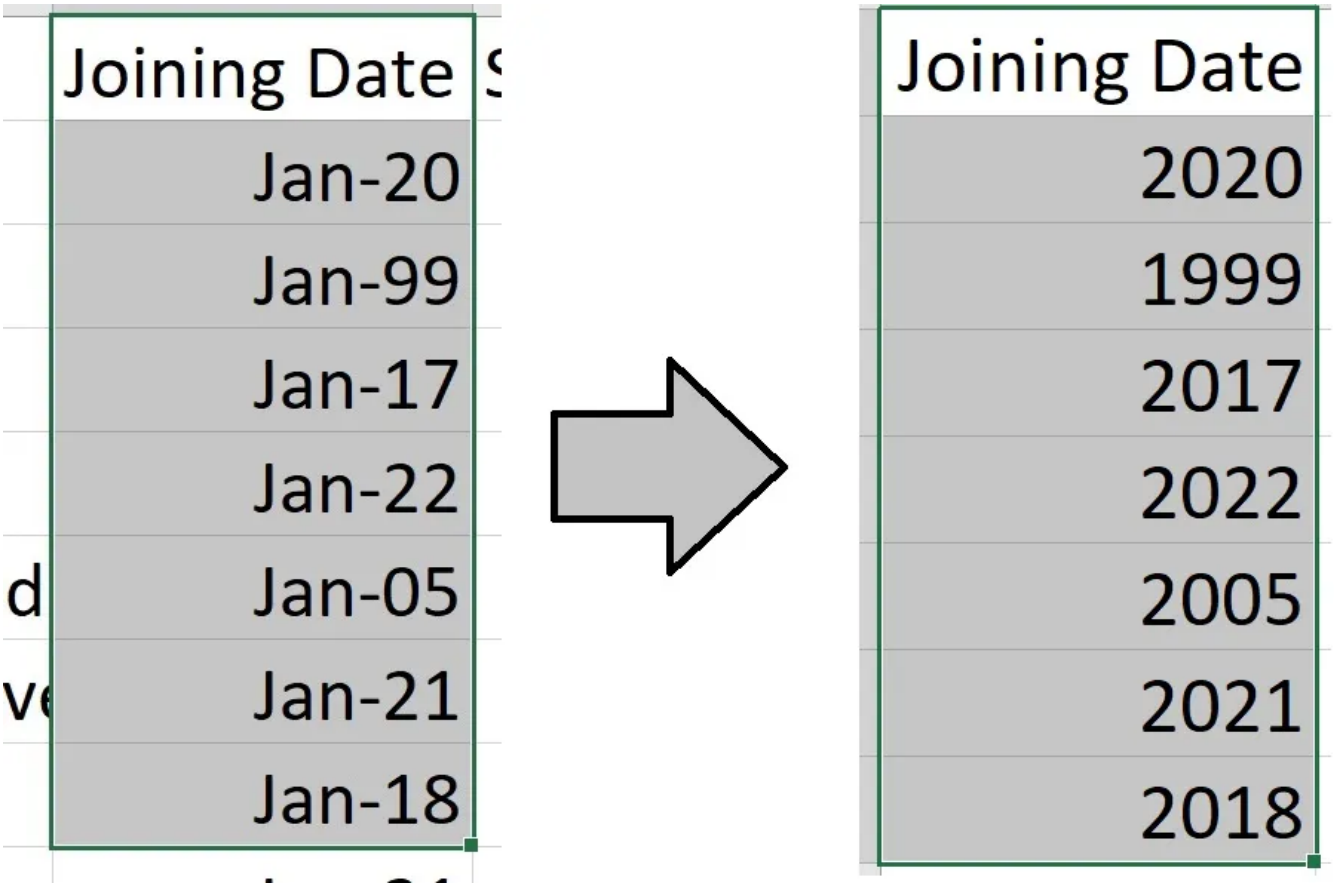
Columns in the Dataset

So, I made use of Python's inbuilt "**uuid**" module and ran a loop to generate 200 random UUID's corresponding to each employee:

