

ProHance AI Retention Risk Index

**Marrying Precision
with Probability**



Piyush Gupta

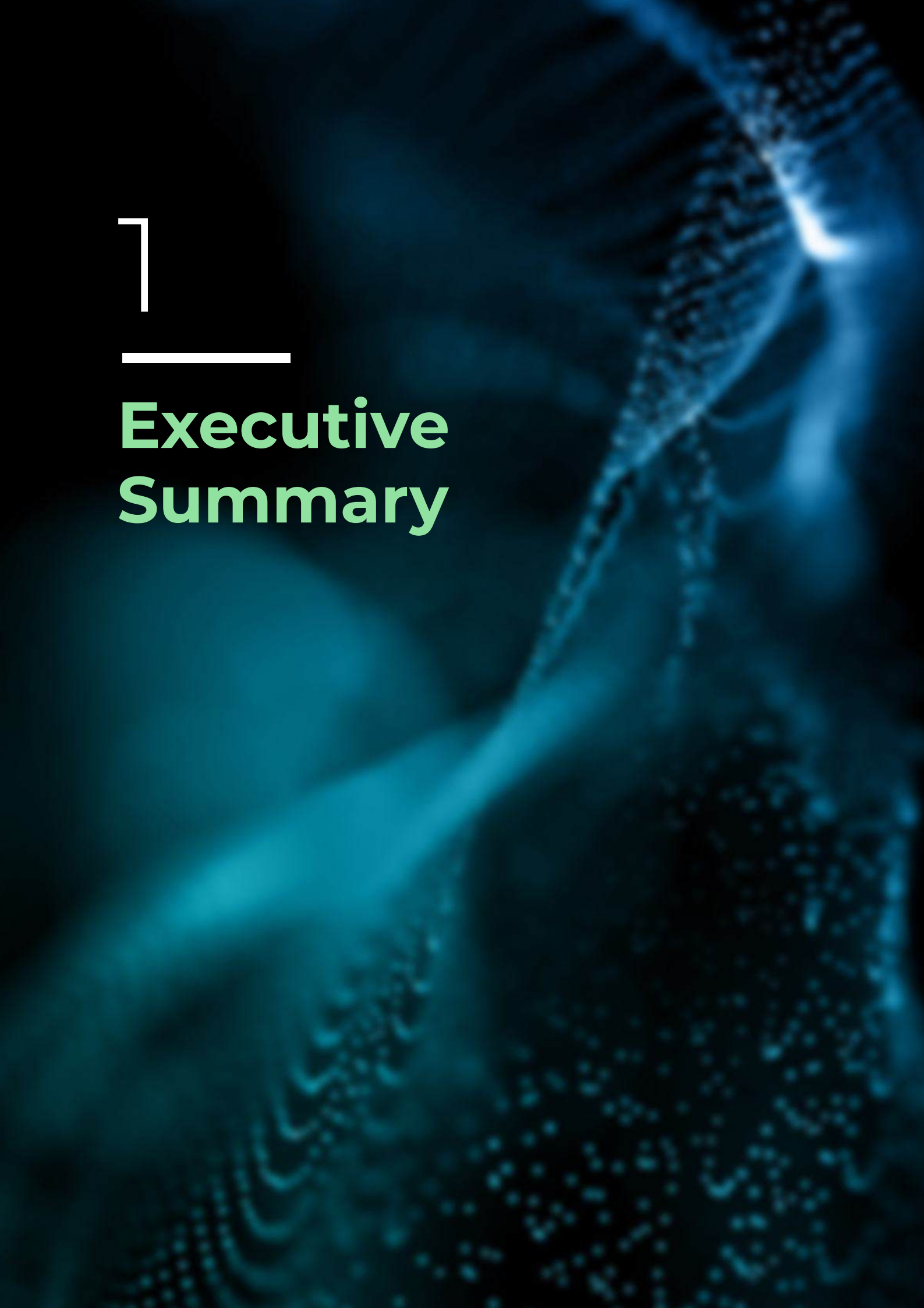
Sr Vice President,
Head - Research &
Innovation at **ProHance**.

Piyush is a disruptor, innovator, and accomplished Head of Innovation with a passion for pioneering change through research and development. He has a proven track record of constructing data and engineering platforms that drive organizational growth. Piyush thrives on staying at the forefront of emerging technologies, directing R&D initiatives that have yielded transformative outcomes for various organizations.

With strong technical expertise and a deep understanding of complex architectural systems, Piyush integrates cutting-edge technologies into organizational infrastructure, enhancing efficiency and productivity. His visionary leadership fosters a culture of innovation, inspiring cross-functional teams to turn creative ideas into actionable projects. Throughout his career, Piyush has demonstrated the ability to identify growth opportunities, develop innovative strategies, and execute them successfully. He excels in collaborative communication, translating technical concepts into practical solutions, and effectively leading multidisciplinary teams toward a shared vision of innovation.

Table of Contents

1. Executive Summary
2. Introduction
3. Understanding Employee Disengagement
4. The ProHance Approach:
Deterministic to Probabilistic
5. Introducing the Retention Risk Index
6. Methodology
7. Implementing the Retention Risk Index
8. Intervention Strategies
9. Solution Architecture
10. Case Studies and Sample Outputs
11. Benefits and ROI of the Retention Risk Index model

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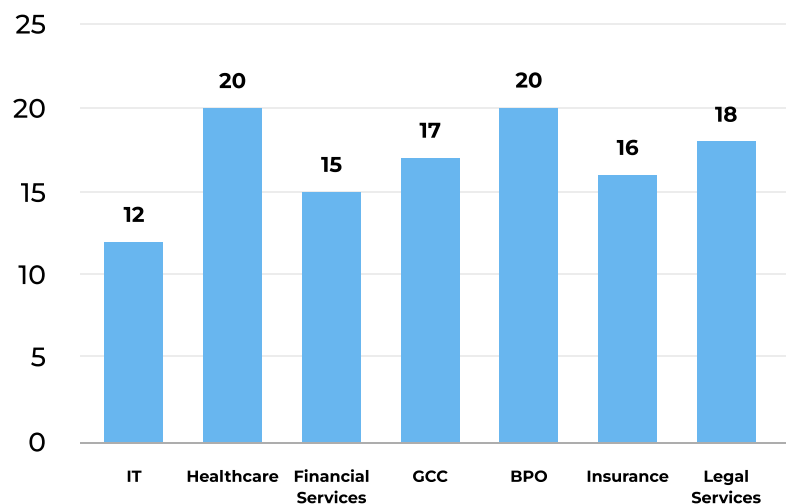
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Executive Summary

In today's dynamic business environment, employee engagement is a critical factor in organizational success. However, identifying and addressing employee disengagement remains a significant challenge for many companies. ProHance, a leader in workforce productivity management, introduces an innovative solution to this problem: The AI-powered Retention Risk Index.

The impact of employee attrition reverberates throughout organizations, creating both quantifiable financial burdens and far-reaching operational challenges. Beyond the substantial costs associated with recruitment and training initiatives, organizations face critical disruptions in productivity, team dynamics, and overall workforce morale. The ripple effects often manifest in increased burnout among remaining staff, potentially perpetuating a cycle of departures. This has been explored in detail in Section 11 of the whitepaper.

In an era where global industries face unprecedented retention challenges, traditional predictive measures like early warning indicators, which particularly rely solely on managerial intuition—have proven insufficient. To illustrate the scope of this challenge, consider the following industry-specific attrition benchmarks:



A leading cause of voluntary attrition is employee disengagement which can manifest itself in multiple forms.

This whitepaper presents ProHance's groundbreaking approach to measuring and mitigating employee disengagement by combining deterministic data with advanced machine learning techniques. The Retention Risk Index leverages ProHance's existing capabilities in precise activity monitoring and integrates them with AI algorithms to provide a comprehensive, predictive view of employee engagement levels, enabling organizations to predict and prevent attrition.



Key features of the ProHance AI Retention Risk Index

Utilization of multiple data sources, including ProHance's activity monitoring and external HR systems

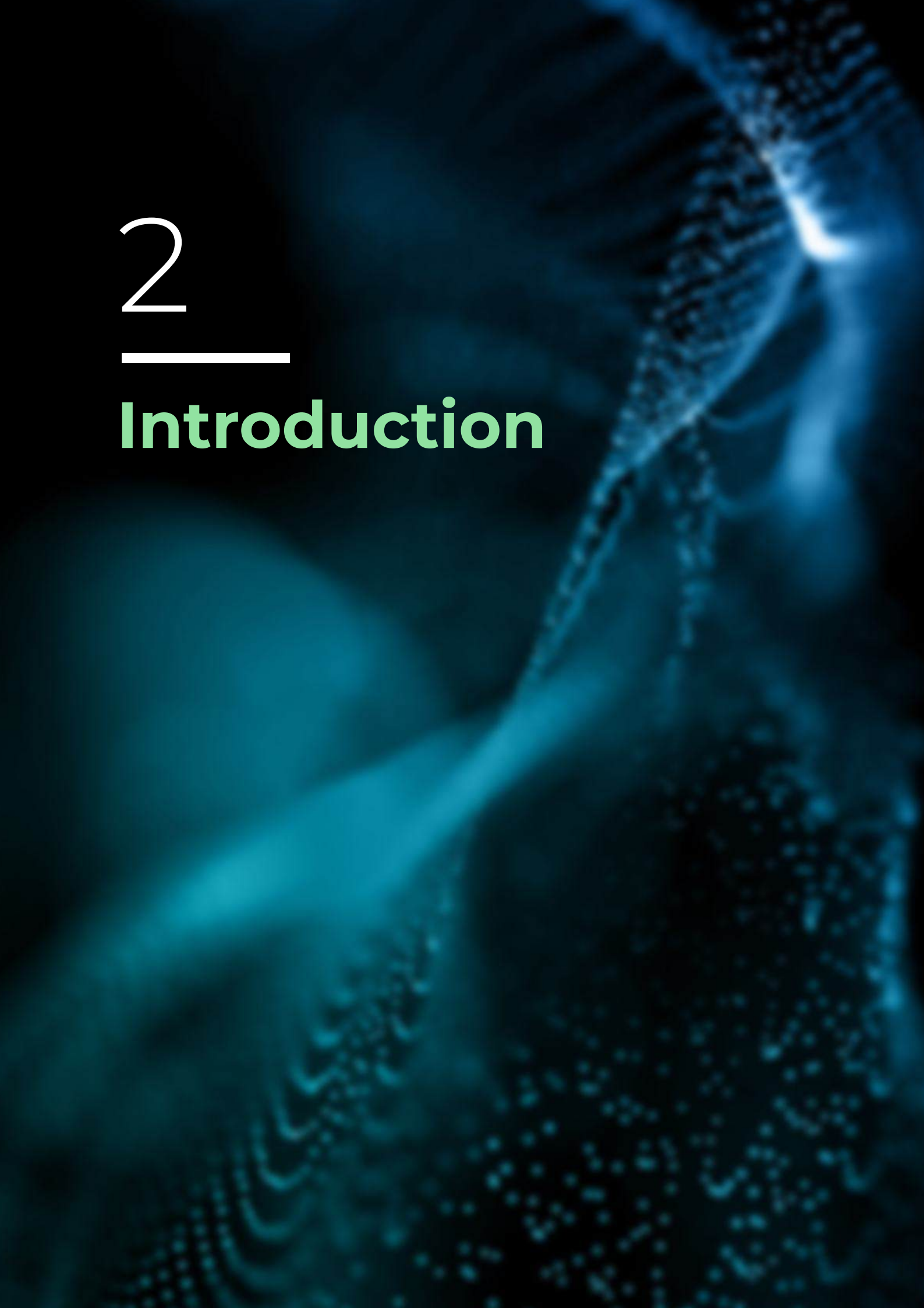
A sophisticated machine learning model that analyzes various signals of disengagement

