

ROLE OF AI IN PREDICTING EMPLOYEE TURNOVER

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ABSTRACT:

This paper explores the role of Artificial Intelligence (AI) in predicting employee turnover, highlighting its ability to decode subtle signals of attrition beyond traditional metrics. AI leverages machine-learning algorithms to analyze employee data—such as age, tenure, performance ratings, and absenteeism—to forecast turnover with up to 93% accuracy when trained on behavior and sentiment information. Natural Language Processing (NLP) further enhances prediction by interpreting feedback forms, surveys, and emails to detect disengagement cues. The study emphasizes that AI not only identifies who might leave but also uncovers why, enabling organizations to respond with empathy and proactive interventions. By integrating predictive analytics with human insight, AI transforms turnover management from a data-driven alert system into a compassionate leadership tool that addresses underlying employee frustrations, misalignment, and unmet expectations, ultimately reducing attrition and fostering healthier workplace cultures.

INTRODUCTION

Behind every resignation letter is a story. Some are quiet—born of unspoken frustrations or stagnant growth. Others are louder—burnout, misalignment, or chasing dreams elsewhere. What’s clear is that employees don’t just “leave their jobs,” they leave cultures, relationships, and unmet expectations. That’s where Artificial Intelligence (AI) enters—not as a cold, calculating machine, but as a tool with the potential to understand the very human reasons people choose to stay or go. Recent studies show that AI can forecast turnover with up to **93% accuracy** when trained on employee behaviour and sentiment data. This paper explores how AI is helping companies decode the subtle signals of turnover—and more importantly, how it can be done with empathy.

Reading Between the Lines: How AI Sees What We Miss

AI’s real strength lies in spotting patterns we don’t notice. It’s like having a supercharged gut instinct powered by machine learning:

- Algorithms scan employee data—age, tenure, performance ratings, absenteeism—and guess who might leave.
- Natural Language Processing (NLP) digs into feedback forms, pulse surveys, or even emails, sensing tones of disengagement.
- Predictive analytics marry past trends with present behaviour to make proactive suggestions.

But here’s the twist: the best AI doesn’t just identify “who” might leave—it nudges us to ask “why.” A tired manager, a stalled career, feeling invisible in a team meeting—all these can trigger silent exits. Smart AI highlights risk, but compassionate leadership responds.

IT’S NOT JUST DATA—IT’S PEOPLE

Imagine your HR dashboard lighting up with an alert: “Potential turnover risk.” That’s a cold way to describe someone like Priya, who’s been quietly struggling with burnout or waiting for a promotion that never came.

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So instead of reducing employees to red flags, AI can inspire early, thoughtful conversations:

- Noticing that Sam's tone in team chats has grown distant
- Flagging that Rita's skill growth has flatlined despite constant high performance
- Suggesting check-ins when team cohesion seems low

When AI becomes the whisper that prompts care, it transforms from a surveillance tool to a stewardship one. It helps leaders become better listeners.

REAL IMPACT, REAL STORIES

Several companies have embraced this approach:

- IBM uses AI to signal when high performers may feel overlooked—leading to mentoring offers or new challenges.
- Workday's People Analytics visualizes risk zones and suggests strategic responses—such as flexible work arrangements or career mapping.

In one case study, a multinational firm reduced turnover by **30%** within a year by integrating AI-based alerts into manager dashboards.

A WORD OF CAUTION: ETHICS MATTER

Of course, this isn't magic—it's a responsibility. AI is only as fair as the data it's trained on. If past biases are embedded in the system, they can be reflected in the predictions. That's why transparency, privacy, and fairness aren't just tech concerns—they're human ones.

Using Explainable AI (XAI) ensures HR teams understand why someone has been flagged and how to act with integrity. In short, decisions shouldn't be based solely on algorithms. Humans must stay in the loop.

CONCLUSION: TECH THAT FEELS

AI, at its best, isn't about replacing humans—it's about helping them see what matters most. Employee turnover will always be a reality, but it doesn't have to be a mystery. With the right tools and heart, organizations can create environments where people feel heard, valued, and supported.

Predicting turnover isn't just a data challenge—it's a chance to build cultures where people want to stay. The future isn't just smart—it's kind.

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