Advanced Strategic Human Resource Management

Session 5-6

Bishakha Majumdar. Advanced Strategic Human Resource Management. IIM Visakhapatnam. December 2024 - June 2025.
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Competency Mapping

*A process of identifying key **competencies** for an organization and/or a job and incorporating those **competencies** throughout the various processes (i.e. job evaluation, training, recruitment) of the organization*

- Set up a list of key competencies **https://www.competencylibrary.com/**
- Define what those key competencies mean in practice, in terms of knowledge and skills
- Set up different levels of requirement for each competency for different profiles
- Assess employees from different profiles on required competencies
- Prioritize: develop a plan for which competencies to improve for different employees

Competency	Description	Proficiency level

Proficiency Levels

0 – Completely unfamiliar: Doesn't understand the competency.
1 – Novice: Understands the competency and its importance.
2 – Advanced Beginner: Demonstrates this competency under supervision or with encouragement.
3 – Competent: Demonstrates this competency independent of supervision or encouragement.
4 – Proficient: Encourages or supervises others in this competency.
5 – Expert: Develops new ways of applying this competence measured on the world stage.

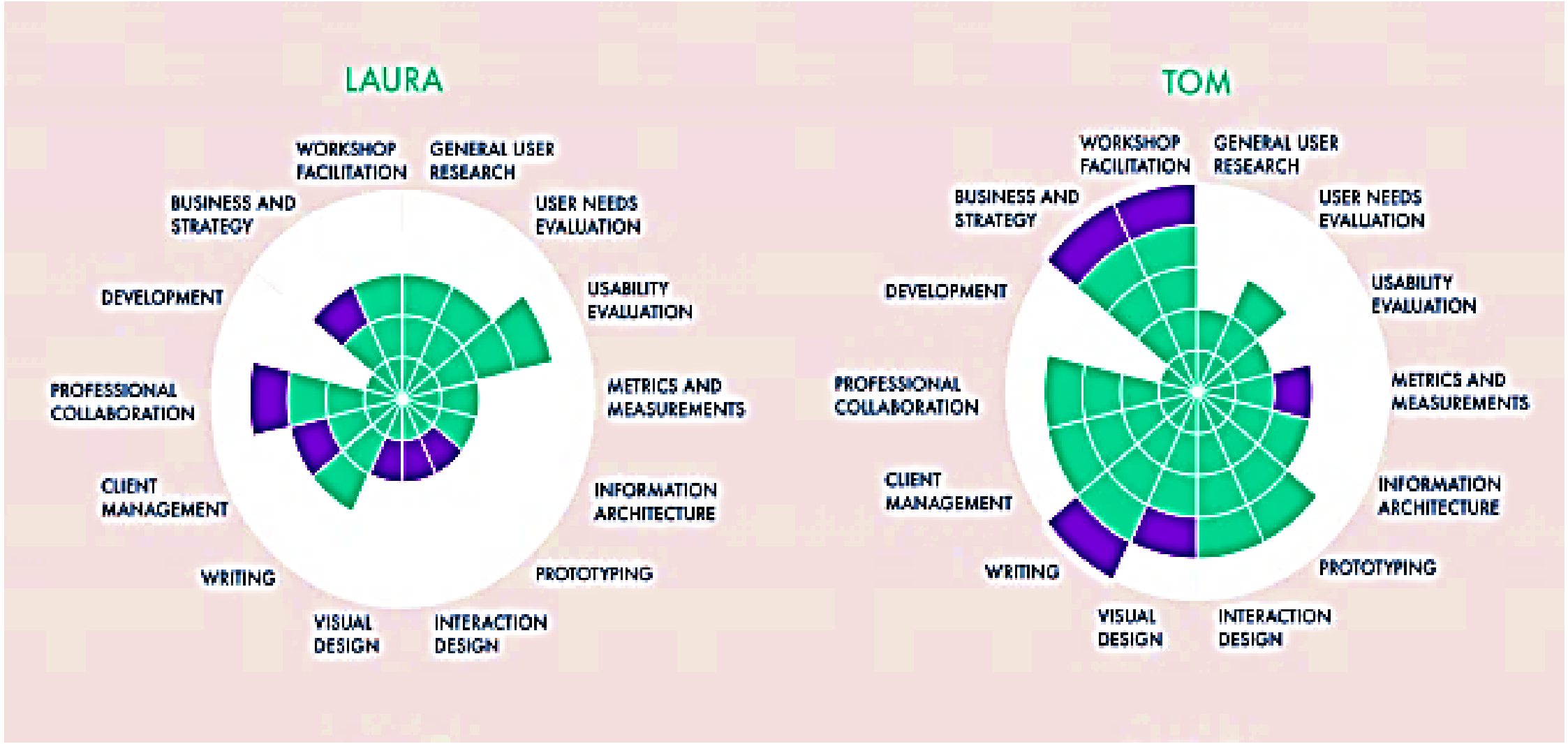
https://uxstudioteam.com/ux-blog/competency-management/

