

Zenvy Payroll Analytics Dashboard Report

Week 3: Mock Dashboard Development

1. Project Overview

Project Name: Zenvy Payroll SaaS - Analytics Dashboard

Week: Week 3 - Mock Dashboard Development

Role: DS/Analytics Intern

Date: January 31, 2026

Objective

Build first mock dashboards for payroll analytics:

- Salary Distribution Chart
- Department-wise Payroll Expenses

2. Tools and Technologies Used

2.1 Development Tools

Tool	Version	Purpose
Python	3.12	Programming Language
VS Code	Latest	IDE / Code Editor
Jupyter Notebook	Latest	Data Exploration
Git	Latest	Version Control

2.2 Python Libraries

Library	Purpose
Pandas	Data manipulation and analysis
NumPy	Numerical computing
Matplotlib	Data visualization and charts

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Seaborn	Statistical graphics
PdfPages	PDF report generation

2.3 Data Tools

Tool	Purpose
CSV Files	Data storage format
Power BI	Interactive dashboards
MySQL	Database storage
Excel	Data validation

3. Data Source

Dataset Used: zenvy_master_for_powerbi.csv

Field	Description	Data Type
employee_id	Unique Employee Identifier	Integer
employee_name	Employee Full Name	String
department	Department (IT, HR, Finance, Sales,	String
designation	Job Role/Title	String
base_salary	Base Monthly Salary	Float
gross_salary	Total Earnings	Float
net_salary	Take-home Pay	Float
tax_deduction	Tax Amount Deducted	Float
pf_deduction	PF Contribution	Float
working_days	Total Working Days	Integer
present_days	Days Present	Integer
overtime_hours	OT Hours Worked	Integer

Data Summary

- Total Records: 20 employees
- Departments: IT, HR, Finance, Sales, Marketing
- Time Period: 2023-2024

4. Visuals Created

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4.1 Salary Distribution Visuals

Visual Name	Chart Type	Description
Net Salary Histogram	Histogram	Distribution of employee salaries w
Department Box Plot	Box Plot	Salary range comparison across depa
Gross vs Net Bar	Grouped Bar	Company cost vs employee take-home
Salary Bracket Pie	Pie Chart	Percentage in each salary bracket

4.2 Department Expense Visuals

Visual Name	Chart Type	Description
Department Payroll	Horizontal Bar	Total payroll spend per department
Expense Breakdown	Pie Chart	Net vs Tax vs PF split
Stacked Costs	Stacked Bar	Layered expense view by department
Headcount Chart	Dual-axis	Employee count with avg salary tren

4.3 KPI Cards

KPI Visual	Value Displayed
Total Employees	20
Total Gross Payroll	Rs.11.56L
Total Net Payroll	Rs.9.87L
Average Net Salary	Rs.49.4K
Highest Salary	Rs.82.5K
Lowest Salary	Rs.27.5K

5. Dashboard Pages

Page 1: Cover Page

- Project branding with Zenvy theme
- Title: ZENVY PAYROLL Analytics Dashboard
- Subtitle: Week 3 Mock Dashboard Development
- Generation date and author info

Page 2: Salary Distribution Analysis

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Chart	Type	Insight
Net Salary Distribution	Histogram	Shows salary spread with mean Rs.49
Salary Range by Department	Box Plot	IT has highest salary range
Gross vs Net Salary	Grouped Bar	Department-wise cost comparison
Salary Bracket Distribution	Pie Chart	35% earn Rs.35K-50K

Page 3: Department-wise Payroll Expenses

Chart	Type	Insight
Total Payroll by Department	Horizontal Bar	IT has highest payroll Rs.4.05L
Expense Breakdown	Pie Chart	Net 85.4%, Tax 9.1%, PF 5.5%
Stacked Expense	Stacked Bar	Net + Tax + PF per department
Headcount and Avg Salary	Dual-axis	IT has 5 employees, Rs.63.9K avg

Page 4: Executive Summary KPIs

KPI	Value
Total Employees	20
Total Gross Payroll	Rs.11.56L
Total Net Payroll	Rs.9.87L
Total Tax Deduction	Rs.1.05L
Total PF Contribution	Rs.52.6K
Average Net Salary	Rs.49.4K
Highest Salary	Rs.82.5K
Lowest Salary	Rs.27.5K

6. Key Findings

6.1 Salary Distribution Insights

- Average Net Salary: Rs.49,400 per month
- Salary Range: Rs.27,500 to Rs.82,500
- Most Common Bracket: Rs.35K-50K (35% of employees)

6.2 Department Analysis

Department	Employees	Total Gross	Avg Net Salary
IT	5	Rs.4.05L	Rs.63.9K

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Finance	4	Rs.2.85L	Rs.51.2K
HR	4	Rs.1.73L	Rs.36.9K
Marketing	3	Rs.1.45L	Rs.41.4K
Sales	4	Rs.1.33L	Rs.35.7K

6.3 Cost Breakdown

- Net Salary: 85.4% of total payroll
- Tax Deductions: 9.1% of total payroll
- PF Contributions: 5.5% of total payroll

7. Files Delivered

File Name	Description	Size
generate_dashboard_pdf.py	Python script for dashboard	19 KB
convert_to_pdf.py	Markdown to PDF converter	9 KB
Zenvy_Analytics_Dashboard.pdf	4-page dashboard PDF	60 KB
Week3_Dashboard_Report.md	This report markdown	7 KB
zenvy_master_for_powerbi.csv	Master data file	3 KB

8. How to Regenerate Dashboard

```
cd D:\project intership\zenvy payroll saas week 3
```

```
python generate_dashboard_pdf.py
```

Output: Zenvy_Analytics_Dashboard.pdf

9. Skills Applied

- Data Analysis: Pandas for data manipulation
- Data Visualization: Matplotlib charts and graphs
- Python Programming: Script development
- Report Design: Multi-page PDF reports

- Statistical Analysis: Distribution and averages
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10. Conclusion

Week 3 deliverables completed successfully:

1. Salary Distribution Dashboard - Employee salary patterns
2. Department-wise Payroll Analysis - Cost breakdown
3. KPI Summary Report - Key metrics for review

The mock dashboards provide insights into:

- Salary distribution patterns
 - Department-wise payroll expenses
 - Cost structure (Net vs Tax vs PF)
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Prepared by: DS/Analytics Intern

Project: Zenvy Payroll SaaS

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