	ID	Name
2	4c01d523-d718-4489-a434-06562e2368df	Michael Riley
3	e619f654-5c18-404e-b0cb-e1f46cdafeb0	Daniel Pierce
4	cb7e9705-4b45-417d-8f6f-13e64f192c56	Allison Smith
5	b8d4510a-0680-41fb-94ea-0a0644b40fe6	Carrie Lowe DVM

ID Column created for the Dataset

Since these are Annual performance reviews, I saw the JoiningDate Column had repetitive String Values like Jan-20 (January 2020) or Jan-98 (January 1998) so I converted them into Year format:



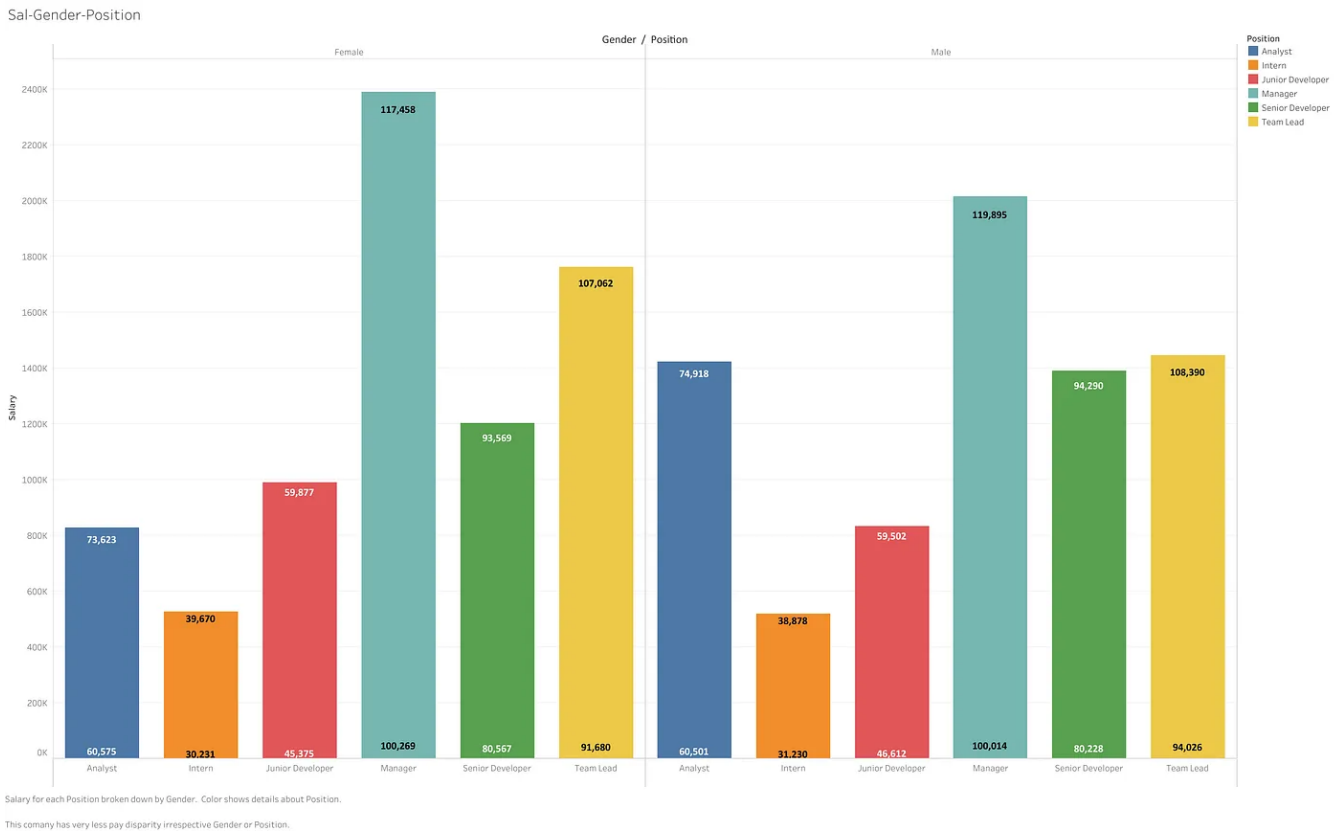
String to Date Conversion

This is my attempt to create a HR Analytics Dashboard will give the management a birds' eyes view of the metrics which will enable them to make changes to their processes, culture and growth, as required. This dashboard will provide data about employee performance, satisfaction and engagement. It will help them understand what factors that affect an employee's retention, work distribution and work life balance.