Real-time computation of disengagement scores for individual employees and teams

Actionable insights for targeted intervention strategies

Correlation analysis with key business metrics such as productivity and attrition

By implementing the Retention Risk Index, organizations can proactively identify at-risk employees, design targeted interventions, and create a more engaged, productive workforce. This innovative solution represents a significant advancement in the field of workforce management, offering tangible benefits for organizations, managers, and employees alike.

The background is a dark blue gradient with glowing, particle-like tracks or fiber-like structures. These tracks are composed of many small, bright blue dots or segments, creating a sense of movement and depth. They appear to be branching or flowing across the frame, with some tracks being more prominent than others. The overall effect is reminiscent of a microscopic view of biological tissue or a visualization of data in a scientific context.

2

Introduction

2.1 About ProHance

ProHance is a leading workforce productivity management solution that presents smart insights on employee activities and time utilization. The platform provides organizations with valuable insights into productivity patterns, idle time, and overall efficiency, enabling data-driven decision-making to optimize workforce performance.

ProHance's core strength lies in its ability to collect and analyze accurate, precise data on employee activities. This granular level of detail allows organizations to identify areas of improvement, streamline processes, and enhance overall productivity.

2.2 The Challenge of Employee Disengagement

Employee disengagement is a pervasive issue that can significantly impact an organization's performance, culture, and bottom line. Disengaged employees often exhibit reduced productivity, lower quality of work, and increased absenteeism. Moreover, they can negatively influence team morale and contribute to higher turnover rates.

Traditional methods of measuring employee engagement, such as annual surveys or periodic check-ins, often fall short in providing timely, actionable insights. These approaches typically offer a snapshot view of engagement levels but fail to capture the dynamic nature of employee sentiment and behavior over time.

The challenge for organizations lies in



Accurately identifying signs of disengagement



Understanding the underlying factors contributing to disengagement

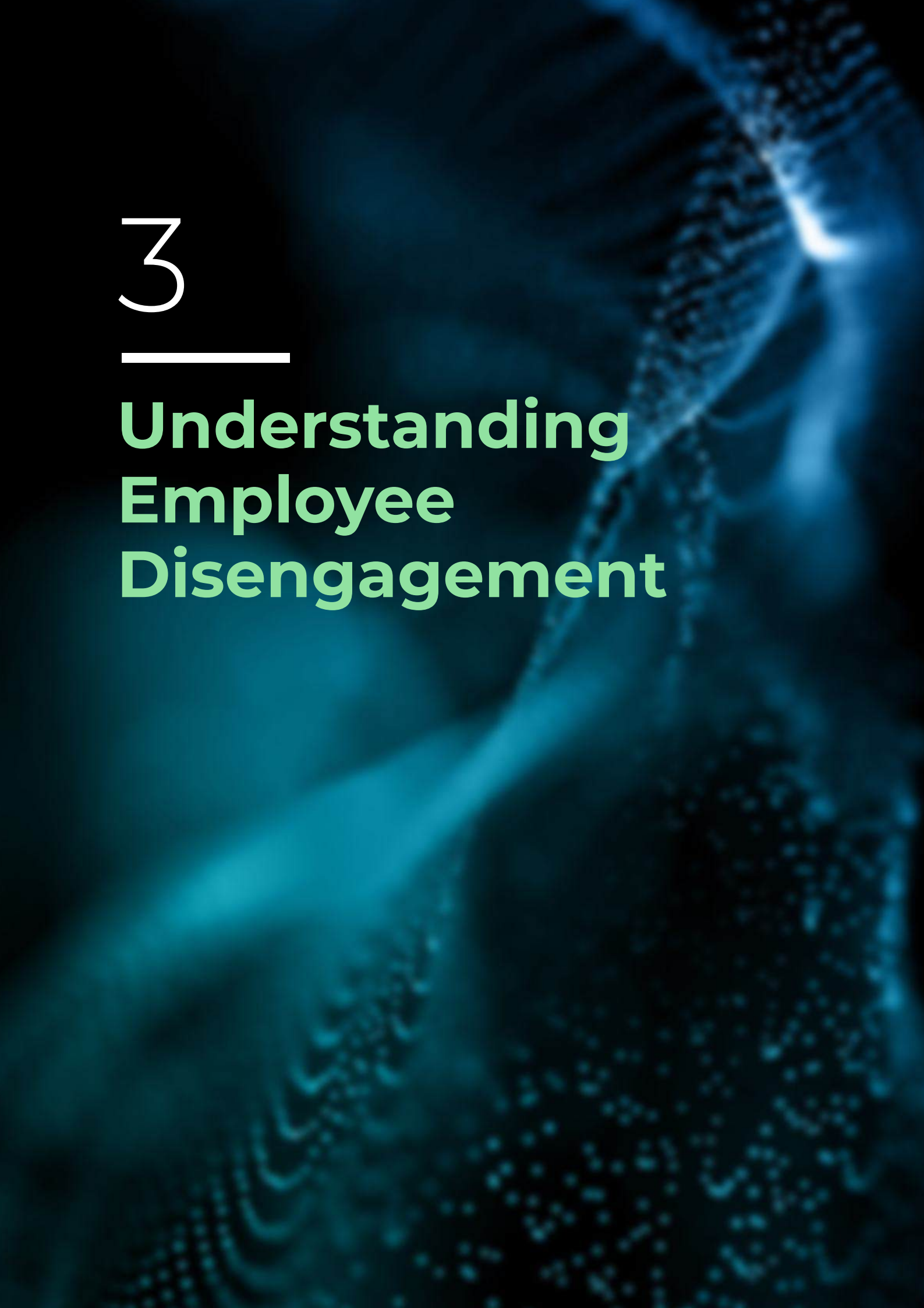


Implementing targeted interventions to re-engage employees effectively



Measuring the impact of these interventions on overall engagement and productivity

To address these challenges, ProHance has developed the **AI-powered Retention Risk Index**. This innovative solution combines our expertise in precise activity monitoring with advanced machine learning techniques to provide a comprehensive view of employee engagement levels.

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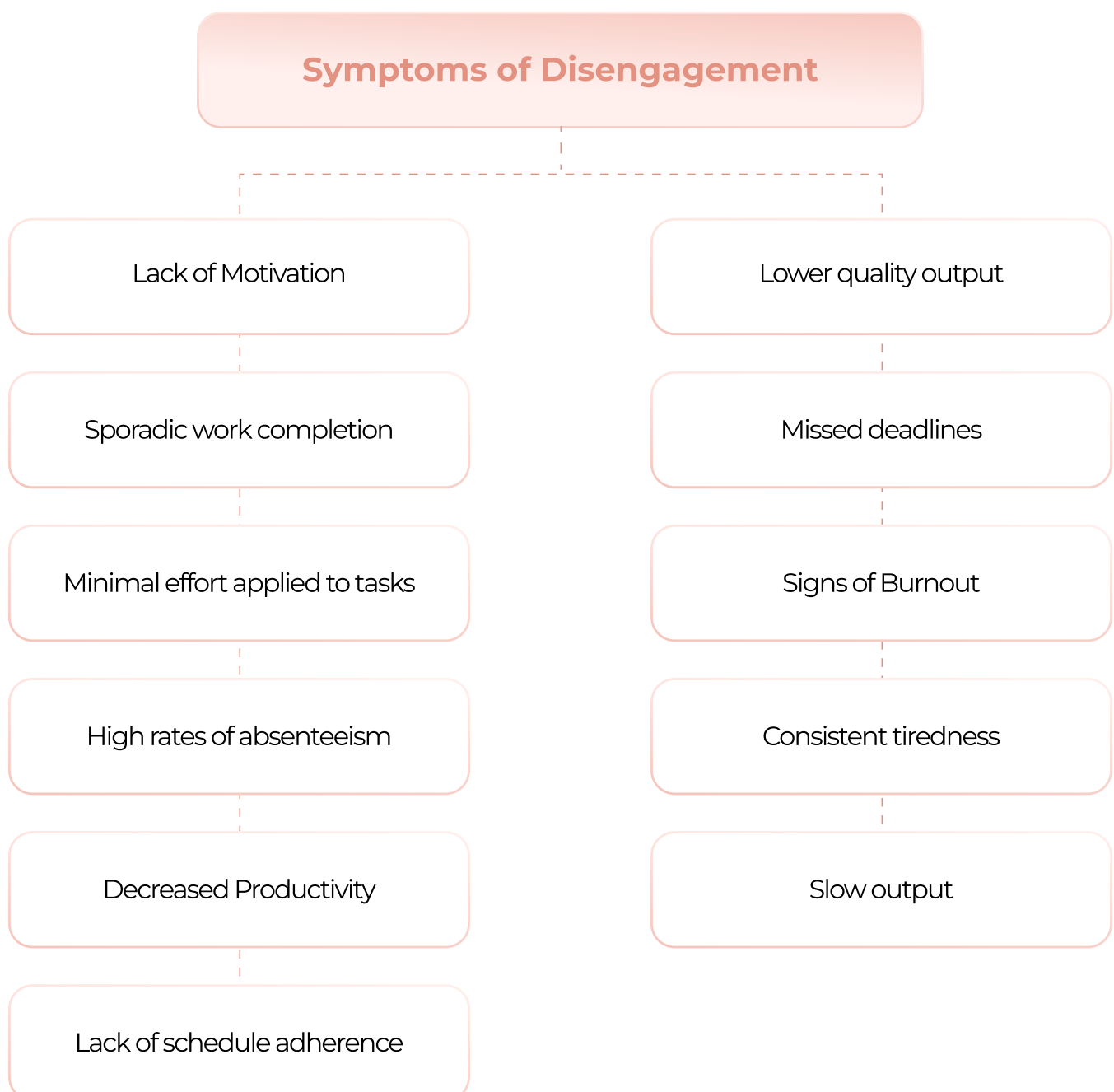
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Understanding Employee Disengagement

3.1 Definition

Employee disengagement is a psychological state characterized by emotional detachment, reduced cognitive involvement, and decreased behavioural participation in work-related activities. A disengaged employee exhibits a notable absence of intrinsic motivation, passion, and dedication towards their job responsibilities.

