Employee Attrition Analysis Dashboard

Identifying Reasons and Key Drivers of Attrition

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WHY EMPLOYEE ATTRITION MATTERS?

Employee attrition is a critical challenge for organizations and can impact:

- **Productivity**

- **Operational costs**

- **Business performance**

Therefore, understanding the key drivers of attrition can help:

- **Improve organization performance**

- **Retain top talents**

- **Improve employee satisfaction**

- **Reduce costs associated with turnover**.

This project aims to **analyze historical employee data** to identify trends and patterns, providing actionable insights to reduce attrition.

"Reducing attrition is not just about retaining employees—it's about building a stronger, more productive organization."

MAIN GOALS OF THE PROJECT

- **Analyze Attrition Trends**
  - Identify high-attrition departments, roles, and demographics.

- **Find Key Attrition Drivers**
  - Uncover root causes like salary, job satisfaction, and workload.

- **Predict High-Risk Employees**
  - Use SQL and analytics to flag at-risk employees.

- **Enable Data-Driven Decisions**
  - Provide HR with actionable insights to reduce attrition.

General Findings

TOTAL EMPLOYEES
1470

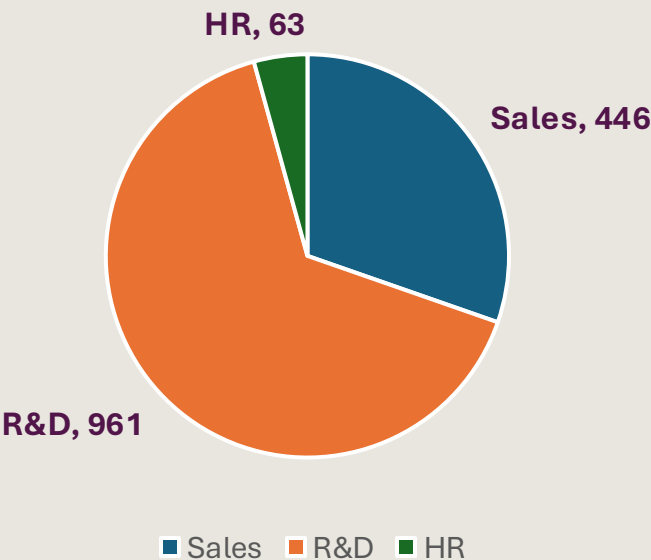**TOTAL MALE EMPLOYEES**
588

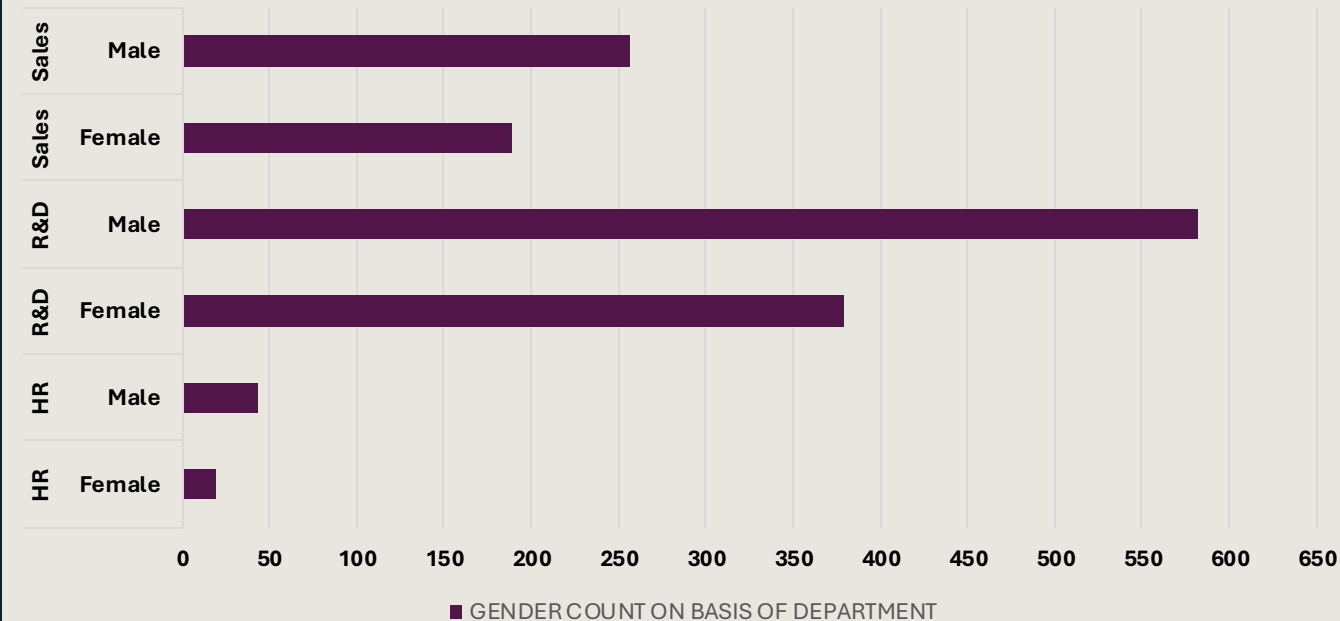**TOTAL FEMALE EMPLOYEES**
882

TOTAL ATTRITION
237

ATRITION RATE
16.12%