A link to the Tableau Dashboard: https://tabsoft.co/3rGfTlG

Let Us Dive into its main components and understand the key Insights it offers:

1. Pay Parity: I have recently come across many conversations online regarding Pay Parity. A lot of organizations are openly disclosing Pay Ranges on Job Openings in an effort to be more transparent. As per popular opinion Pay Disparity is based on factors like Gender, Education, Position or Experience. When I analyzed this dataset, I found very little Pay Disparity based on the Gender or Position in this Company, which can be illustrated in the graph below:

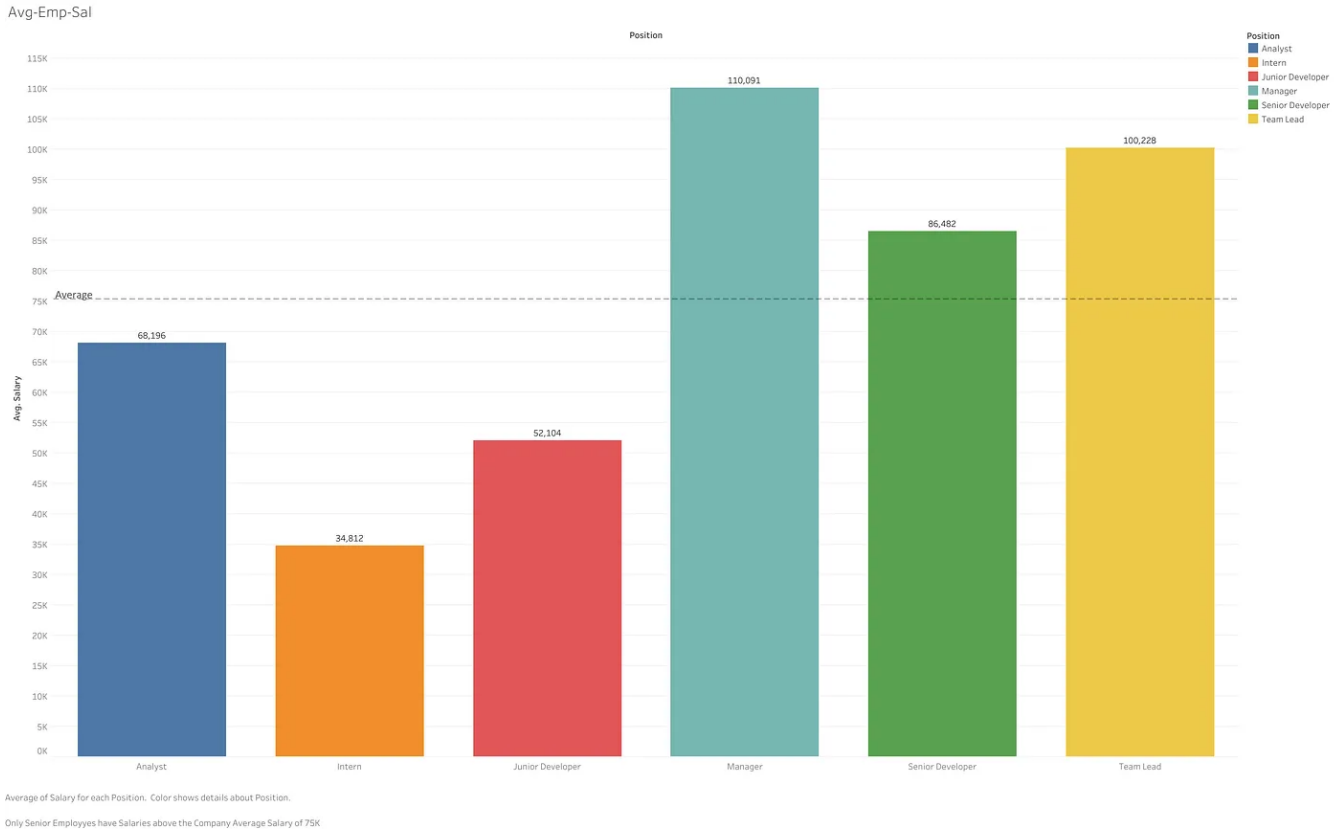


Salary By Gender and Position

Although there is Pay Parity in this organization they definitely need to haver processes in place to ensure any gaps in pay scale for similar levels and profiles do