3.2 Symptoms of Disengagement



3.3 Impact on Organizations

The effects of employee disengagement can be far-reaching and detrimental to an organization:

Reduced Productivity

Disengaged employees are less productive, impacting overall organizational efficiency.

Lower Quality of Work

Lack of enthusiasm often leads to subpar work quality and increased errors.

Negative Team Dynamics

Disengagement can be contagious, affecting team morale and collaboration.

Higher Attrition Rates

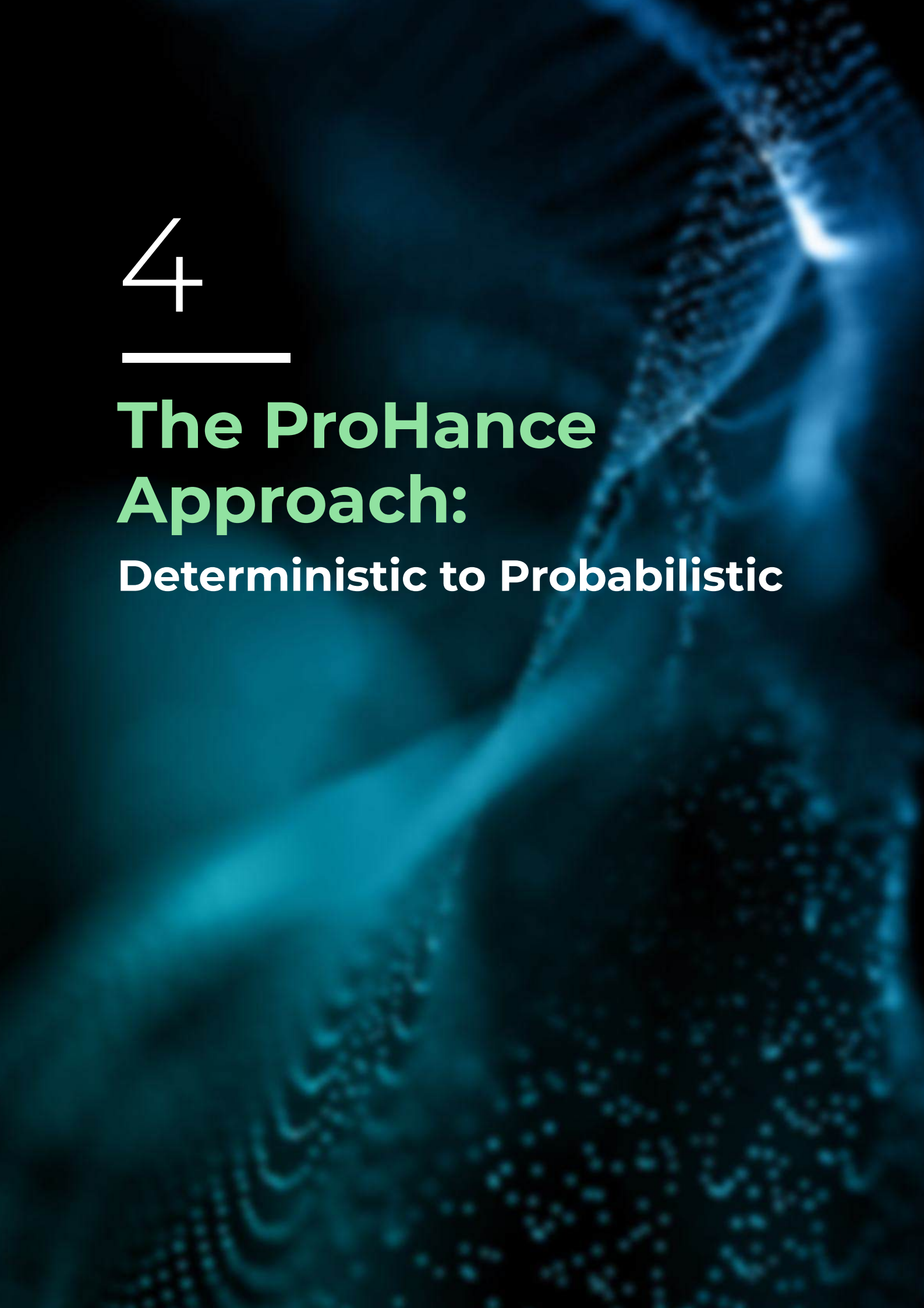
Disengaged employees are more likely to leave, increasing recruitment and training costs.

Customer Dissatisfaction

Poor service quality resulting from disengagement can lead to customer attrition.

Financial Impact

The cumulative effect of these factors can significantly impact an organization's bottom line.



4

The ProHance Approach:

Deterministic to Probabilistic

4.1 ProHance's Existing Capabilities

ProHance has established itself as a leader in workforce productivity management through its deterministic approach to data collection and analysis. The platform reports precise data on employee activities, providing organizations with accurate insights into:



Time spent on productive vs. non-productive applications



Idle time and system usage patterns



Attendance and work hour compliance



Task completion rates and efficiency metrics

This deterministic data forms the foundation of our productivity analytics, enabling organizations to make data-driven decisions to optimize workforce performance.

4.2 The Need for AI Integration

While deterministic data provides valuable insights, it doesn't always capture the nuanced indicators of employee engagement or disengagement. To address this limitation and provide a more comprehensive view of employee sentiment, ProHance has integrated artificial intelligence into the solution.

The integration of AI allows us to



Identify patterns and trends that may not be immediately apparent in raw data



Provide probabilistic insights that complement our deterministic data

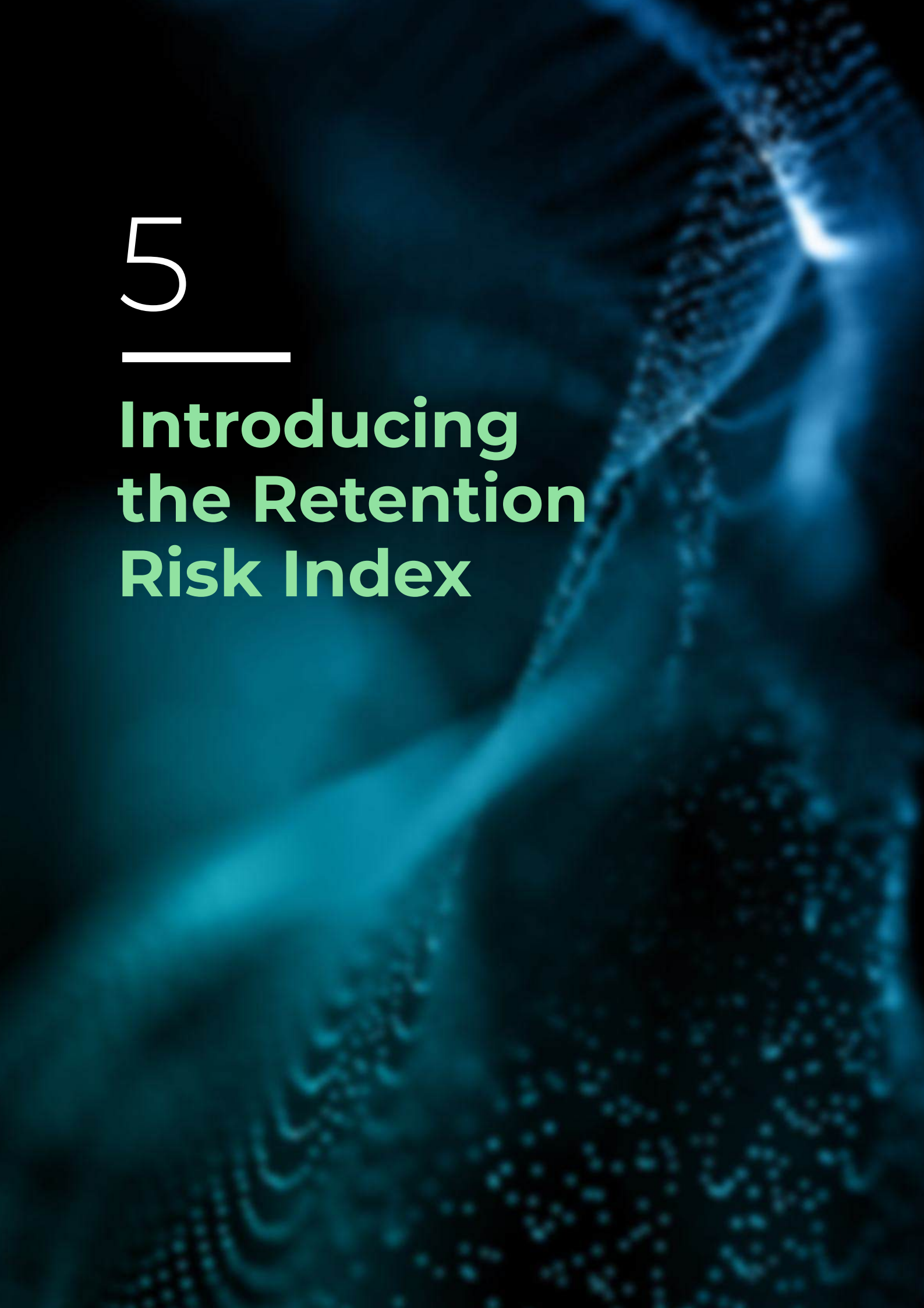


Predict potential disengagement before it manifests in obvious symptoms



Offer a more holistic view of employee engagement and productivity

By marrying our precise, deterministic data capture with AI-driven probabilistic analysis, ProHance now offers a powerful tool for understanding and addressing employee disengagement: the Retention Risk Index.

