**Combining SQL (MySQL Workbench) with TABLEAU**

**Task 1 :**

Create a visualization that provides a breakdown between the male and female employees working in the company each year starting from 1990. Separate the data for year.

**SQL QUERY:**

SELECT

YEAR(d.from\_date) as calender\_year,

e.gender,

COUNT(e.emp\_no) as num\_of\_employees

FROM

t\_employees e

INNER JOIN

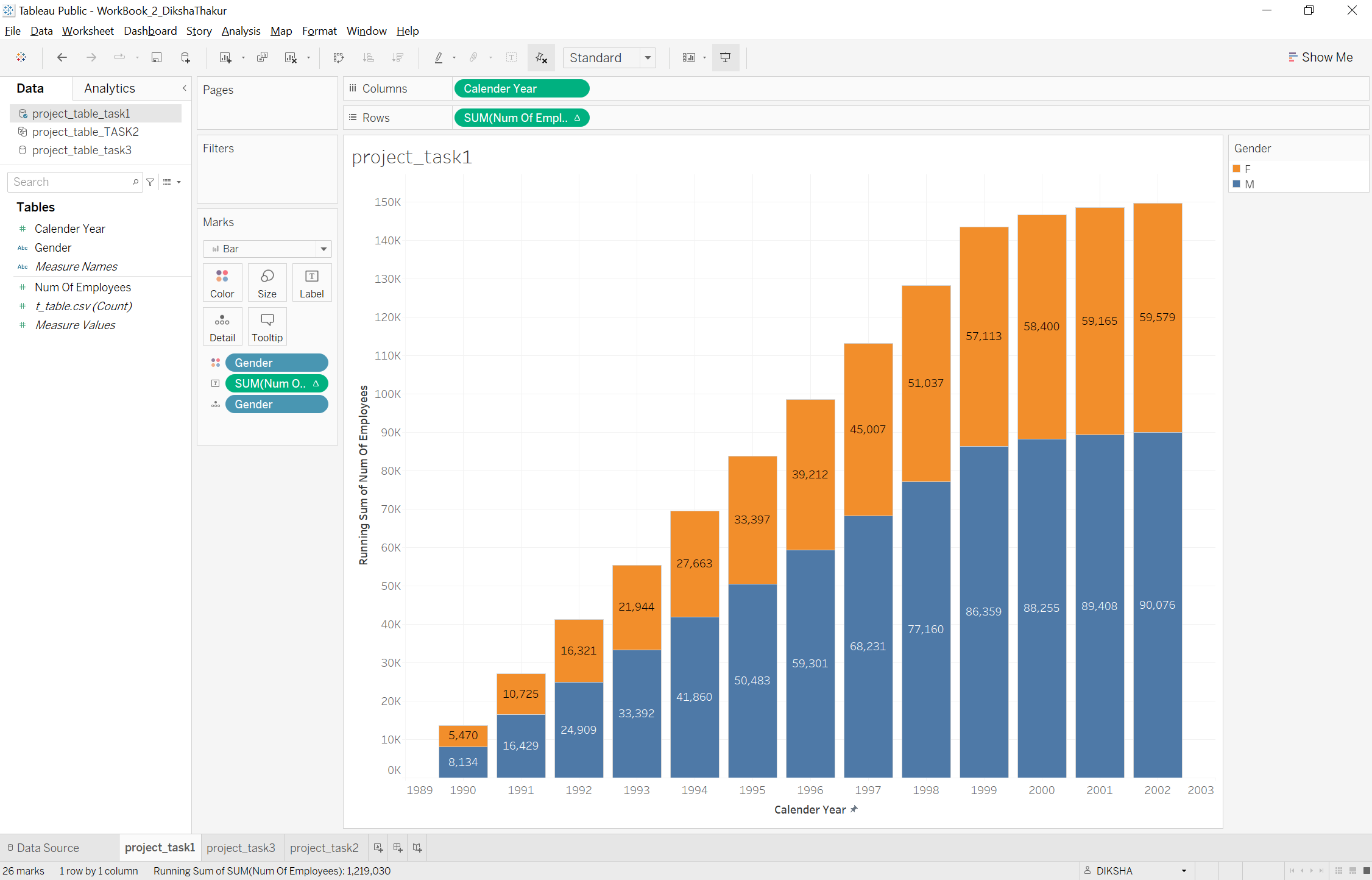
t\_dept\_emp d

on e.emp\_no = d.emp\_no

GROUP BY calender\_year, e.gender

HAVING calender\_year >= 1990;

**Bar chart:**



**Task 2:**

Compare the average salary of female versus male employees in the entire company until year 2002, and added filter to see that per each department.