EMPLOYEE COUNT

HR, 63
Sales, 446
R&D, 961

Sales R&D HR

GENDER COUNT ON BASIS OF DEPARTMENT

Sales	Male	
Sales	Female	
R&D	Male	
R&D	Female	
HR	Male	
HR	Female	

0 50 100 150 200 250 300 350 400 450 500 550 600 650

GENDER COUNT ON BASIS OF DEPARTMENT

Attrition Analysis: Correlation Heatmap Insights

By analyzing correlation patters, we uncover key factor that influence attrition from job satisfaction to age . This insights help businesses to take proactive measures to retain talents and improve workplace .

Key Factor that drive attrition	Correlation	Insight
Age	-0.16 (negative correlation)	Younger employees are more likely to leave
Marital Status	0.16 (positive correlation)	Certain marital groups may be more prone to leaving
Job satisfaction	-0.10 (negative correlation)	Employees with lower job satisfaction are likely to leave.
Active Employee	-1.00 (negative and direct correlation)	Direct relation- employees who leave are no longer active

Department-Wise Attrition Analysis & Key Insights

Department	Job Role	attrition rate
HR	Human Resources	23.07692
	Manager	0

Department	Job Role	attrition rate
	Laboratory Technician	23.93822
	Research Scientist	16.09589
R&D	Manufacturing Director	6.89655
	Healthcare Representative	6.87023
	Manager	5.55556
	Research Director	2.5

Department	Job Role	attrition rate
	Manager	5.40541
SALES	Sales Executive	17.48466
	Sales Representative	39.75904

Attrition Rate across Departments (%)