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5

Introducing the Retention Risk Index

5.1 Concept Overview

The Retention Risk Index is an innovative metric that quantifies an employee's level of engagement or disengagement based on a multitude of factors. It combines ProHance's precise activity data with other relevant information to provide a comprehensive score that indicates an employee's engagement level.

5.2 Key Signals and Indicators

The Retention Risk Index takes into account various signals that may indicate disengagement:



Reduced drive/
enthusiasm/willingness
to put effort into work



Stagnant performance
metrics



Time spent on
low-value tasks



Extended time in the
same role or position



High idle time



Excessive workload and
poor time management



Decreased productivity
(slower task completion)



Irregular or inconsistent
work hours



Limited skill development
and career progression



Higher absenteeism



Lack of participation in
learning and development
activities

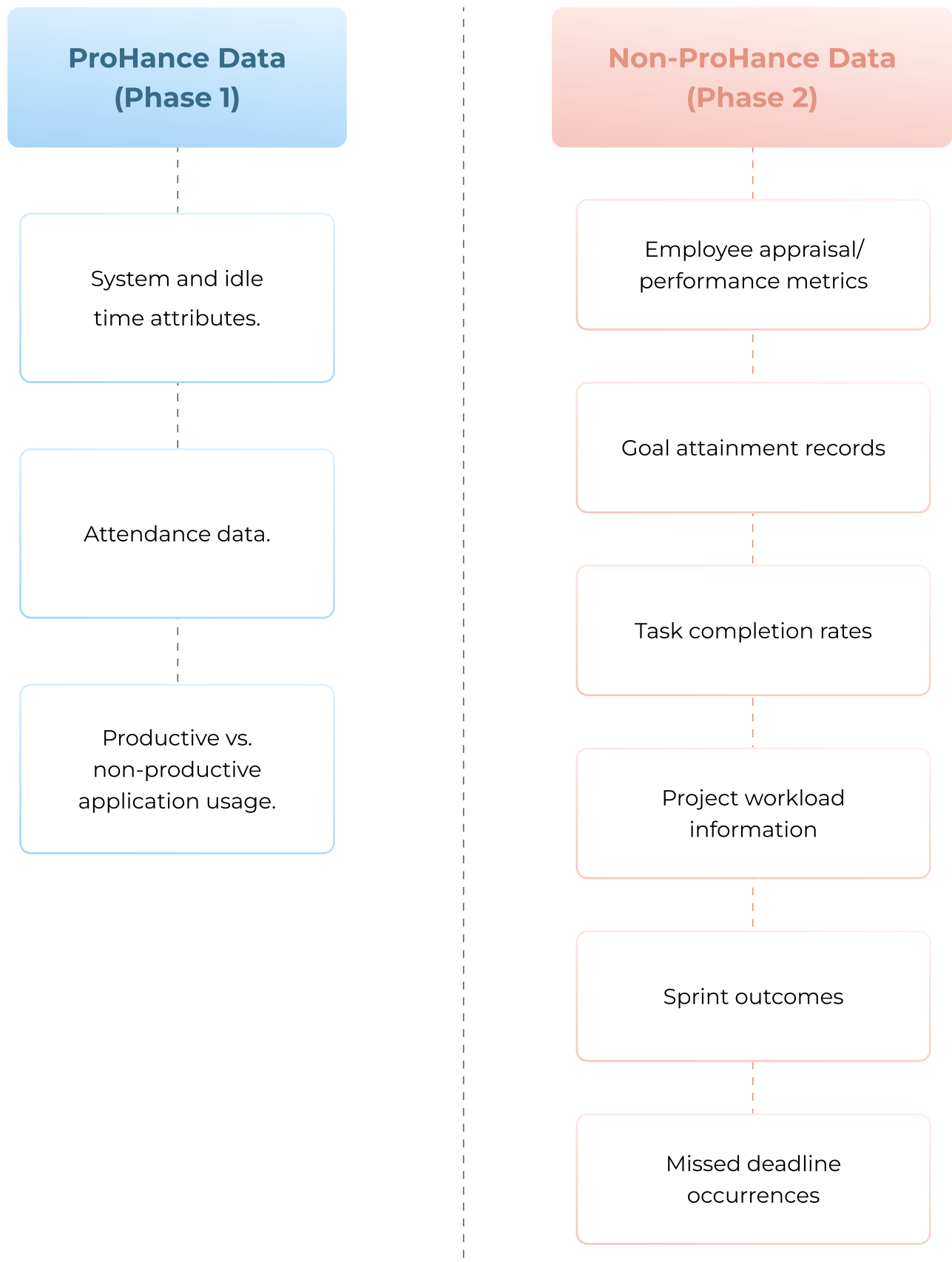


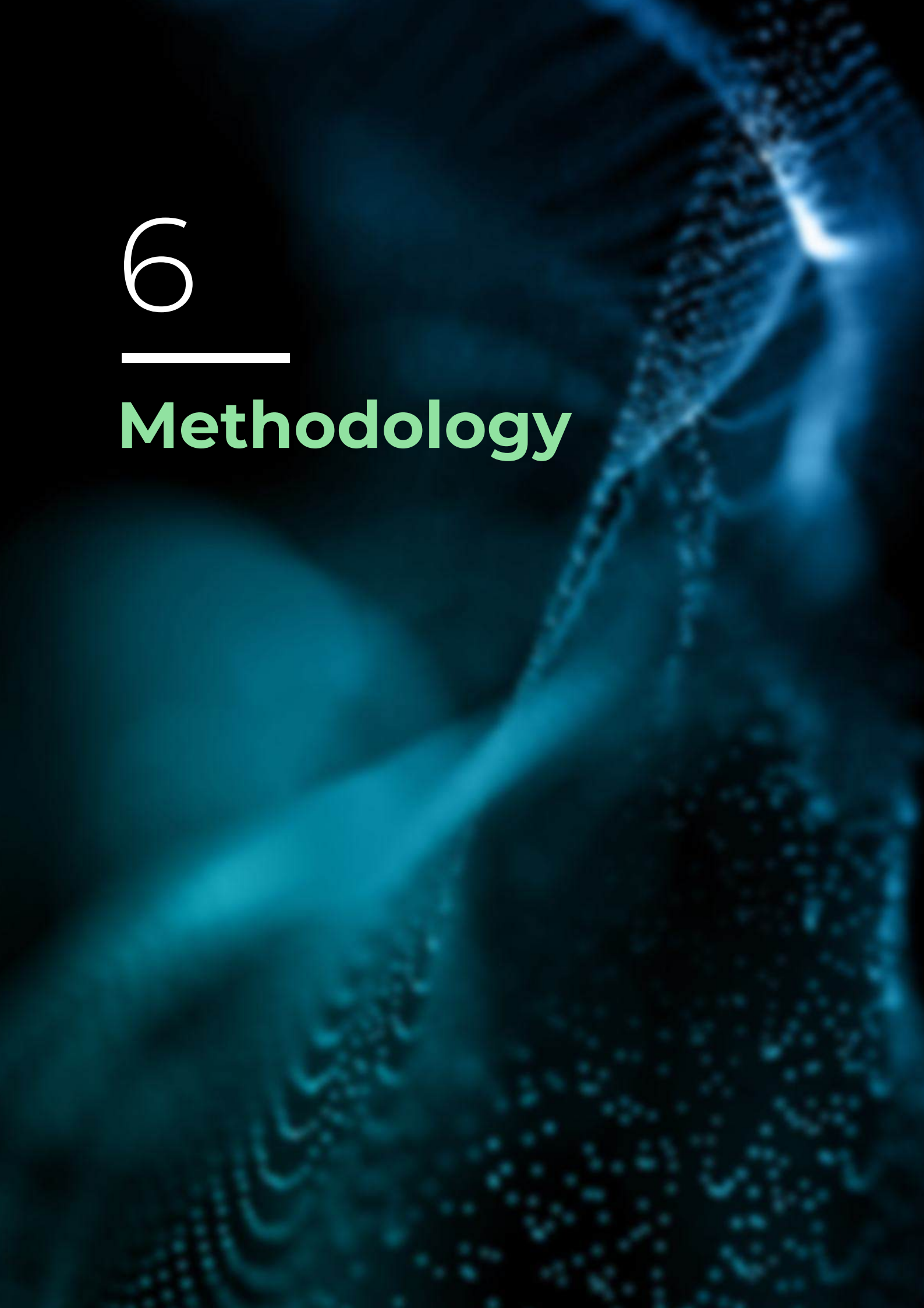
Frequent work from
home/sick leaves



Missed deadlines

5.3 Data Sources



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6

Methodology

6.1 Data Collection and Normalization

The first step in computing the Retention Risk Index involves collecting and normalizing data from various sources. This process ensures that all data points are on a comparable scale, regardless of their origin or initial format.

6.2 Weighting Factors

Each disengagement indicator is assigned a weight or importance score. These weights are determined based on extensive research and industry expertise, reflecting the relative impact of each factor on overall employee engagement.

6.3 Machine Learning Model

ProHance employs a sophisticated machine learning model to analyze the collected and normalized data. This model is trained on historical data and continuously refined to improve its accuracy in predicting disengagement.