Understanding Competencies

Method	Steps
Job-focused method	• **Understand purpose of the job** • **List down major activities, key result areas, critical success factors** • **List down competencies for each task** **http://www.competencylibrary.com/**
Behaviour Events Interview	• **Seek specific examples of behaviour on a job** • **Arrive at competencies based on the specific behaviour** • **Rate the competencies with respect to their relevance for a job**
Past performance-based approach	• **Identify high, low, & average performers for each job** • **B**ehavioral Event Interview • **Arrive at competencies for each level of performance**
Repertory Grid	• **Rate each competency on the level required for a particular job role**

-Cn	A	B	C	D	E	F	Cn
	a job I would like to do	my current job	a job I would not like	my ideal job	a well-paid job	a socially valuable job	
	journalist	**teacher**	**steeplejack**	**artist**	**footballer**	**doctor**	
Not using brains	4	4	2	3	2	5	Mainly uses brains
Outdoor	3	5	1	5	1	4	Indoor
Not very useful	3	4	2	2	1	5	Useful
Less skilful	2	3	4	4	4	5	Skilful
Reliable career	3	1	4	4	5	1	Unreliable career

https://methods.sagepub.com/book/understanding-and-using-advanced-statistics/n12.xml



https://uxstudioteam.com/ux-blog/competency-management/

AI-driven Competency Mapping: SkyHive

- Continuously collects and analyzes millions of real-time labor market data points on jobs, skills, training, performance - Quantum Labor Analysis
- Automatically extracts skills from existing employee data. Can create unique skills profiles of employees from resumes in 6 minutes.
- Matches workers with targeted learning to fill precise skill gaps
- Matches talent to career pathways through AI-driven skill proximity and reskilling pathway identification
- Provides insights into competitors and identifies future workforce skills requirements

https://www.skyhive.ai/products/skyhive-enterprise

AI-driven Competency Mapping: IBM

- **Predicting skill supply:** Daily & automatic assessment of skills and skill proficiency levels based on the digital footprint at work and data patterns
- **MYCA (My Career Advisor):** AI virtual assistant provides personalized feedback on where employees need to increase their skills. Aids in PA and Mentoring
- **Blue Match / WatsonX Orchestrate:** AI serves job openings to employees based on AI-inferred competencies (27% of internal hires in 2018)
- **Predictive Attrition Program:** Predicts employee flight risk with 95% accuracy ($300 million saved in attrition costs)

- *IBM's global human resources department has been downsized by 30%*

https://www.ibm.com/products/watsonx-orchestrate/skills

Rosenbaum, 2019; Moore & Bokelbaug, 2019

DON'T:

- Make competency models too detailed
- Make surveys too long
- Ignore results or wait too long for giving feedback and acting
- Accidentally scare employees into thinking that you look for a substitute
- Panic if results are lower than expected
- Assume that everything is great, if self-assessments are all top marks

https://www.upsteem.com/blog/what-s-your-staff-best-at-map-their-competencies-and-find-out#.X15BwWgzY2w