R&D, 13.839

Sales, 20.627

HR, 19.047

Sales   HR   R&D
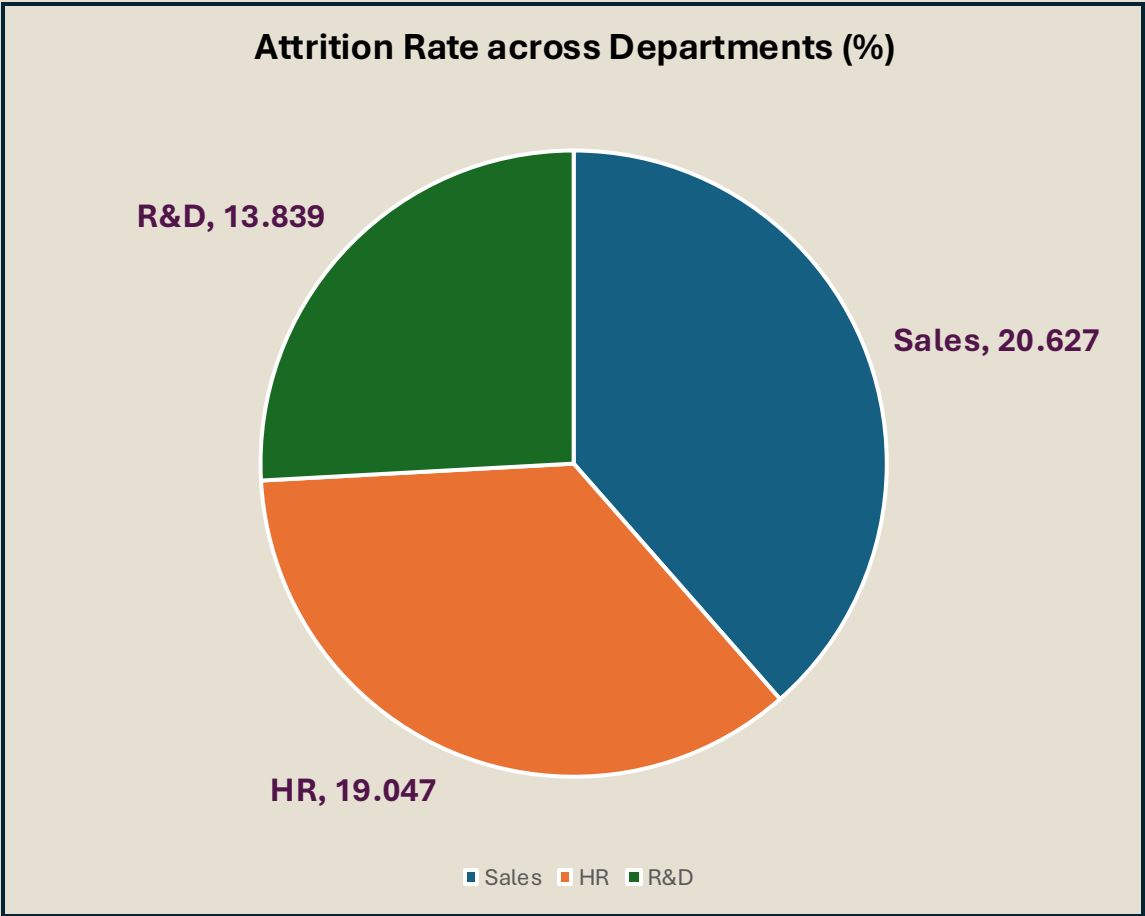
FINDINGS

- **<u>Sales Department</u> (Highest Attrition - 20.63%)**

  📌 **Sales Representatives: 39.76%** (Extremely High)
  ➡ **Likely reasons**: High performance expectations, workload pressure, limited career growth

- **<u>HR Department</u> (Attrition Rate - 19.05%)**

  📌 **Human Resources Role: 23.07%**
  ➡ **Possible causes:** Job dissatisfaction, workload stress, lack of upward mobility