6.4 Retention Risk Score Computation

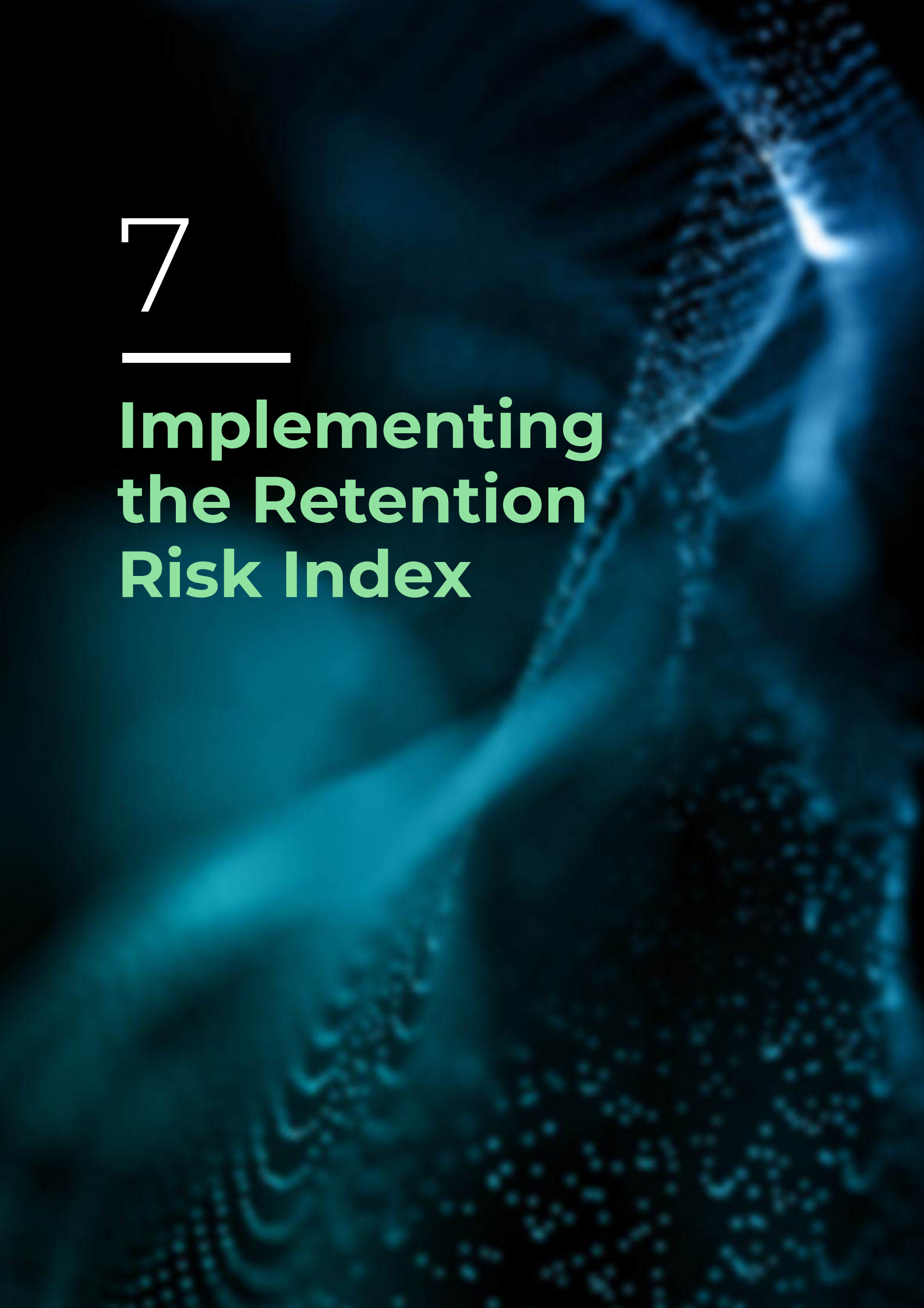
The Retention Risk Index is computed using a proprietary algorithm that combines the weighted factors and the output of the machine learning model. This score can be calculated for any desired time interval, providing both current and historical insights into employee engagement levels.



Historical User Events Required for Computing Disengagement Index

	Time Away From System & Idle Time	Is Employee Absent?	Time on System Non-productive Application Duration	Personal Breaks & Miscellaneous Reasons	Did Employee Resign?	Observation Point	Target Variable
	Weightage: 32%	Weightage: 8%	Weightage: 48%	Weightage: 12%	Weightage: 100%		
User 1	 Current week- Past 4 weeks Avg < 25%	Current week- Past 4 weeks Avg < 5%	Current week- Past 4 weeks Avg < 15%	Current week- Past 4 weeks Avg < 5%	No Impact		Disengagement Index: (0.11) Status: Engaged
User 2	 Current week- Past 4 weeks Avg > 25%	Current week- Past 4 weeks Avg < 5%	Current week- Past 4 weeks Avg > 15%	Current week- Past 4 weeks Avg < 5%	No Impact		Disengagement Index: (0.41) Status: Disengaged
User 3	 Current week- Past 4 weeks Avg < 25% Last 4 Weeks	Current week- Past 4 weeks Avg < 5% Last 4 Weeks	Current week- Past 4 weeks Avg > 15% Last 4 Weeks	Current week- Past 4 weeks Avg < 5% Last 4 Weeks	No Impact	Last 1 week Only applicable for training period	Disengagement Index: (0.85) Status: Disengaged Cutoff Limit: 0.34



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7

Implementing the Retention Risk Index

7.1 Classification Thresholds

Organizations can define thresholds to classify employees into high, medium, and low disengagement categories based on their Retention Risk Index scores. These thresholds can be customized to align with specific organizational contexts and goals.

7.2 Visibility into Employee Engagement

The Retention Risk Index allows for continuous visibility into engagement levels across the employee lifecycle. This enables organizations to

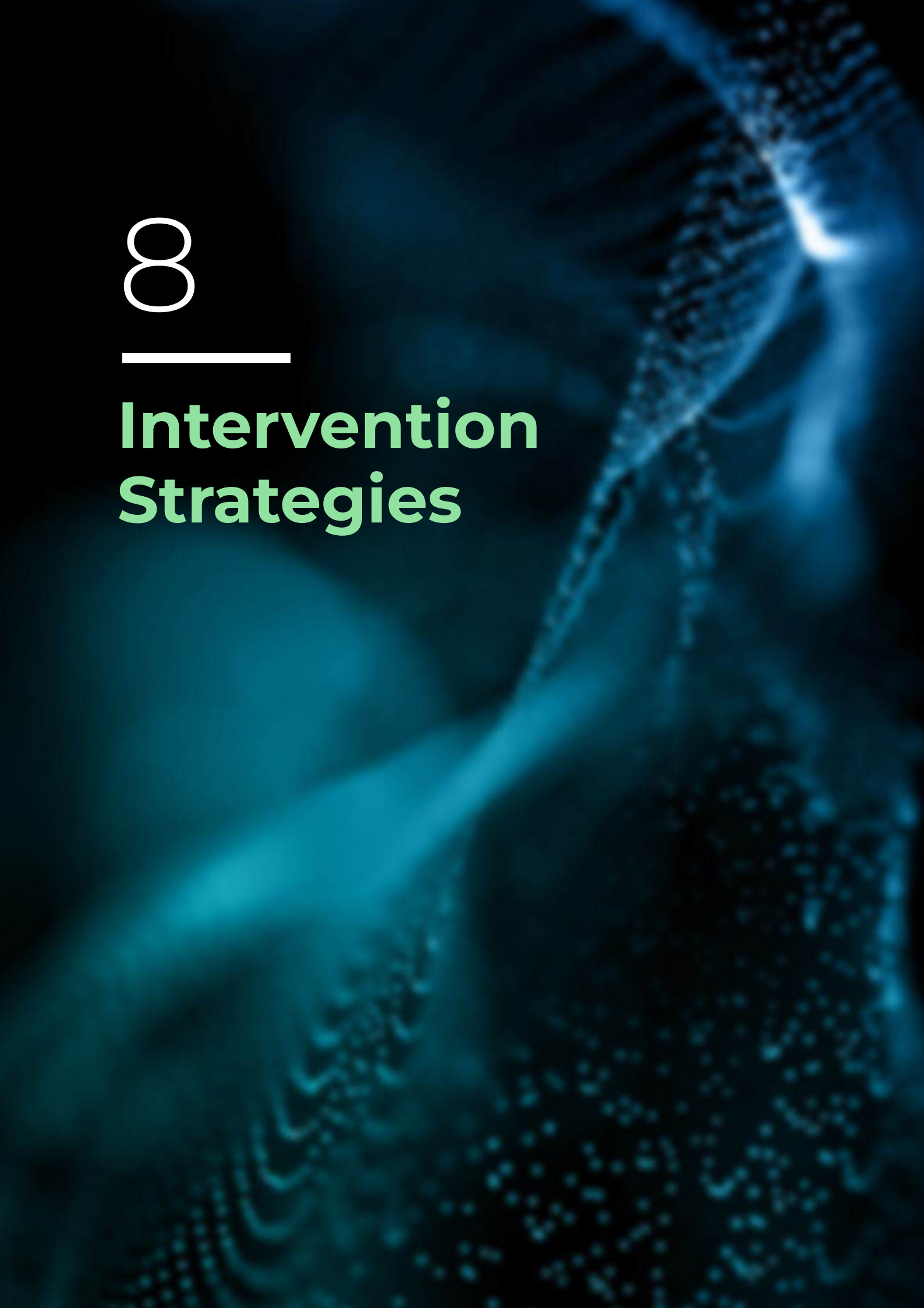


7.3 Validation Against Key Events

To ensure the accuracy and relevance of the Retention Risk Index, it is validated against key events such as:



This validation process helps refine the model and ensures that the Retention Risk Index remains a reliable predictor of employee sentiment and behavior.