HR Planning

Human Resource Planning / Workforce Planning

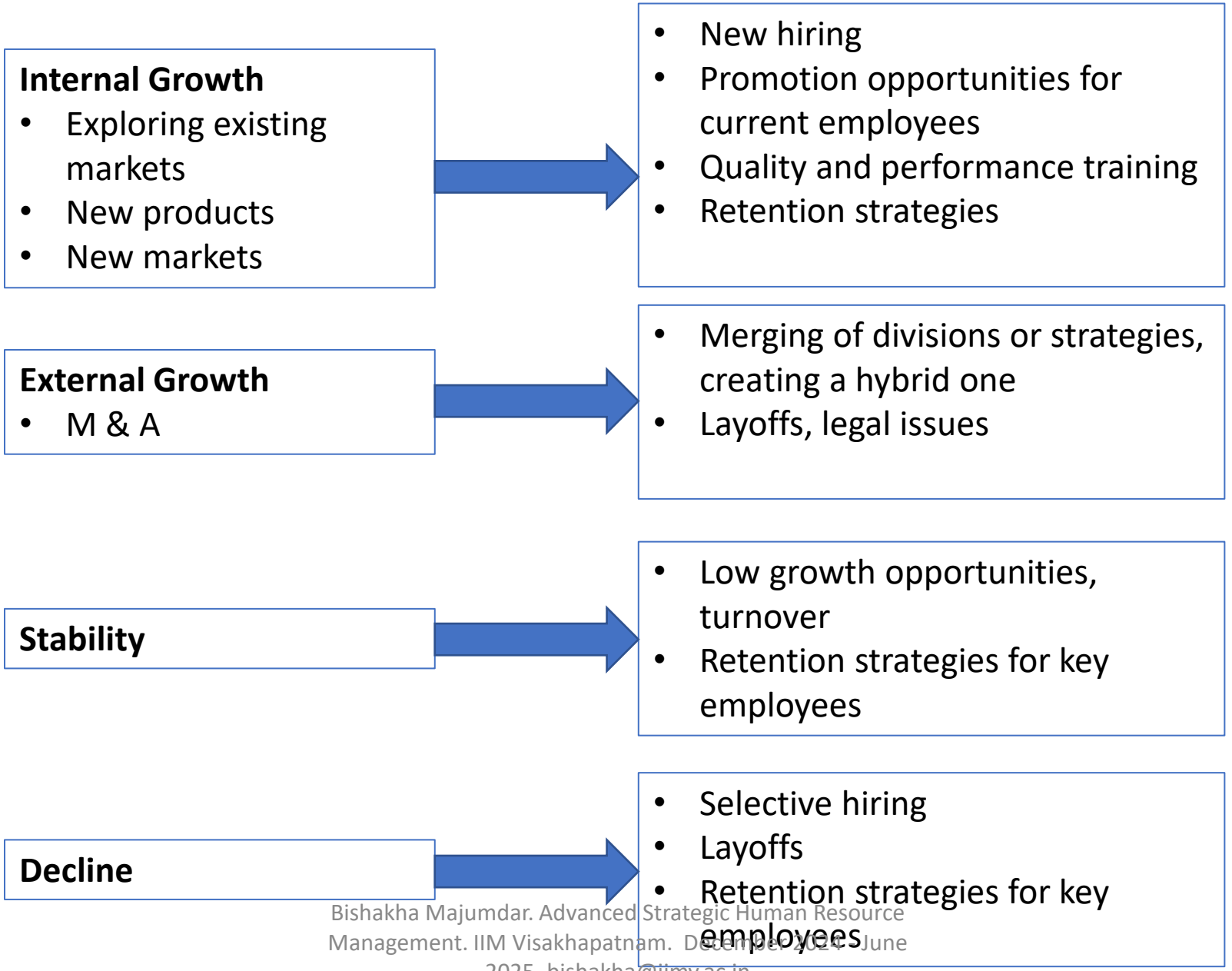
The process by which a firm determines its need for human resources in a given period and plans to acquire it

SUPPLY = DEMAND

- Environmental Scanning
- Forecasting supply and demand
- Action Plans

ENVIRONMENTAL SCANNING

Methods: Strengths Weaknesses Opportunity and Threats (SWOT) analysis, Political, Economic, Social and Technological (PEST) analysis, Industry Trends



DEMAND FORECASTING

ELEMENTS

- Firm Strategy
- Resources Available
- Location and expansion plans
- Quantity and composition of future workforce


Workload and Demand Analysis


Markov Analysis

METHODS

- **Estimation**: by existing officers
- **Delphi Technique**: Estimates by experts
- **Sales Force estimate**: based on demand for product
- **Trend Analysis**: extrapolating past relationships and projecting on future
- **Simulation**: based on probable future events to estimate future HR needs
- **Workload analysis**: HR required for targeted output
- **Markov Analysis**: Predicting internal mobility based on past patterns

SUPPLY FORECASTING

ELEMENTS

- Internal and External supply
- Retention capability
- Capability of current employees

METHODS

- **External Supply**: govt. estimates, industrial shifts, migration
- **Internal Supply**:
  - **Human Resource Inventory/Human Resource Information System (HRIS):** information about each employee, employee replacement charts
  - **Succession Planning**: identifying & preparing incumbents for top positions
  - **Labour Wastage Analysis**: Turnover, absenteeism

Workload and Demand Analysis

Yum Yum Milk has a workforce of 300 workers. It has 8-hour workdays and 300 working days a year. In addition, the company has a policy of maintaining 10% buffer, and 2% of work hours for training. The average labour time needed per product is 5 hours The average annual output is 150000 units. In 2025, the projected growth in demand is 20%.