- **<u>R&D Department</u> (Lowest Attrition - 13.84%)**

  📌 **Laboratory Technicians**: **23.94%**

  📌 **Research Scientists**: **16.10%**

  ➡ **Challenges**: Limited incentives, research funding constraints

ACTIONS

📌 **High Turnover in Sales:**
Address workload concerns, provide better performance incentives, and improve employee support systems.
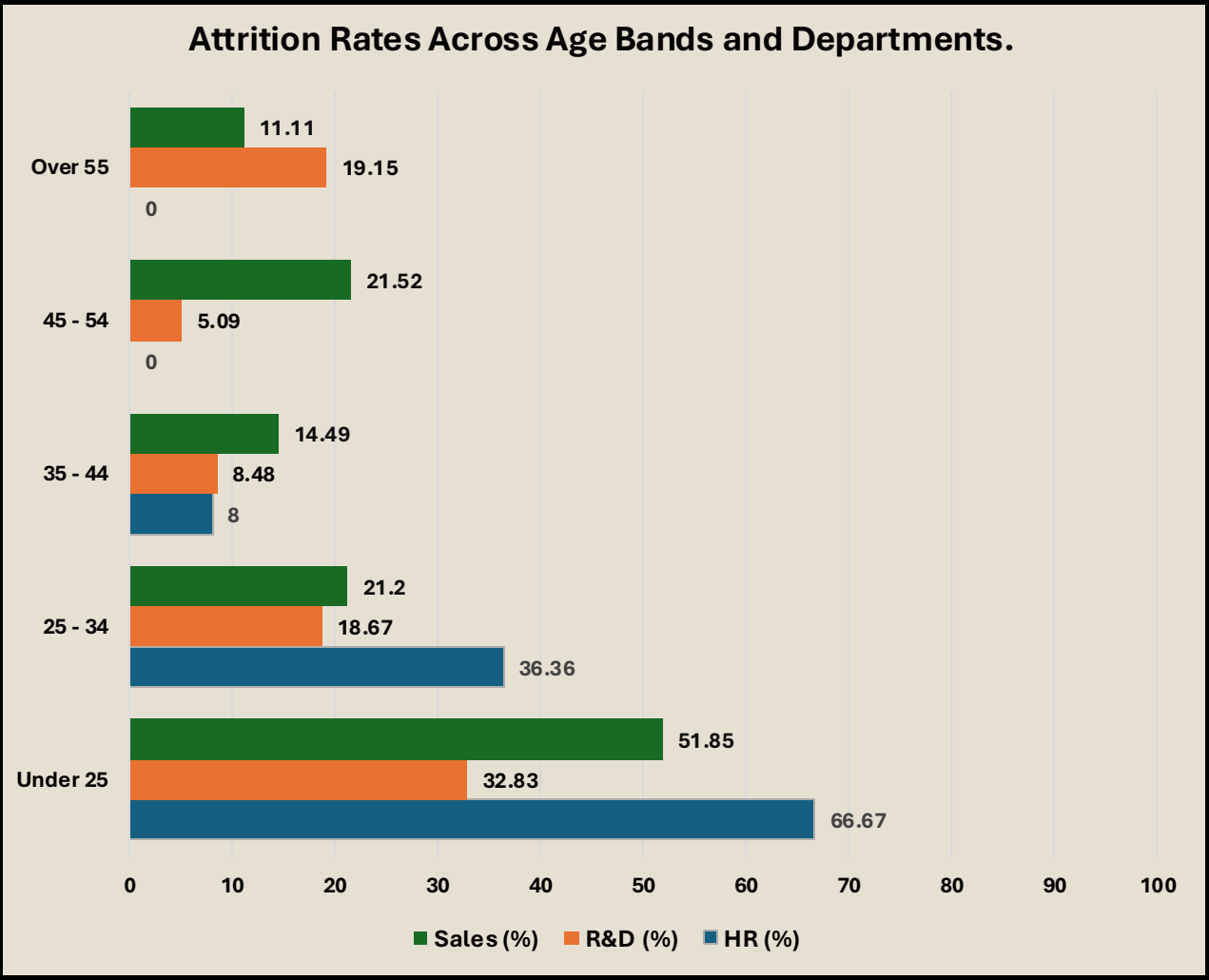
📌 **HR Challenges:**
Enhance career progression paths, improve work culture, and offer mental well-being programs.

📌 **R&D Stability:**
Focus on job engagement strategies and ensure competitive salaries to retain top talent.

Age band-Wise Attrition Analysis & Key Insights

How does work tenure affect attrition rates in different departments?

Attrition Rates Across Age Bands and Departments.

Age Band	Sales (%)	R&D (%)	HR (%)
Over 55	11.11	19.15	0
45 - 54	21.52	5.09	0
35 - 44	14.49	8.48	8
25 - 34	21.2	18.67	36.36
Under 25	51.85	32.83	66.67

■ Sales (%) ■ R&D (%) ■ HR (%)

NOTE: Assuming age band is a proxy for experience.

