

SECTOR: CORPORATE WORKFORCE ANALYTICS

MAPPING LAYOFF INTENSITY & WORKFORCE STABILITY IN THE TECHNOLOGY SECTOR^(2020–2025)

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Context & Problem - Descriptive: What Happened?

6.3M+ Layoffs across **2,400+**
Technology Firms (2020-25)

Problem

WorkForce planning remains reactive despite
repeated capital cycle patterns.

Solution

Proactive workforce planning aligned with
the capital availability.



Data Engineering - From Source to Analytical Product

Source Data

- 2020-2025 Layoff Dataset
- 2,400+ Firms Tracked
- Capital + Workforce changes

Dictionary Structure

- Company Stage
- Industry Classification
- Geographic Location
- Capital Raised
- Layoff Count
- Workforce Delta Percentage

Data Cleaning

- Null Values Handling
- Outlier Normalisation
- Duplicate removal

Analytics Ready

- KPI Computation
- Severity Classification
- Trend Analysis

Understanding DataKPI & Metrics Framework - Descriptive Analytics

Layoff Intensity - Percentage workforce reduction per event

Capital Raised - Total funding in billions USD

Layoff Intensity - Percentage workforce reduction per event

Workforce Delta - Net change in employee count

Severity Classification - High, medium, low impact segments

Revenue per Employee - Productivity Benchmark

Funding_Catagory	SUM of Laid_Off
Early Stage	893186
Growth Stage	843854
Late Stage	1838672
Mature	898117
Unknown	1851173
Grand Total	6325002

Location	SUM of Laid_Off
Canada	441180
France	459557
Germany	423466
India	460905
United Kingdom	932194
United States	2661787
Unknown	945913
Grand Total	6325002

Key Insights - Descriptive Analytics

6.3M+ Layoffs across **2,400+** Technology Firms (2020-25)

4.61%

AVERAGE WORKFORCE
REDUCTION

US

HIGHEST NUMBER OF
LAYOFFS IN A COUNTRY

20.15%

COMPANIES WITH SEVERE
IMPACT

20%

OVER 20% FIRMS FACES
HIGH/SEVERE WORKFORCE REDUCTION

FINTECH

HIGHEST RISK INDUSTRY

SMALL FIRMS

SMALL FIRMS SHOW HIGHEST
PROPORTIONAL IMPACT

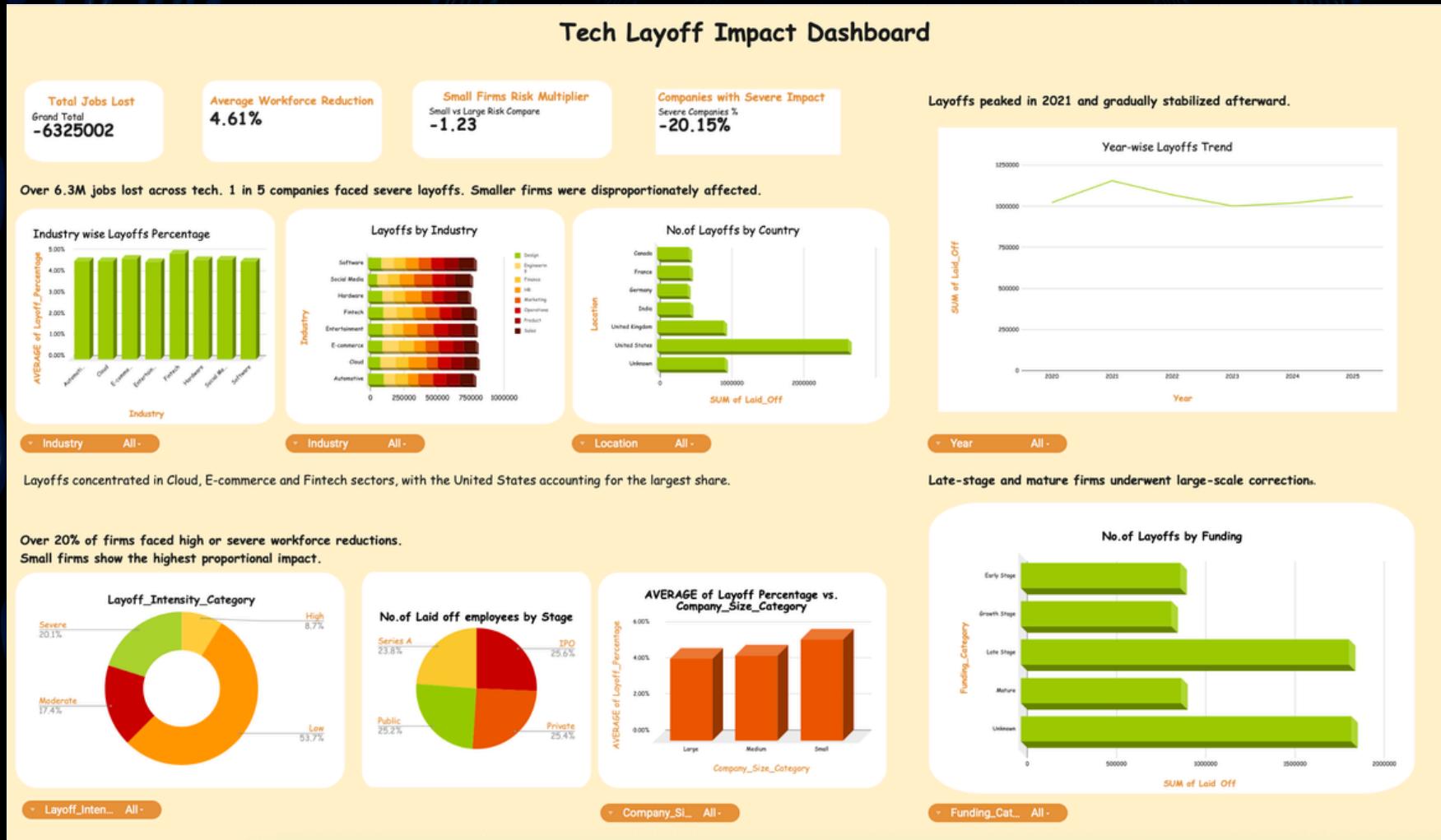
Advanced Analysis 4 Diagnostic: Why the Pattern?