Mr. Raheja, the owner, believes that the company is overstaffed. Is he correct, or do you need to hire additional people in 2025?

Labour hours presently required per year:
1,50,000*5 = 7,50,000 hrs
Workers needed = 7,50,000 /8*300 = 313
Employee hours presently needed = Total work hours + buffer + training
= 7,50,000 + (0.1* 7,50,000) +(0.02*7,50,000)
= 8,40,000
Workers needed = 8,40,000 /8*300 = 350

Employee hours needed in future = Total work hours + buffer + training
= 9,00,000 + {0.1* 9,00,000} +{0.02*9,00,000}
= 10,08,000 hours
Workers needed = 10,08,000 /8*300 = 420
Workers available = 300
Need to hire = 120 workers

Projected growth: 150000+ 20% of 1,50,000 = 1,80,000 units
Labour Hours needed: 180000*5=9,00,000 hours

Markov Analysis

- A marketing department has 3 levels – Sales Manager (N = 4), Sales Executive (N = 20), and Sales Assistant (N = 20). The organization presently has a no-fire policy, but the voluntary attrition tends to be at 5% for each level. In addition, 20% of the personnel every year gets promoted to the next level (*except for the* Marketing *Manager level; being the topmost spot, there is no further scope for promotion*).
- For 2025-26, the market forecast is a period of stability. Hence you wish to maintain the same number of personnel at each level.

  Is there need for a policy change? What would you recommend?

	N (2024)	Promotion	Exit
Sales Manager	4		5%
Sales Executive	20	20%	5%
Sales Assistant	20	20%	5%

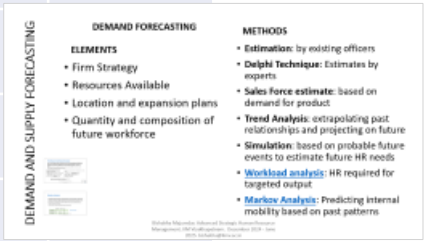
Demand Forecasting

		Sales Manager	Sales Executive	Sales Assistant	Exit
	N (2024)				
Sales Manager	4	3			0.2
Sales Executive	20	4	15		1
Sales Assistant	20		4	15	1
Expected N (2025)		7	19	15	
Ideal N (2025)		4	20	20	
HR Move		– 3	+ 1	+ 5	

WHAT WE NEED TO CALCULATE

20%	People who receive promotion to the next level
5%	People who exit (5% of the total no. of employees at a given level)
Expected N (2024)	employees static at a level at the start of the target year+employees promoted from the previous level
Need for Hire	Need for hire in 2025 (Ideal N - Expected N)

	Workforce leaving due to attrition	Workforce getting promoted	2024	2025	2026	2027	2028	2029	2030	2031	2032
Workforce at the year's start											
Workforce in Sales Manager Level (SM)	5%	0	4	7							
Workforce in Sales Executive Level (SE)	5%	20%	20	19							
Workforce in Sales Assistant Level (SA)	5%	20%	20	15							
Hiring at SA level											
Hiring at SE level											
Total Workforce			44	41							



Labour Wastage Analysis

$$\text{Employee Turnover Index} = \frac{\text{No. of employees who leave during a period}}{\text{Total no. of employees during a period}} \times 100$$

$$\text{Absenteeism Rate} = \frac{\text{No. of workdays lost due to absence from work}}{\text{Total no. of employees} \quad \text{X Total no. of days}} \times 100$$

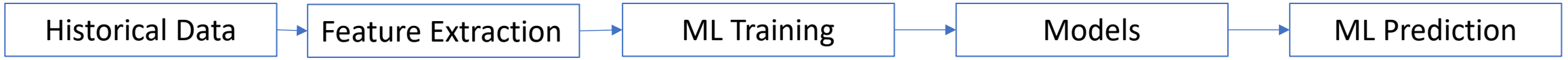
ACTION PLANS

HR Supply < HR Demand → **Shortage**
- Overtime
- Training
- Boomerang
- Aggressive Hiring
- Campus placements
- Referrals
- Outsourcing