FINDINGS

Age Band	Attrition Rate by Department	Key Reasons for Attrition
Under 25(highest Attrition)	HR: 66.67% R&D: 32.83% Sales: 51.85%	- Lack of career growth opportunities. - Low job satisfaction or unclear expectations. - Desire for skill development & better opportunities elsewhere.
Over 55(lowest Attrition)	HR: 0% R&D: 19.15% Sales: 11.11%	- Value job stability and are closer to retirement. - Have higher job satisfaction and loyalty to the organization.

WHY THIS MATTERS?

- **Under 25:**
High attrition among younger employees can lead to-

  - Loss of **future talent** and **leadership potential**.
  - Increased **recruitment and training costs**.
  - Retaining younger employees is critical for **long-term organizational growth**.

- **Over 55:**
While attrition is low, retaining older employees is important for:

  - Maintaining **institutional knowledge** and **experience**.
  - Ensuring a smooth **transition to retirement**.

RECOMMENDATIONS

FOR EMPLOYEES UNDER 25:

Mentorship Programs:
- Pair younger employees with experienced mentors to guide their career development.

Clear Career Paths:
- Provide transparent career progression plans and regular feedback.

Skill Development:
- Offer training programs, certifications, and opportunities to learn new skills.

Engagement Initiatives:
- Create a supportive work environment with team-building activities .

FOR EMPLOYEES OVER 55:

Flexible Work Options:
- Offer part-time roles, remote work, or phased retirement plans.

Knowledge Transfer Programs:
- Encourage older employees to share their expertise with younger colleagues.

Recognition and Value:
- Regularly acknowledge their contributions and ensure they feel valued.
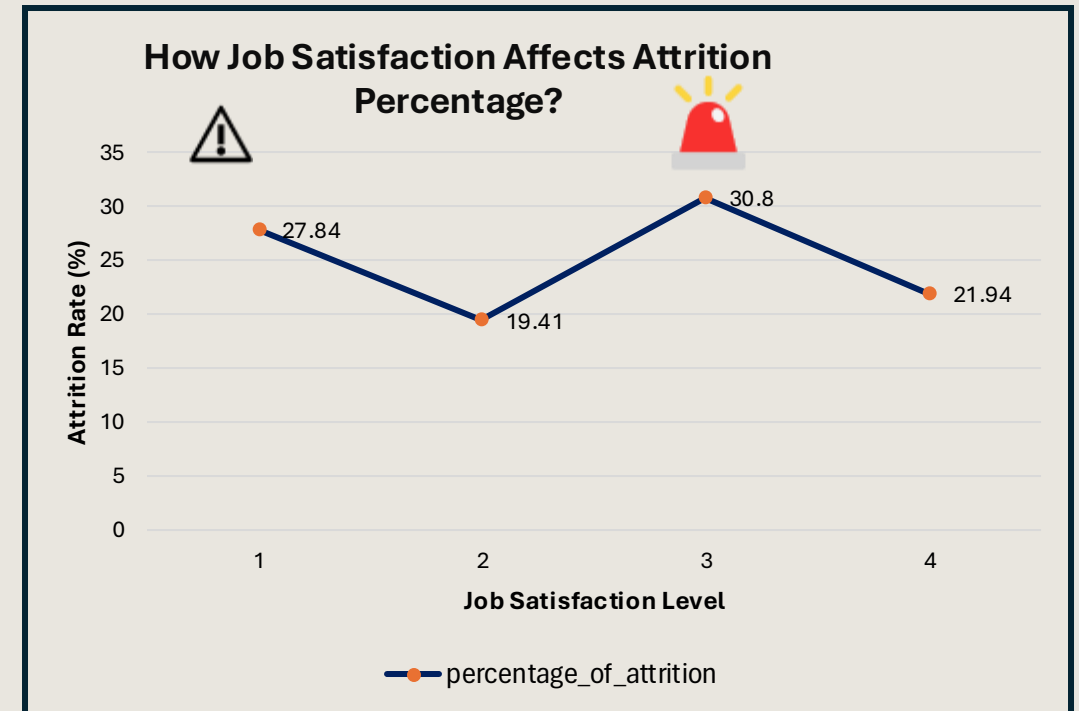
Retirement Planning Support:
- Provide resources and counseling for retirement planning.