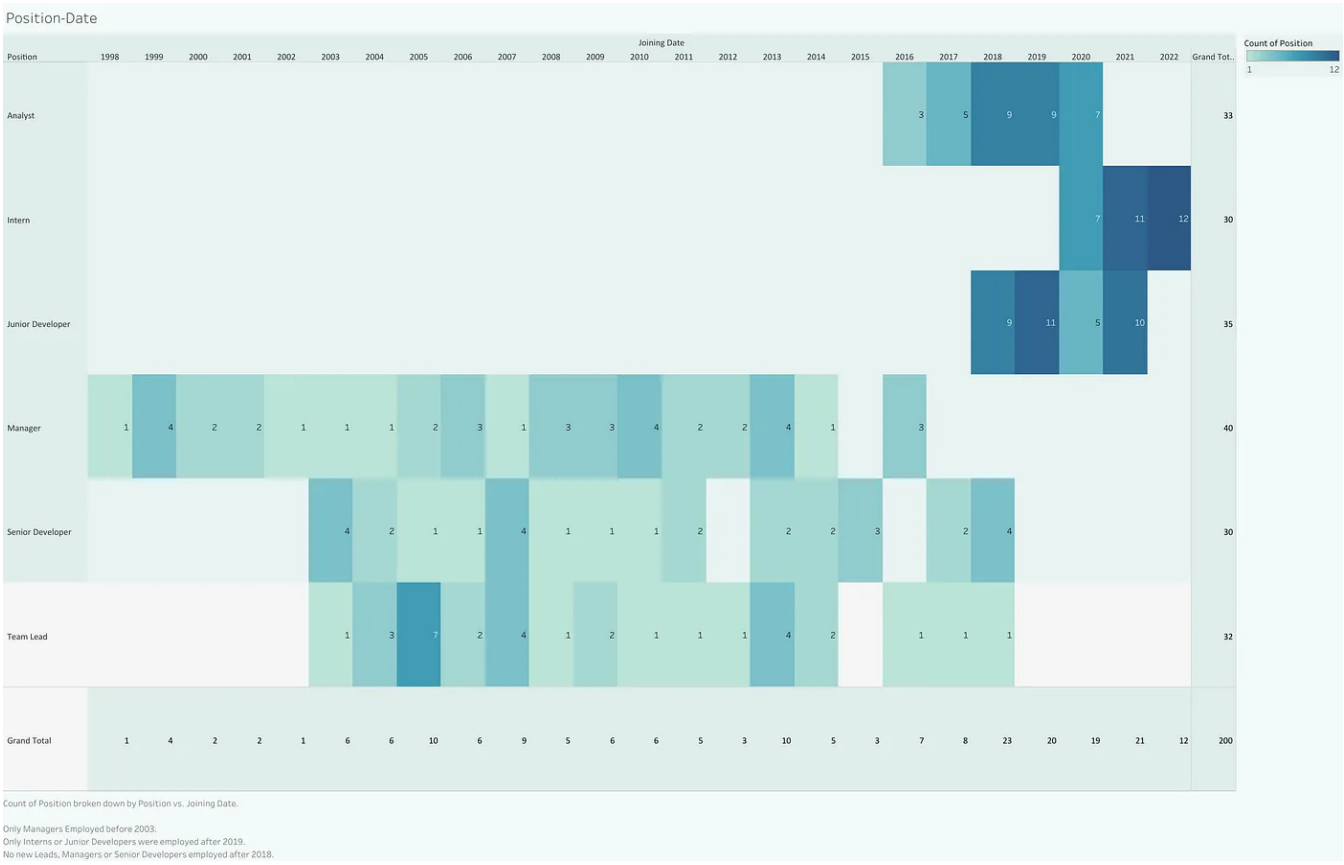
not creep up in the future.