HR Supply = HR Demand → No action required

HR Supply > HR Demand → **Surplus**
- Reduced work hours
- Early retirements
- Attrition
- Layoffs
- Outplacement

AI-Driven HR Forecasting



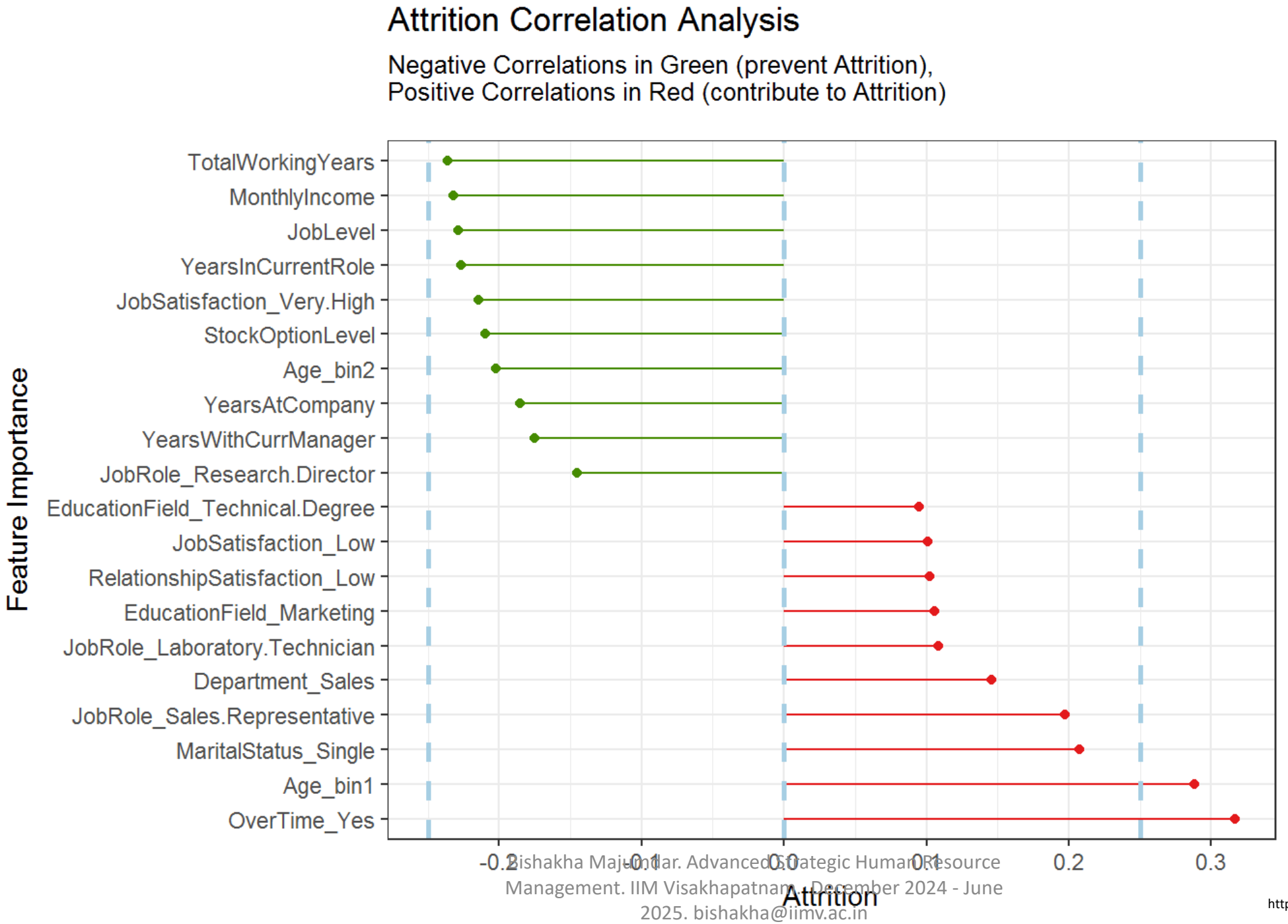
UML: (*identifying injury patterns among workers, demographic patterns*)
SML: (*predicting who will leave an organization*)
SSML: (*identifying future good candidates from data of past performers*)