**SQL Query:**

SELECT

e.gender, d.dept\_name, ROUND(AVG(s.salary), 2) as Salary, YEAR(s.from\_date) as calender\_year

FROM

t\_salaries s

JOIN

t\_employees e ON s.emp\_no = e.emp\_no

JOIN

t\_dept\_emp de ON de.emp\_no = e.emp\_no

JOIN

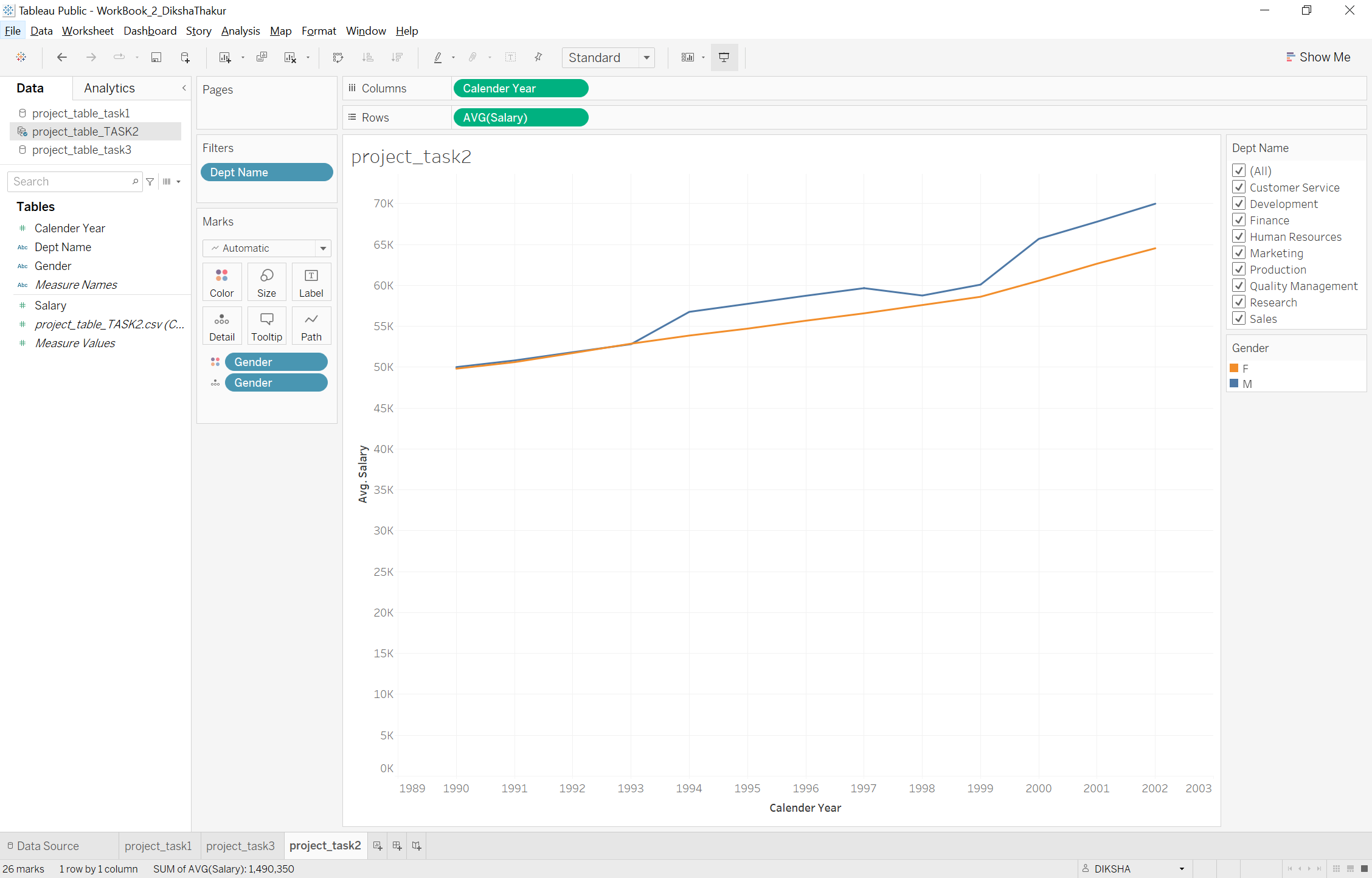
t\_departments d ON d.dept\_no = de.dept\_no

GROUP BY d.dept\_no, e.gender, calender\_year

HAVING calender\_year <= 2002

ORDER BY d.dept\_no;

**Line chart:**



visualize average salary for specific department: lets say “marketing department”

Graphical user interface, chart, application, line chart

Description automatically generated

**Task 3:**

**Compare the number of male managers to the number of female managers from departments different departments for each year, starting from 1990.**

**SQL QUERY:**

SELECT

d.dept\_name,

ee.gender,

dm.from\_date,

dm.to\_date,

e.calender\_year,

CASE

WHEN YEAR(dm.to\_date) >= e.calender\_year AND YEAR(dm.from\_date) <=e.calender\_year THEN 1