**CAUSE-EFFECT RELATIONSHIP: CAPITAL AVAILABILITY
DRIVES WORKFORCE EXPANSION AND CONTRACTION**

- **Funding Boom (2020-2021)**
\$250B+ capital influx drove aggressive hiring
- **Over-Hiring**
Rapid expansion without runway buffers
- **Capital Winter (2022)**
Funding contraction forced cost rationalisation
- **90% Reversal**
Workforce tracks capital cycle availability



Dashboard Walkthrough 4 Descriptive + Diagnostics + Predictive



EXECUTIVE VIEW

Layoff intensity trends with capital overlay and risk cluster identification.

OPERATIONAL VIEW:

Industry and geographic drill-down with firm-stage segmentation.

PREDICTIVE SCREENING:

Risk metrics overlays capital assumptions with vulnerability heatmaps.

KEY FEATURE: Scenario-based risk forecasting identifies at-risk segments before capital contraction begins

Recommendations - Prescriptive Analytics: What Should Be Done?

Near-term actions based on structural predictability pattern of funding-driven workforce cycles

Stage-based hiring discipline

Align recruitment to funding stage maturity and runway duration

Runway Buffer Policy

Maintain minimum 18-month cash reserve through funding downturn preparedness

Capital Volatility Integeration

Incorporate funding cycle forecasting into 18-month workforce planning

Predicticve Dashboard Deployment

Deploy real-time monitoring system with early warning thresholds.

Geographic Diversification

Reduce concenteration risk in single-region (U.S. dominant) positioning

Impact & Value: Why Invest in this Approach

10-15%

SUDDEN LAYOFFS

Reduction through predictive workforce planning versus reactive cuts

40%

CORRECTION COSTS

Reduction through proactive recalibration versus crisis model down sizing

25%

CAPITAL EFFICIENCY

Improvement through capital cycle-integrated staffing decisions

+18%

CONFIDENCE BPS

Investor's confidence increase through demonstrated strategic workforce management

BUISNESS CASE:

Structures workforce tied to capital cycles delivers ROI through reduced fraction costs and improved stakeholder's confidence investment pays for itself within 18-months.

Limitation & Next steps

Current Constraints

- Reportng bias in small firm disclosure
- 12-month funding lag in public data
- Macro indicators not yet integrated (GDP,interest rates)
- Private firm data limited

Layoffs are not random disruptions. They are capital-cycle-driven correction patterns. Stability requires predictive workforce planning, not receive downsizing.

Immediate Next phase

- Build MI-based layoff prediction models (2026-forward)
- Deploy real-time risk dashboard
- Add macro indicators
- NLP processing of earnings call transcripts