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8

Intervention Strategies

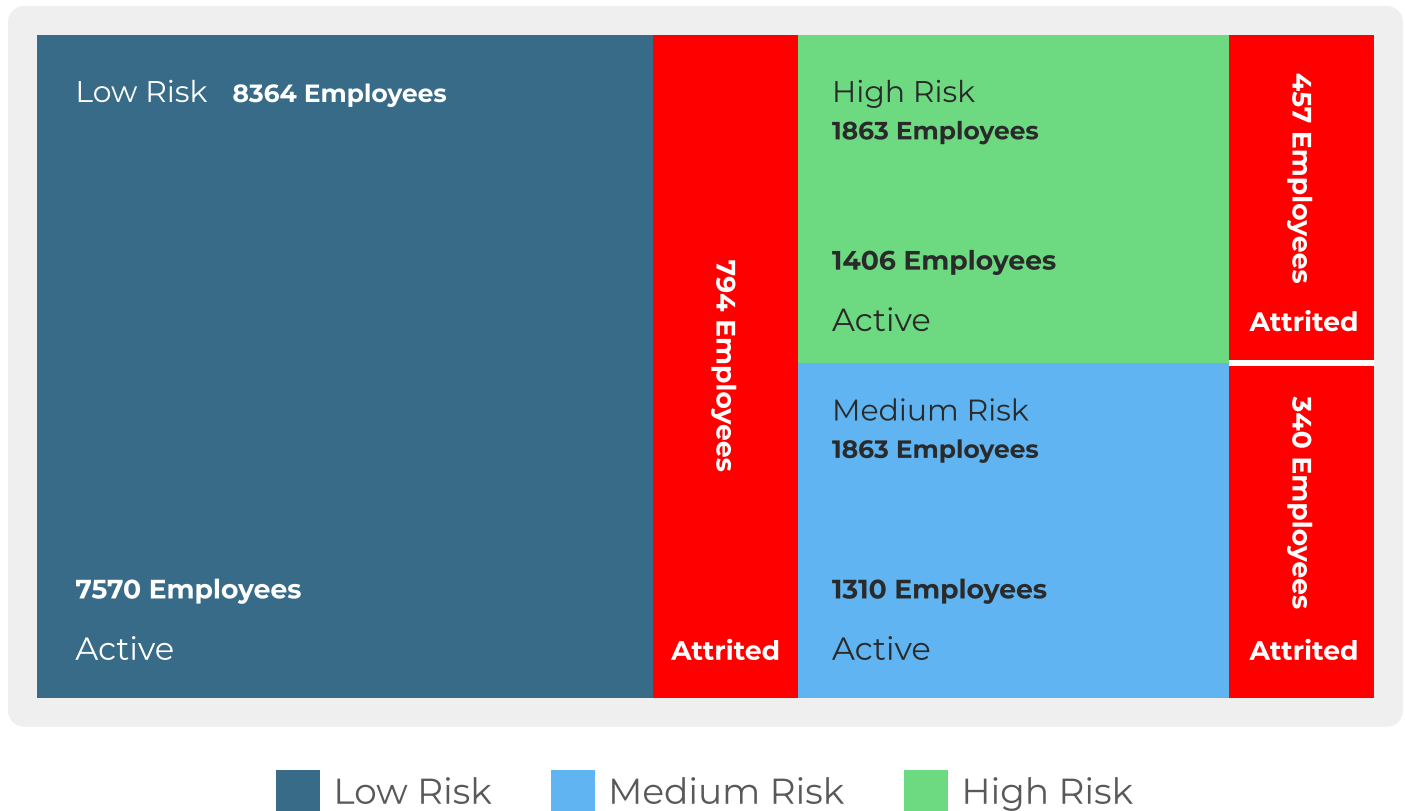
8.1 Targeted Interventions Based on Disengagement Levels

The Retention Risk Index enables organizations to design and implement targeted interventions based on an employee's disengagement level:

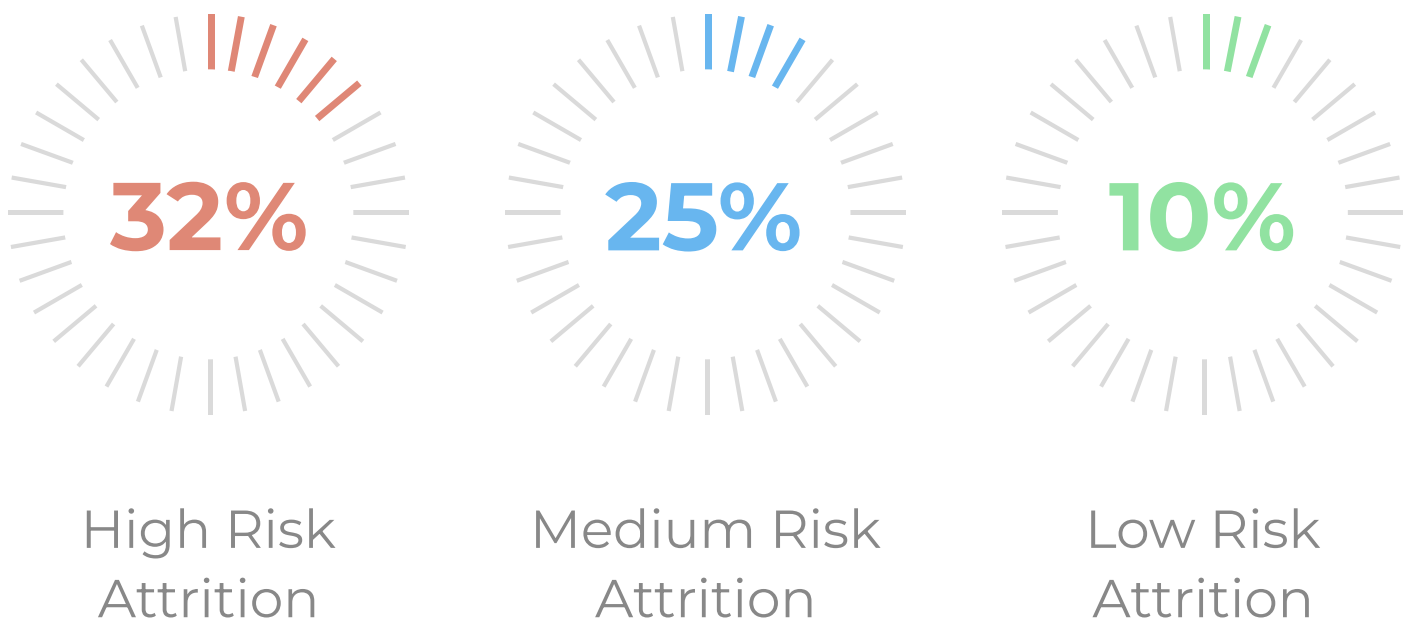
Low Disengagement	Medium Disengagement	High Disengagement
Regular check-ins to maintain engagement	More frequent one-on-one meetings with managers	Immediate intervention from HR and direct managers
Opportunities for skill development and career growth	Workload adjustments if necessary	In-depth discussions to understand underlying issues
Recognition and rewards for continued good performance	Tailored learning and development opportunities	Personalized re-engagement plans
		Consideration of role changes or team transfers if appropriate

Analysis of real organization data vis-a-vis the outcome of the model's prediction shows a clear correlation between high-risk employees being at higher risk of attrition.





Employee attrition by category



This indicates the need to engage with employees in the high and medium risk categories in order to retain the high-performing individuals.

8.2 Best Practices for Employee Re-engagement

ProHance provides visibility into employee engagement metrics through the Retention Risk Index, enabling organizations to make informed decisions. The responsibility for developing and implementing intervention strategies lies with the organization, particularly through collaboration between Operations and Human Resources teams, guided by company policies and requirements. When organizations observe disengagement patterns, they can analyze these indicators across **People**, **Process**, and **Technology** dimensions to develop appropriate response strategies aligned with their specific context and culture. Some organization-led approaches that have proven effective include:



People

Check-ins & Feedback

- ◆ Regular manager check-ins to understand employee concerns.
- ◆ Direct channels for employee feedback on tasks and workload.

Skill Development & Career Mapping

- ◆ Training pathways aligned with tasks to foster growth.
- ◆ Defined career progression to boost engagement.

Job Rotation & Shadowing

- ◆ Rotate tasks to reduce monotony and encourage new skills.
- ◆ Shadowing in other roles for skill and interest exploration.

Recognition & Engagement Programs

- ◆ Peer recognition programs for motivation and team bonding.
- ◆ Team activities to foster a supportive environment.

Manager Training

- ◆ Empathy-driven engagement techniques for managers.
- ◆ Use of engagement metrics to proactively address disengagement.

Reward Proactive Efforts

- ◆ Reward self-driven improvement and engagement.
- ◆ Share impact reports showing positive employee contributions.



Process

Engagement Data Analysis

- ◆ Weekly pulse checks for early disengagement signs.
- ◆ Root cause analysis to tailor interventions to specific issues.

Workload Balancing

- ◆ Real-time workload adjustments based on capacity needs.
- ◆ Team capacity planning to prevent overload.

Hybrid & Flexible Work Options

- ◆ Hybrid schedules for balanced flexibility.
- ◆ Custom schedules for autonomy in task timing.



Technology

Automation of Repetitive Tasks

- ◆ Automate routine tasks to free up time for value-added work.
- ◆ Restructure roles to include more complex, engaging tasks.

ProHance-Driven Workload Adjustments

- ◆ Use ProHance insights to optimize team productivity and balance workloads.