Job Satisfaction & Attrition: Key Insights & Analysis

FINDINGS

- Level 3 shows **the highest attrition (30.80%)**, indicating potential workplace issues beyond job satisfaction.

- Level 1 (Low Satisfaction) has **significantly high attrition(27.84%)**, emphasizing an urgent need for retention strategies.

- Higher satisfaction (Level 4) **reduces attrition(21.94%) but** doesn't eliminate it completely.

GRAPHICAL VISUALIZATION

How Job Satisfaction Affects Attrition Percentage?

Attrition Rate (%) — Job Satisfaction Level

27.84 — 19.41 — 30.8 — 21.94

percentage_of_attrition

Job Satisfaction Levels:
- 😡 **Level 1** - Low
- 😤 **Level 2** - Below Average
- 😐 **Level 3** - Moderate
- 😃 **Level 4** - High

POSSIBLE REASONS FOR ATTRITION

Low Satisfaction (Level 1)

Poor **work environment** or **management**.

Lack of **recognition** or **career growth opportunities**.

High **workload** or **stress**.

Moderate Satisfaction (Level 3)

They feel **stuck** or **underutilized** in their roles.

They are **exploring better opportunities** elsewhere.

They lack **motivation** or **engagement** in their work.

High Satisfaction (Level 4)

External factors like **better job offers** or **personal reasons**.

Potential gaps in **retention strategies** for top performers.

RECOMMENDATIONS

For Level 1

Improve Work Environment:

- Address issues like poor management, lack of recognition, or high workload.

Career Growth Opportunities:

- Provide clear career paths and regular feedback.

Employee Engagement:

- Conduct regular surveys to identify pain points and take action.

For Level 3

Skill Development:

- Offer training programs and opportunities to learn new skills.

Recognition Programs:

- Recognize and reward employees for their contributions.

Engagement Initiatives:

- Create a supportive work environment with team-building activities.

For Level 4

Retention Strategies for Top Performers:

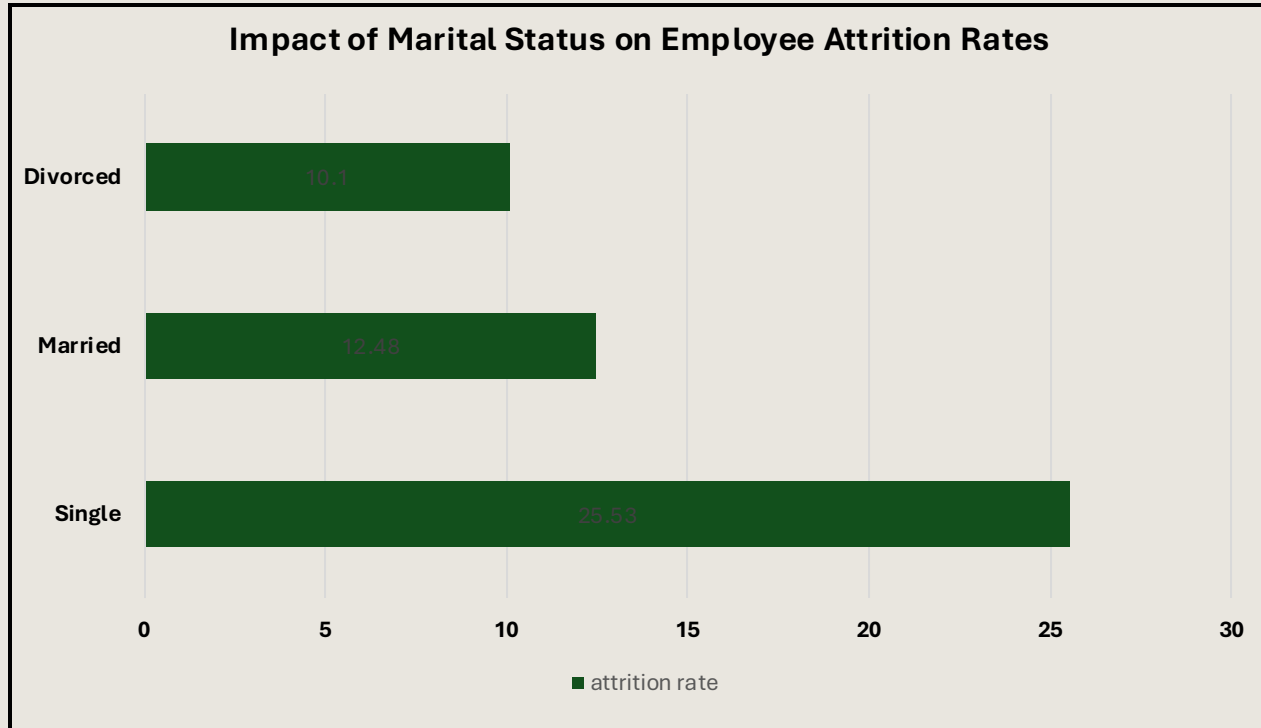- Offer competitive salaries, bonuses, and benefits.