ELSE 0departments

END AS active

FROM

(SELECT YEAR(hire\_date) AS calender\_year

FROM

t\_employees

GROUP BY calender\_year) e

CROSS JOIN

t\_dept\_manager dm

JOIN

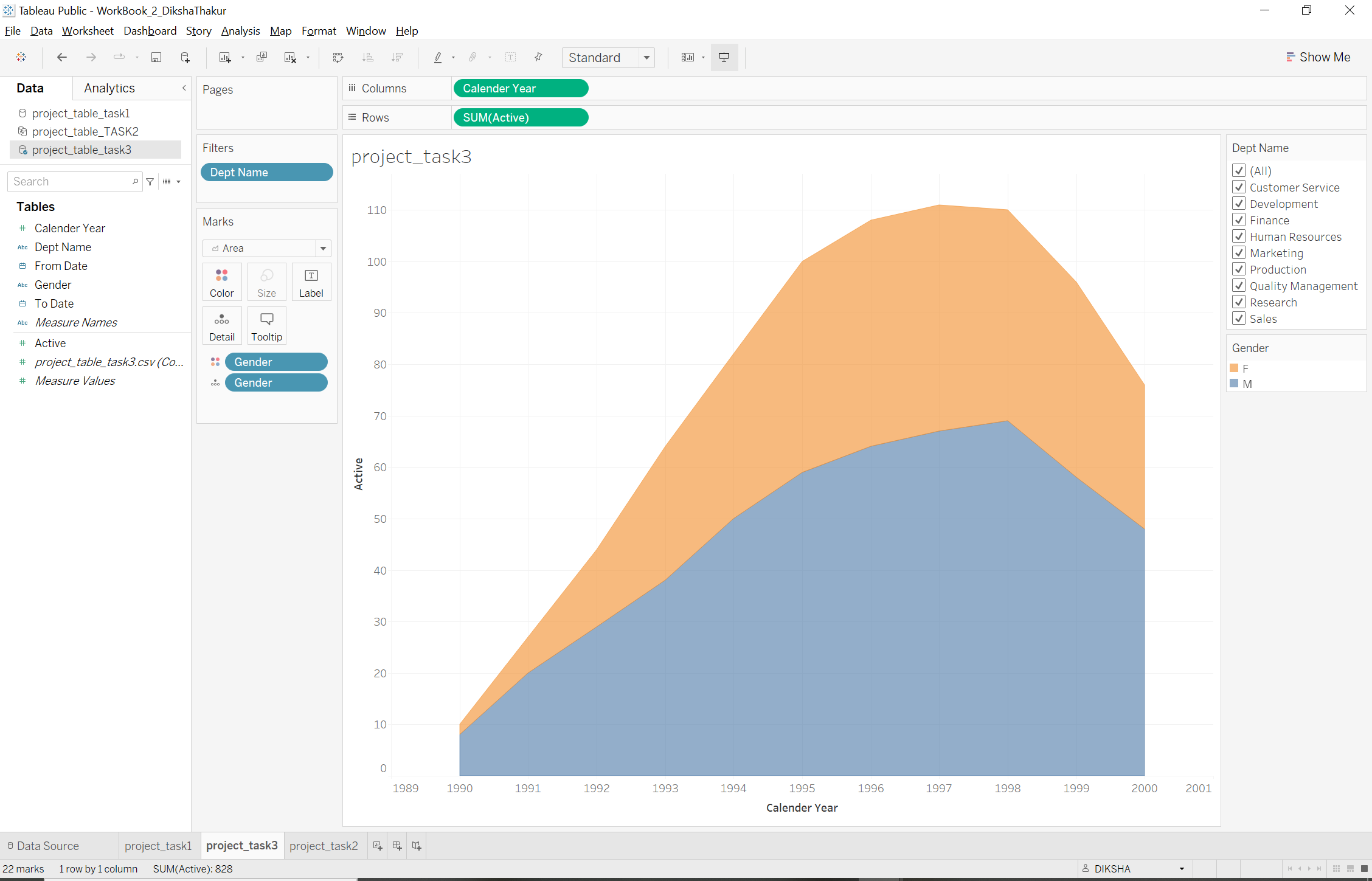
t\_departments d ON dm.dept\_no = d.dept\_no

JOIN

t\_employees ee ON dm.emp\_no=ee.emp\_no

ORDER BY dm.emp\_no, calender\_year;

**AREA CHART:**



**Task 4:**

Create a SQL stored procedure that will allow us to obtain average male and female salary per department within a certain salary range. Let this range be defined by two values the user can insert when calling the stored procedure.

Finally, visualize the obtained result-set in tableau as a double bar chart.

**SQL QUERY:**

DELIMITER $$

CREATE PROCEDURE filter\_salary (IN p\_min\_salary FLOAT, IN p\_max\_salary FLOAT)

BEGIN

SELECT

e.gender, d.dept\_name, AVG(s.salary) as avg\_salary

FROM

t\_salaries s

JOIN

t\_employees e ON s.emp\_no = e.emp\_no

JOIN

t\_dept\_emp de ON de.emp\_no = e.emp\_no

JOIN

t\_departments d ON d.dept\_no = de.dept\_no

WHERE s.salary BETWEEN p\_min\_salary AND p\_max\_salary

GROUP BY d.dept\_no, e.gender;

END$$

DELIMITER ;

CALL filter\_salary(50000, 90000);

**Bar graph:**

Chart, bar chart

Description automatically generated