2. The Salary in this company is based upon experience which can be seen here as only the Senior Roles like Senior Developer, Manager or Team Lead have salaries greater than the average salary of 75K, which can be seen in the below mentioned Graph:



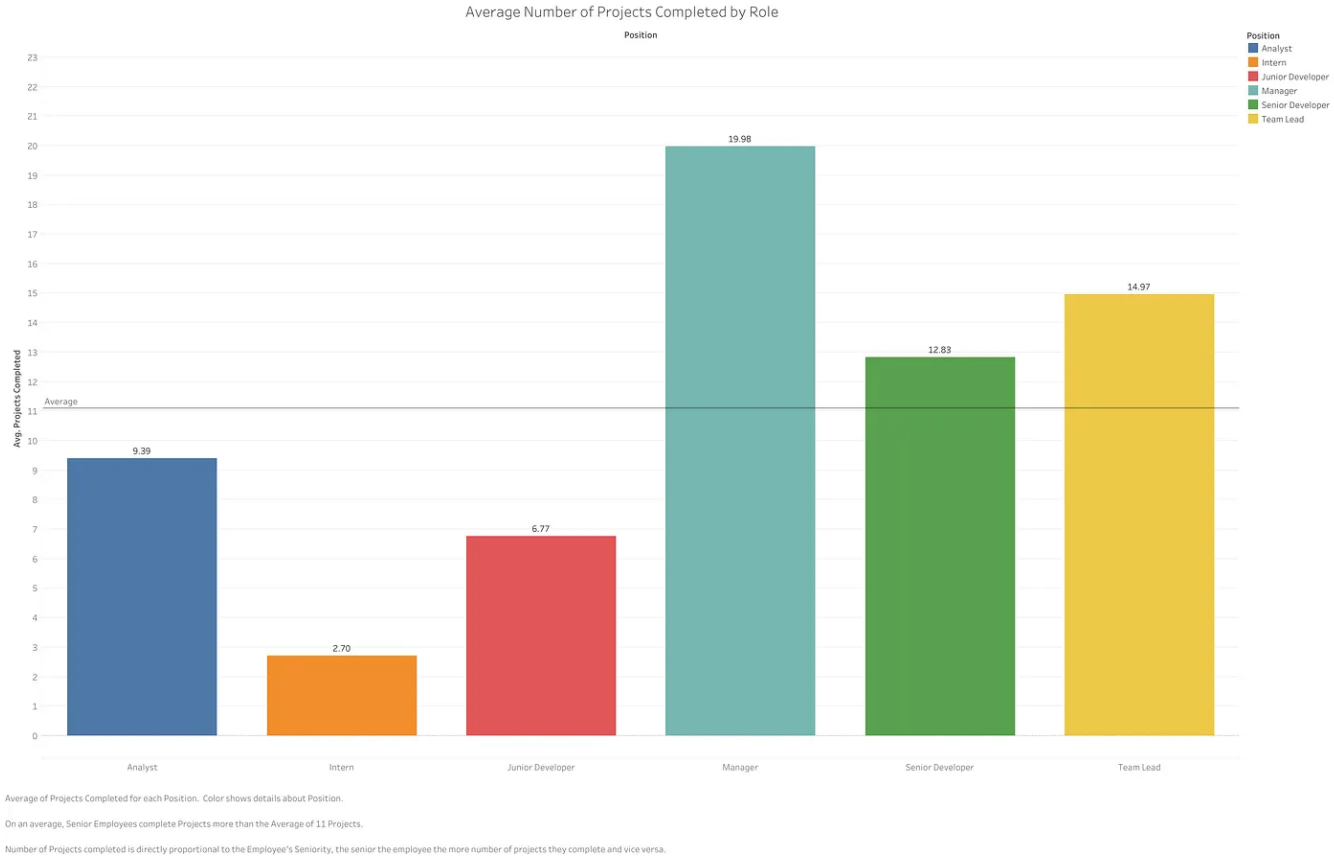
Average Employee Salary by Position

3. Based on the graph, the hiring strategy was to get folks with more experience into the team early on for them to hit the ground running. They had this team of experts that could continue to set up processes and level up efficiently. This is evident from the graph where only Managers were employed before 2003. Since 2018 onwards, the strategy has shifted to hire talent at the lower levels like Interns or Junior Developers. This shift allowed internal progress for those in the junior roles.