Career Advancement:

- Provide leadership opportunities and mentorship programs.

Work-Life Balance:

- Offer flexible work arrangements and wellness programs.

Marital Status & Attrition: Key Insights & Analysis

Impact of Marital Status on Employee Attrition Rates

Divorced: 10.1
Married: 12.48
Single: 25.53

■ attrition rate

"Retention strategies should focus on single employees to reduce turnover."

Attrition Rates by Marital Status:
1. **Single**: 25.53% (120 out of 470 employees left).
2. **Married**: 12.48% (84 out of 673 employees left).
3. **Divorced**: 10.09% (33 out of 327 employees left).

FINDINGS

1. **Single employees** have the **highest attrition rate**, nearly double that of married employees .
2. **Divorced employees** have the **lowest attrition rate**.

WHY THIS MATTERS?

Single Employees:

Have the **highest attrition rate (25.53**%), nearly double that of married employees.

Often **younger** and more likely to explore new opportunities, leading to a loss of **future talent**.

Addressing their needs can improve **retention** and **reduce recruitment costs**.
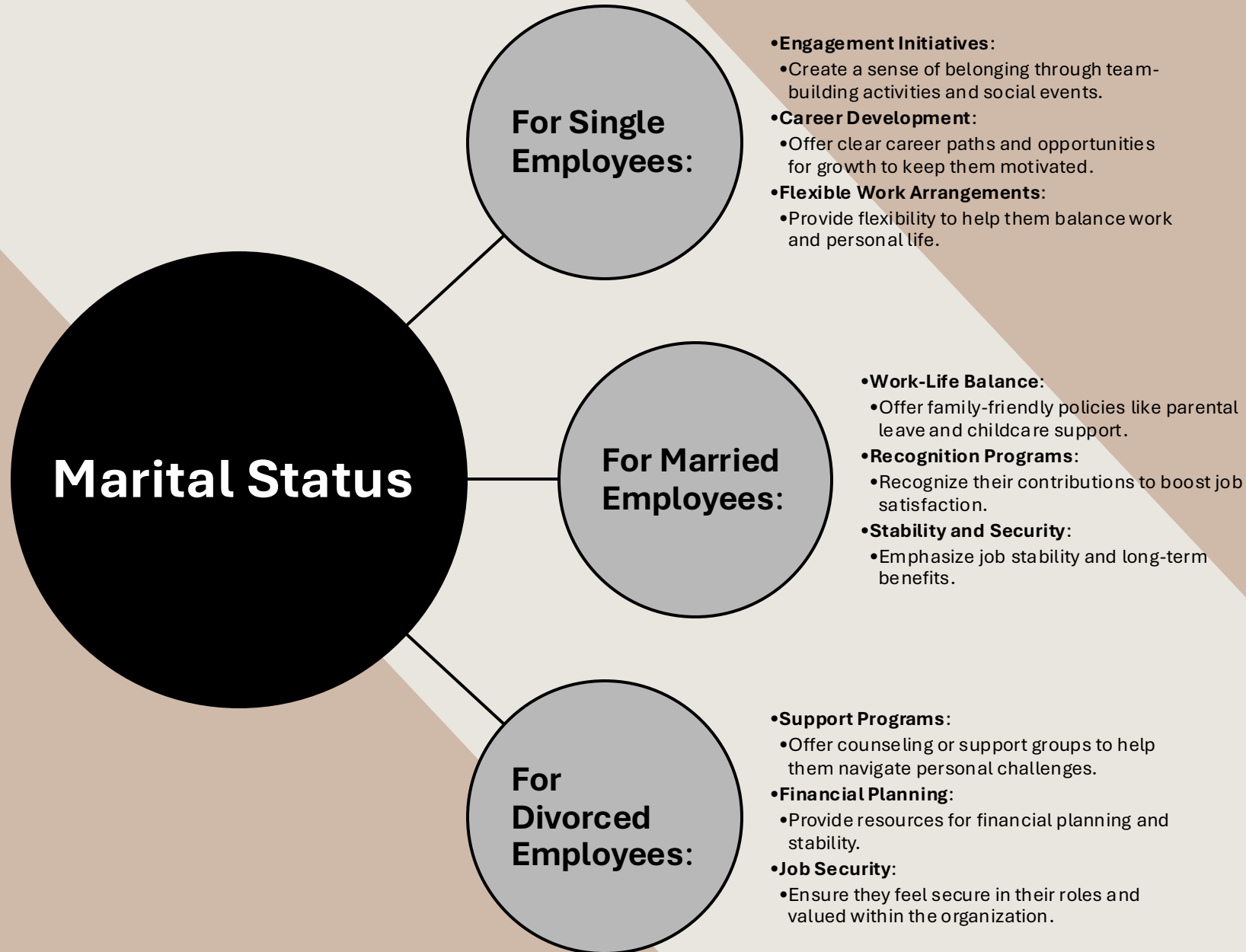
Married Employees:

Have a **moderate attrition rate (12.48**%).

Provide **stability** and **experience**, making their retention important for organizational continuity.

Divorced Employees:

Have the **lowest attrition rate (10.09%)** but still need support.

Often prioritize **job security**, so ensuring their satisfaction can maintain a **stable workforce**.

RECOMMENDATIONS

Marital Status

For Single Employees:

- **Engagement Initiatives:**
  - Create a sense of belonging through team-building activities and social events.
- **Career Development:**