ProHance's Disengagement Index

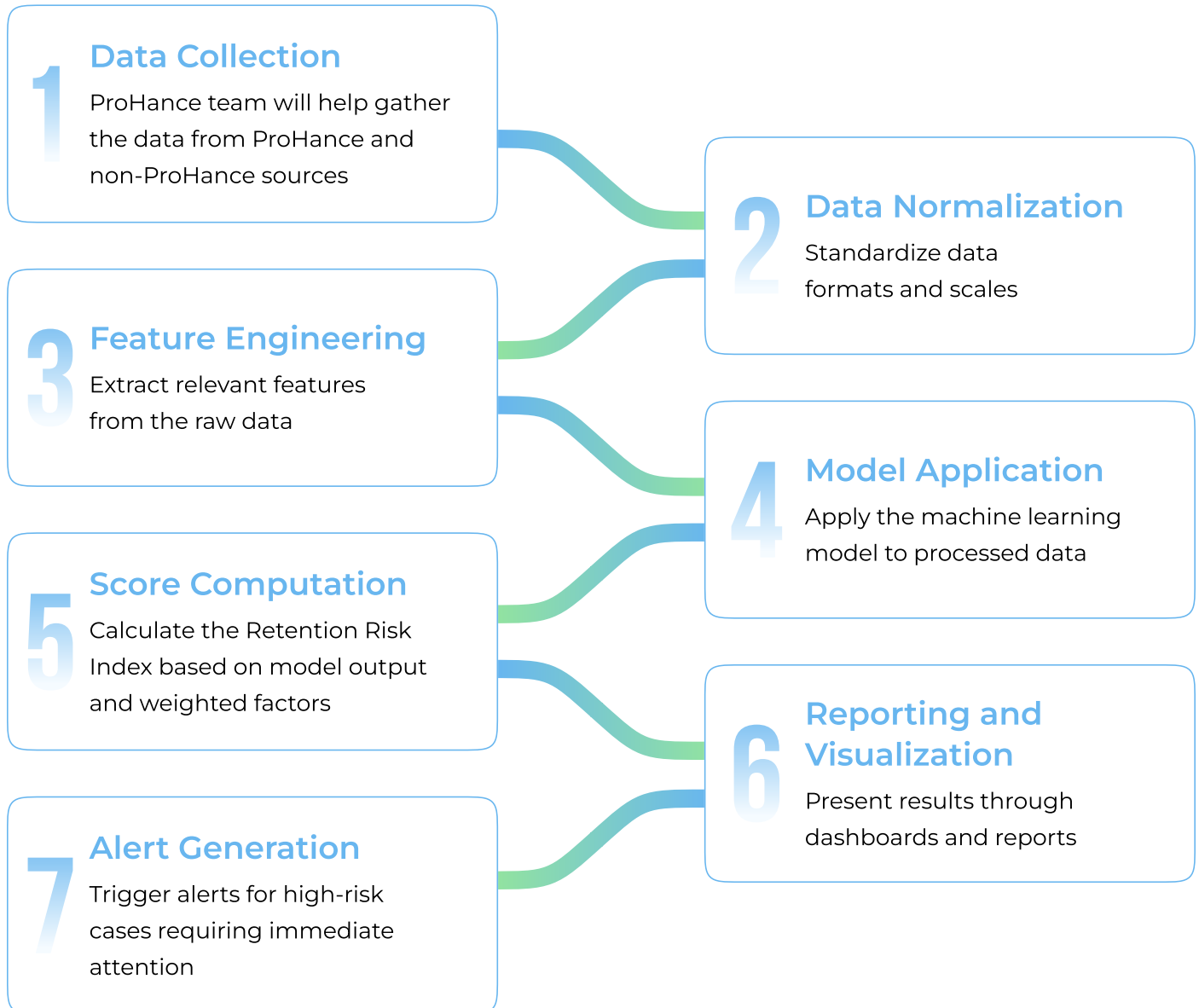
- ◆ Continuous tracking of engagement trends for early attrition warnings.

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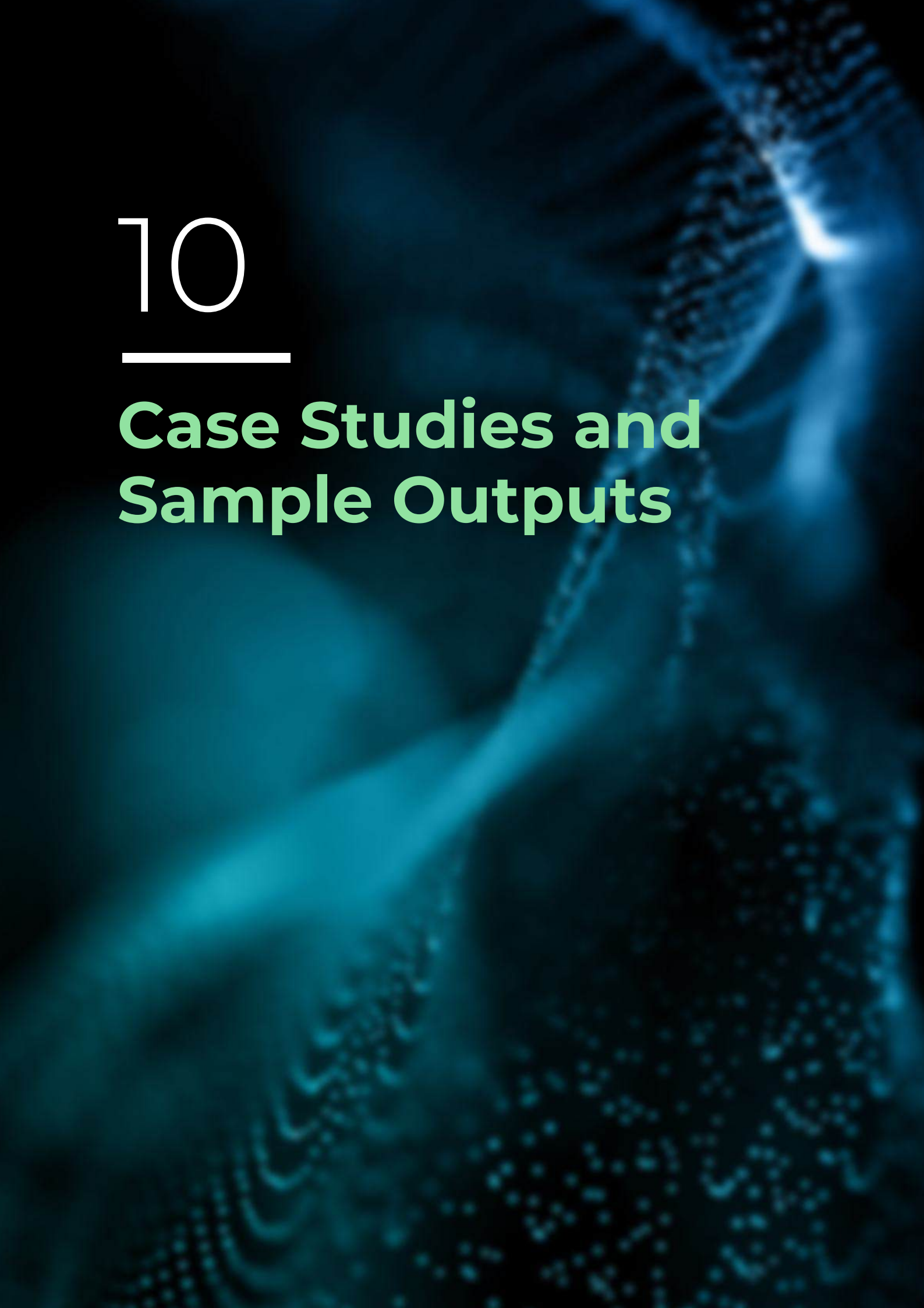
Solution Architecture

9.1 Process Flow



9.2 System Integration

The Retention Risk Index solution seamlessly integrates with existing ProHance installations and can be configured to interface with other HR and productivity tools. This integration ensures a smooth flow of data and enables comprehensive analysis across various organizational systems.

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10

Case Studies and Sample Outputs

10.1 Representative Outputs

The Retention Risk Index provides various visualizations and reports to help organizations understand and act on the data:



**Individual Employee
Disengagement Trends**



**Team and Department-level
Engagement Heat Maps**



Disengagement Risk Alerts



**Intervention Effectiveness
Tracking**

10.2 Correlation with Attrition

Case studies have shown a strong correlation between high Retention Risk Index scores and employee attrition. Organizations using the Retention Risk Index have reported:



30%

reduction in
unexpected
resignations



25%

improvement in
early identification
of at-risk employees



20%

increase in successful
re-engagement of
highly disengaged
employees



10.3 Cohort Analysis

The Retention Risk Index enables powerful cohort analysis, allowing organizations to compare engagement levels across different employee groups, such as:



Tenure-based cohorts



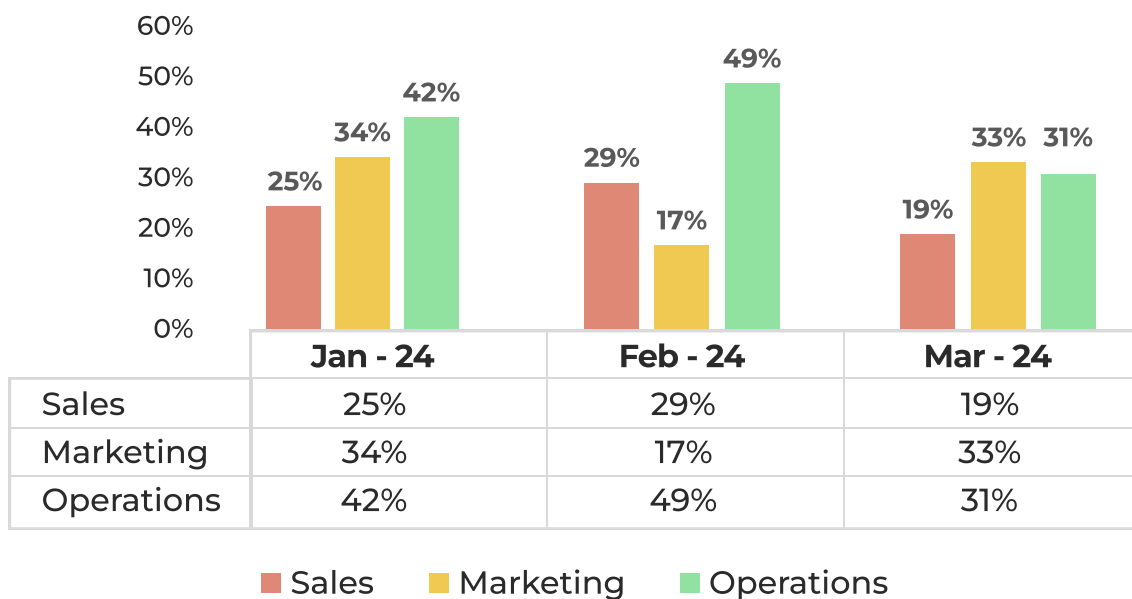
Department or role-based cohorts



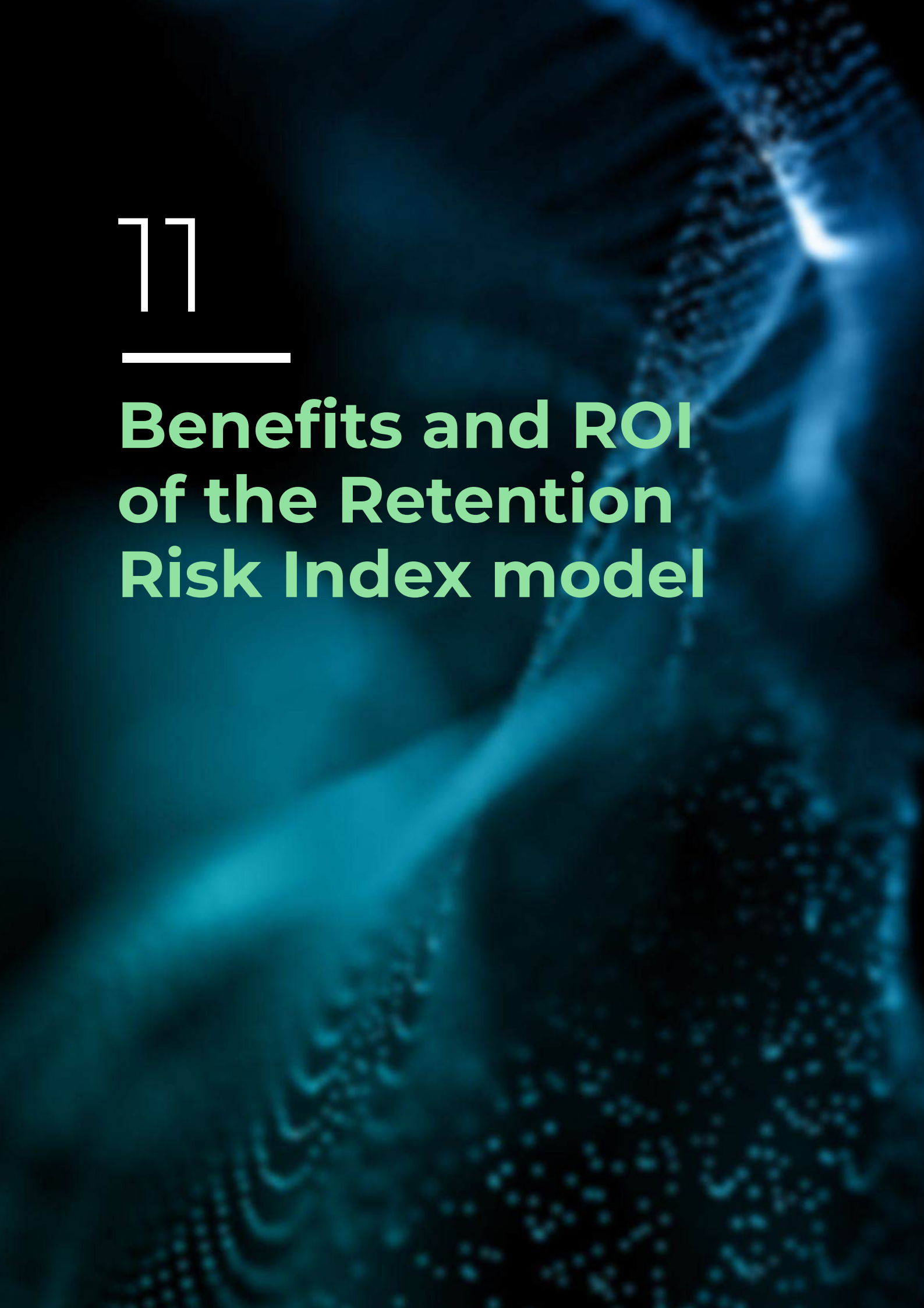
Performance-based cohorts

This analysis helps identify systemic issues and tailor engagement strategies for specific employee segments.

Retention Risk Index across Teams



The chart shows the percentage of disengaged employees by team. There are multiple ways to slice and dice the data by teams, functions, locations, service line, managers, and so on.

An abstract blue-toned image featuring a hand holding a glowing sphere, with a grid-like pattern visible on the hand's surface.

11

Benefits and ROI of the Retention Risk Index model

There are multi-faceted benefits of implementing the Retention Risk Index. This section explores the benefits for organizations, managers, and employees.

Note: Employees will not access the Retention Risk Index.

11.1 For Implementing Organizations



Reduced turnover costs



Improved overall productivity



Enhanced employer brand and easier recruitment



Data-driven decision-making in workforce management

11.2 For Managers leveraging the index



Early warning system for team disengagement



Improved team performance and dynamics



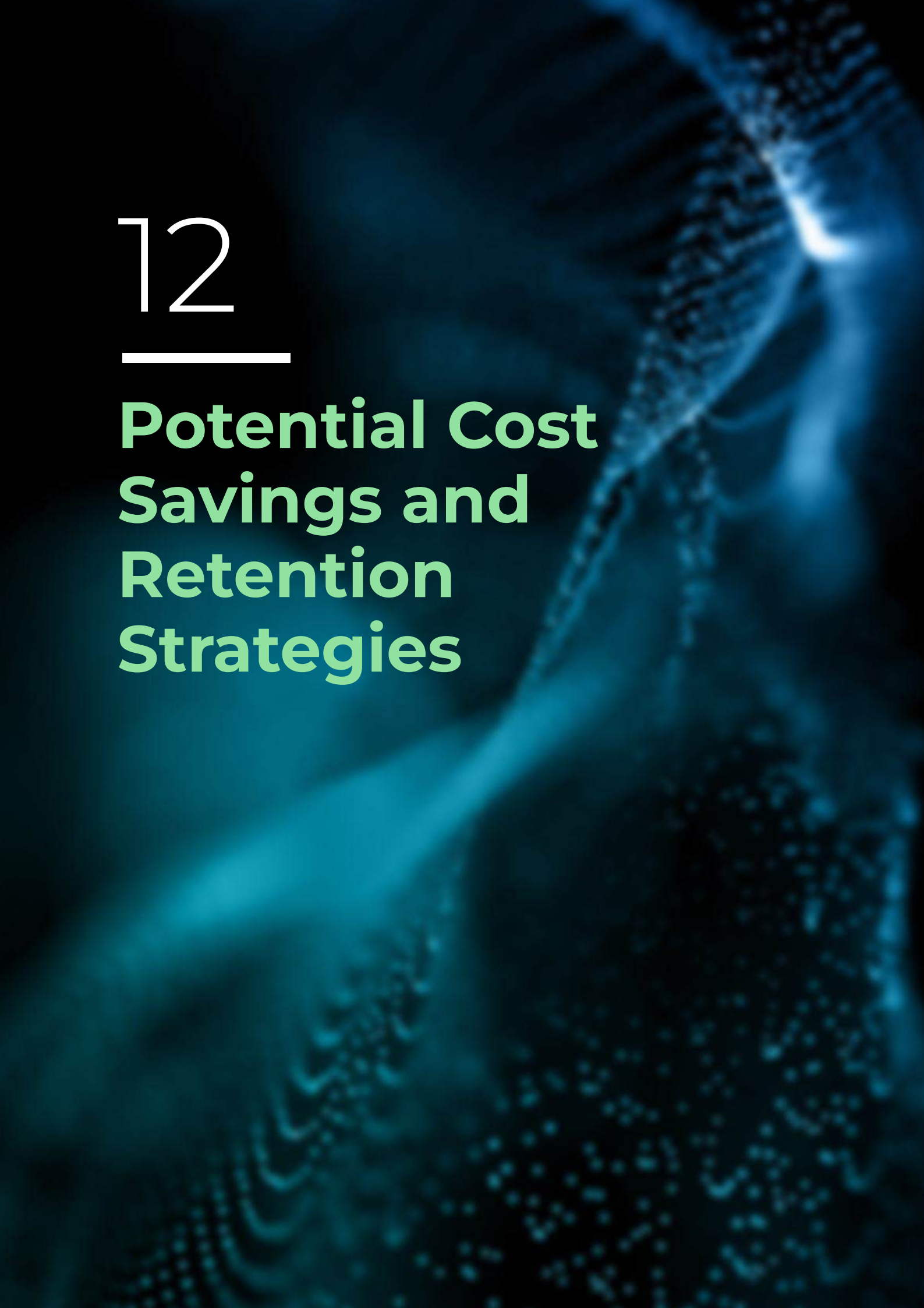
Targeted intervention strategies



Data-backed performance discussions

11.3 Trickle-down benefits for the Employees

- ◆ More personalized support and development opportunities
- ◆ Improved work environment and job satisfaction
- ◆ Better alignment of personal goals with organizational objectives
- ◆ Increased likelihood of long-term career success within the organization



12

Potential Cost Savings and Retention Strategies

The ability to identify disengaged employees presents a significant opportunity for organizations to improve retention and realize substantial cost savings. A pilot study conducted on a dataset of 10,870 employees revealed that:

**10%
(1,087)** were disengaged, with half of those (544) falling into the **High-Risk Attrition category**.

Assuming the organization aims to retain top talent around 50% of these high-risk employees (272), proactive strategies can be deployed through direct management, senior leadership, and HR interventions.

For the purpose of this analysis, we conservatively estimate the fully-loaded annual Full-Time Equivalent (FTE) cost at \$12,000 per annum. The potential cost savings can be broken down as follows:

Rehiring Costs

The average cost of rehiring typically ranges from 30-50% of an employee's annual salary. Using a conservative estimate of 40% of \$12,000 for 272 employees = \$1,305,600 per annum

Training Costs

The average cost of rehiring typically ranges from 30-50% of an employee's annual salary. Using a conservative estimate of 40% of \$12,000 for 272 employees = \$1,305,600 per annum

The combined annual savings from these two factors alone amounts to

\$1,795,200

By implementing the Retention Risk Index, organizations can anticipate attrition through early identification of disengagement signs. This allows for the application of targeted retention strategies, potentially saving approximately **\$1.8 million annually** while preserving valuable talent.

Additional Non-Quantifiable Cost Savings that an organization can expect is as follows:



Reduction in Lost Productivity

Retaining top performers eliminates the 6–9-month productivity lag typically associated with new hires, preserving consistent output and efficiency.



Higher ROI from Top Performers

The top 20% of employees often deliver 2-3 times more value than average. Retention of these key individuals maximizes returns on investments in innovation, customer retention, and leadership development.



Reduced Turnover Impact on Morale and Culture

Maintaining a stable workforce, particularly of high performers, fosters a positive work environment. This indirectly reduces costs associated with decreased team engagement and the need for additional management interventions.

The Retention Risk Index enables organizations to predict attrition, implement proactive engagement strategies, and realize significant cost savings—creating a win-win scenario for both the company and its valued employees.

Conclusion

The ProHance AI Retention Risk Index represents a significant leap forward in workforce management technology. By combining precise, deterministic data capture with advanced AI-driven analysis, it provides organizations with unprecedented insights into employee engagement levels.

This powerful tool enables proactive identification of disengagement risks, facilitates targeted interventions, and helps create a more engaged, productive workforce. As organizations continue to navigate the complexities of the modern workplace, the Retention Risk Index stands as an essential ally in fostering a culture of engagement, productivity, and mutual success.