Employees Hired by Joining Date

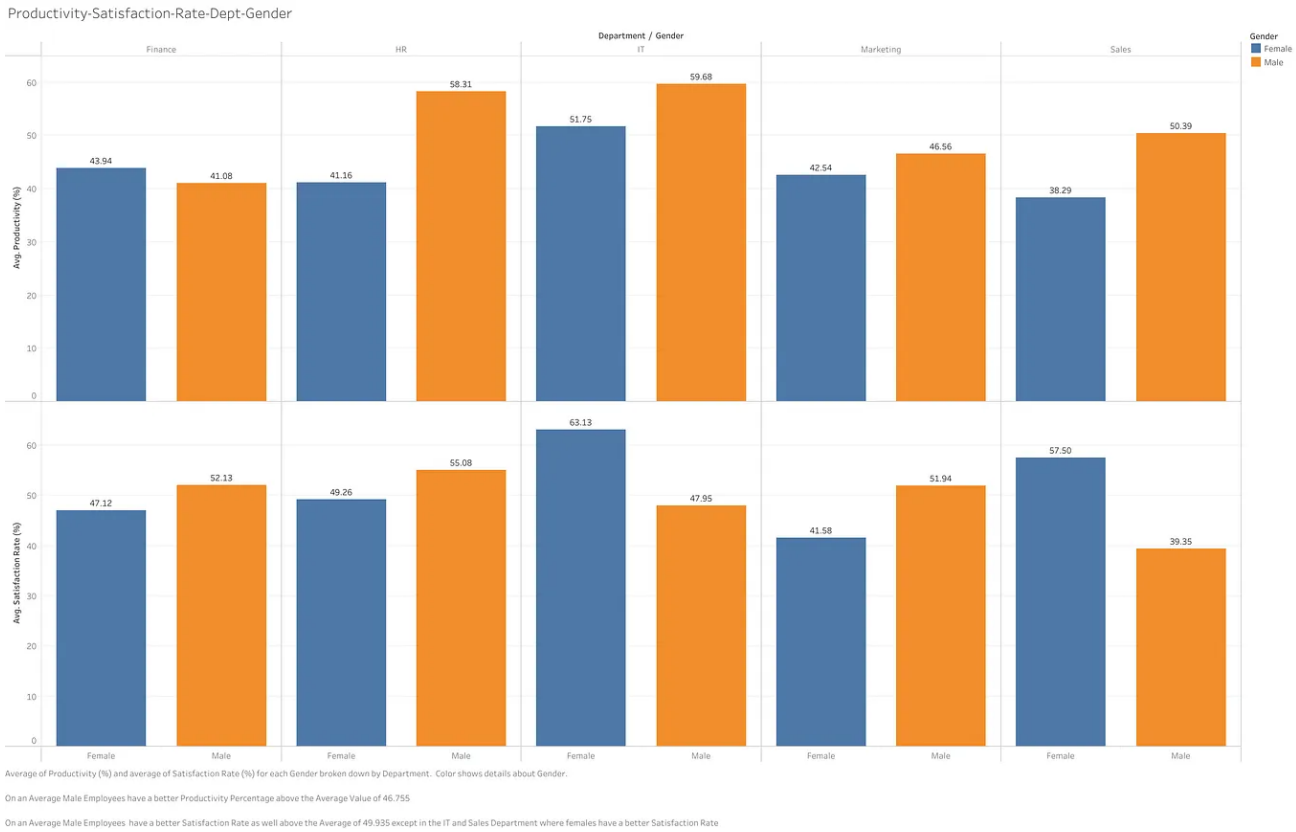
4. The number of Projects completed is based upon the Role the employee performs. Reading from the graph, number of projects completed is directly proportional to the Employee's Seniority; the senior the employee the greater number of projects they complete and vice versa. For example, Senior Employees complete a significantly higher number of projects than Average. This is evident from the data below:



Average Project Count based on Role

A hypothesis I have regarding this is, the total number of projects completed by Managers and team leads would include projects that they have facilitated for their reportees. Also, Junior Team members are just getting abreast of all the Projects, Processes and Technologies, and they have spend their Productive time for learning and context building.