Karpf, 2019; Kronos, 2019

Role of AI in Workforce Planning: Quinyx

- Identify peak and dull periods on 15-minute, day and week level forecasts accurately
- Identify flight risk: Flight risk prediction on employee sentiment, mentors and influences, number of years in a position, years with the current manager, etc.
- Predict supply/demand: Use public data, such as industry trends, job postings, policy decisions, or google search, to predict supply and demand

https://www.quinyx.com/ai-optimization/demand-forecasting



https://www.aihr.com/blog/machine-learning-hr/

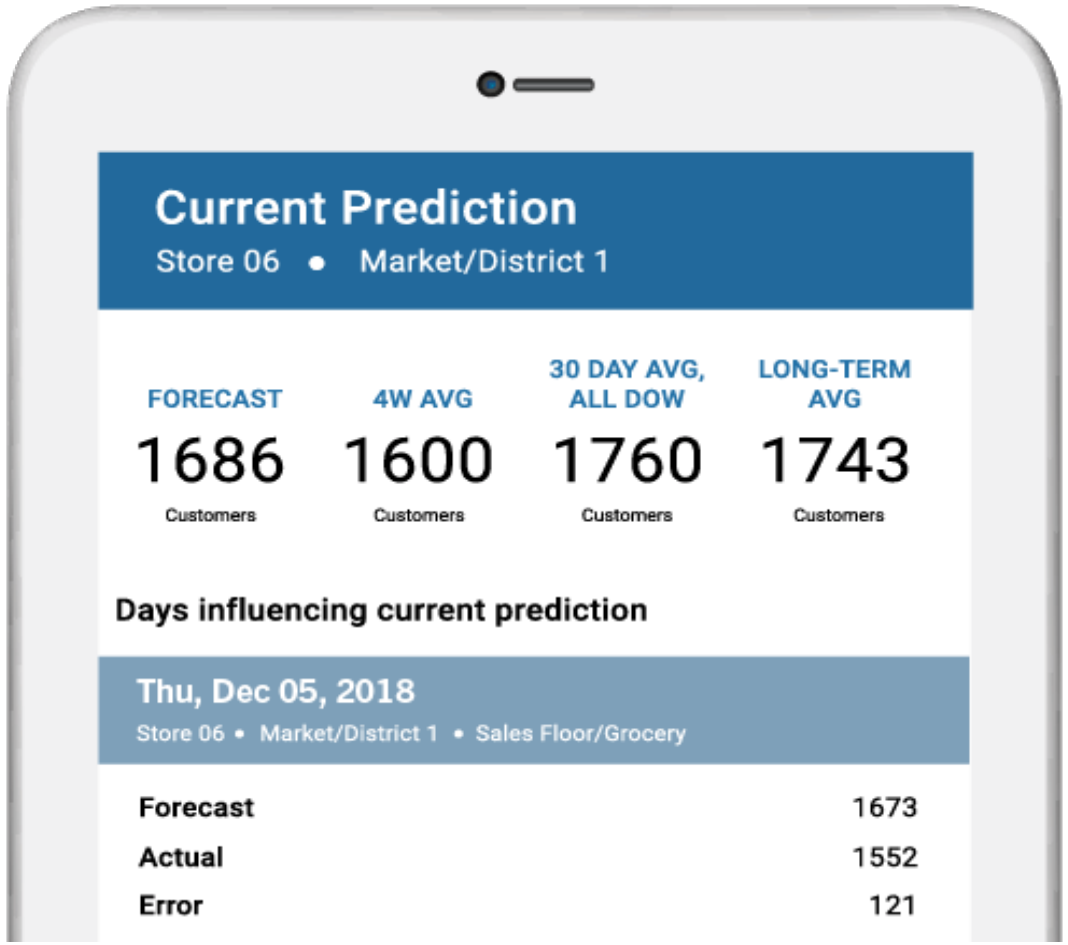
KRONOS - AIMEE

Retention Analytics

Healthcare Company

East Region

Work Group	Q1 % employees at risk	Q1 # employees at risk	Q1 Predicted cost impact	Q2 % employees at risk	Q2 # employees at risk	Q2 Predicted cost impact	Q3 % employees at risk	Q3 # employees at risk	Q3 Predicted cost impact
Staff RN	7.83%	95	$4,750,000	8.98%	110	$5,500,000	8.35%	115	$5,750,000
Technician	5.00%	25	$1,250,000	5.33%	30	$1,500,000	6.03%	30	$1,500,000
Aides	3.47%	20	$1,000,000	3.69%	22	$1,100,000	4.22%	22	$1,100,000
Supervisor	1.45%	10	$500,000	1.32%	13	$650,000	1.03%	13	$650,000



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https://www.kronos.com/products/ai/aimee