  - Offer clear career paths and opportunities for growth to keep them motivated.
- **Flexible Work Arrangements:**
  - Provide flexibility to help them balance work and personal life.

For Married Employees:

- **Work-Life Balance:**
  - Offer family-friendly policies like parental leave and childcare support.
- **Recognition Programs:**
  - Recognize their contributions to boost job satisfaction.
- **Stability and Security:**
  - Emphasize job stability and long-term benefits.

For Divorced Employees:

- **Support Programs:**
  - Offer counseling or support groups to help them navigate personal challenges.
- **Financial Planning:**
  - Provide resources for financial planning and stability.
- **Job Security:**
  - Ensure they feel secure in their roles and valued within the organization.

CONCLUSION & STRATEGIC RECOMMENDATIONS

The Employee attrition analysis provided critical insights into trends and helped to identify key areas for intentions to enhance retention and organizations work culture.

KEY FINDINGS

- **Overall Attrition Rate: 16.12%** with Sales owning about 20.63% , HR owning 19.05% and R&D owning 13.84% .
- **Primary Attrition Drivers :** Employee age, marital status, job satisfaction , and workload notably influencing retention.
- **Demographic Trends:**
    1. Younger employees**(age < 25)** show a higher likelihood of leaving due to career progression concerns.
    2. **Single employees** face 25.53% attrition rate indicating the need to have stronger strategies for retention.

Addressing these challenges through targeted engagements , retention strategies and workload enhancements will improve employee satisfaction thus leading to reduced attrition.