5. Productivity and Satisfaction Rate:
When I mapped Average Productivity Percentage and Average Satisfaction Rate to Department-Gender, I had the below mentioned inferences:
On Average Male Employees have a better Productivity Percentage above the Average Value of 46.755. They also have a better Satisfaction Rate as well above the Average of 49.935 except in the IT and Sales Department where females have a better Satisfaction Rate.

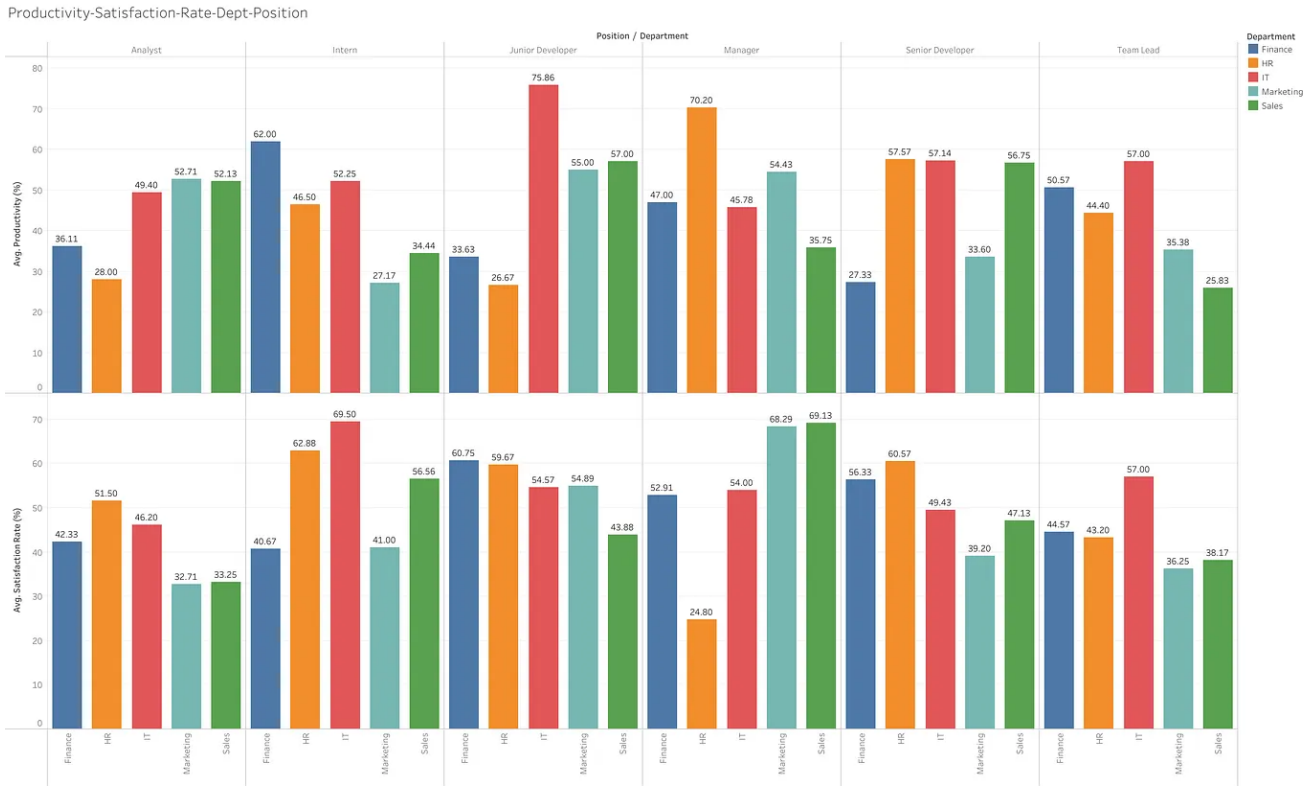


Average Productivity and Satisfaction Rate based on Department and Gender

But when I mapped Average Productivity Percentage and Average Satisfaction Rate to Department-Position I found out a few things:

- In Marketing, till Team Lead Level, Satisfaction & Productivity are on par with each other. There is a higher deviation between Intern & Manager where their Average Satisfaction is higher than their Productivity.
- Hypothesis 1: Managers may have a Higher compensation packages and perks that may lead to higher Satisfaction. Their productivity might be lower because their Task Productivity might be low because they are spending a part of their workday in People and Project Management.
- Hypothesis 2: Intern Productivity is lower than their Satisfaction because they do not have much of an experience or context of why they are doing certain things, part of their workday would be spent in correcting their mistakes or redoing their assignments or researching or learning to build context about the task they are doing.
- Hypothesis 3: In the HR Department, Managers have a High Productivity but their Satisfaction Rate is lower this could happen because since they are a part of the Human Resources team, they must deal with people and processes on an

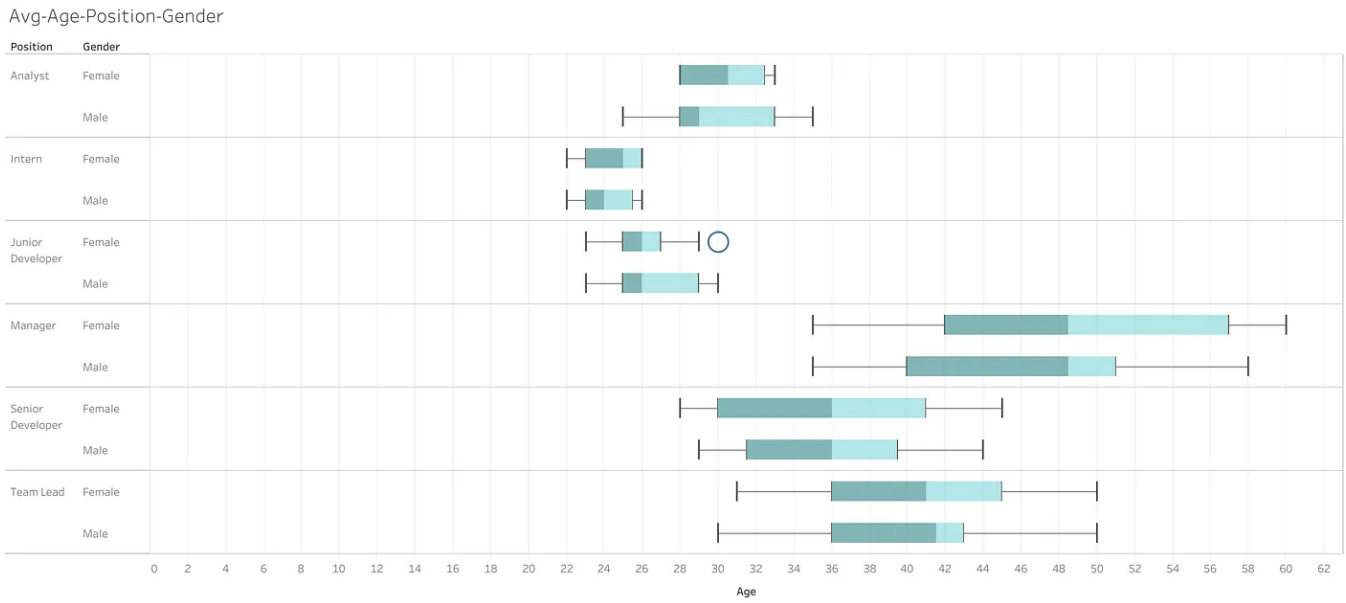
everyday basis but if the volume of such work is more, then they might feel overwhelmed and it is bound to reduce the Satisfaction rate.



Average Productivity and Satisfaction Rate based on Department and Position

6. Average Age mapped against Gender and Position:
The dataset has 1:1 ratio for male and female employees. although we do not have a clear idea about their distribution across roles and experience.

From the below mentioned chart we find out that a majority of the Senior Team members like Managers, Senior Developers, Team Leads and Analysts are above 28 years old while the Junior team members like the Junior Developers and Interns generally are between the age of 22 and 28 with one outlier employee of 30 years old which is generally true in most Enterprise organizations we can see today.



Average Age of Employees based on Position and Gender

In conclusion, the organization seems to be doing fairly well in terms of pay parity, gender balance, diversity in experience with the latest shift in their hiring policy.

If you ever want to chat or bounce ideas off of me about Tech or Data do get in touch with me on LinkedIn — https://bit.ly/3g51OJ8

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