UDC 331

Bahman Nader,
master student,
cathedra of social work and human resources management,
Ural Humanitarian Institute,
FGAOU VO Ural Federal University named after the first President of Russia B.N.Yeltsin .
Yekaterinburg, Russia

Adebisi Kehinde,
master student,
cathedra of social work and human resources management,
Ural Humanitarian Institute,
FGAOU VO Ural Federal University named after the first President of Russia B.N.Yeltsin .
Yekaterinburg, Russia

Lysenko Elena Vladimirovna,
candidate of sciences (philosophy), associate professor,
cathedra of social work and human resources management,
Ural Humanitarian Institute,
Ural Federal University named after the First President of Russia B.N.Yeltsin,
Yekaterinburg, Russian Federation

SMART RETENTION: LEVERAGING MACHINE LEARNING TO ENHANCE EMPLOYEE ENGAGEMENT IN REMOTE WORK

Abstract:
With the rise of remote work, organizations face challenges in employee engagement. AI and machine learning can enhance human resource management by optimizing workforce planning and predicting needs. This study evaluates how machine learning improves employee engagement in virtual environments, offering strategies for smart retention and highlighting the need for further research.

Keywords:
Smart retention, machine learning, employee engagement, remote working, work from home

Introduction

The transition to remote work, accelerated by the global COVID-19 pandemic, has fundamentally altered the traditional workplace. While remote work offers flexibility and other benefits, it also presents significant challenges in maintaining employee engagement and retention. The increase in automation and digitalization has shifted the traditional administrative roles of HR, leading to a greater focus on leveraging technology to enhance effectiveness and employee satisfaction, particularly through the use of machine learning to increase retention. Artificial intelligence (AI) and machine learning are rapidly developing fields of computer science that aim to create machines capable of performing tasks that would normally require human intelligence. These technologies can significantly improve human resource management processes. For example, AI can optimize workforce planning, enhance employee well-being and safety processes, and predict human resource needs to ensure retention. This information can help human resource managers make better and more effective decisions about hiring, training, and developing employees [1]. Machine learning (ML) has emerged as a powerful tool to address these challenges by enhancing employee engagement in remote work settings, as employee retention is pivotal to organizational growth. This article explores how machine learning can be effectively utilized to improve employee retention and engagement in remote work environments.

The Challenge of Remote Work

Remote work can lead to feelings of isolation, reduced communication, and a lack of team cohesion, all of which contribute to decreased employee engagement [2]. According to a study by Buffer (2020) [3], the most common struggle faced by remote workers is unplugging after work, followed by loneliness and collaboration difficulties. These challenges necessitate innovative solutions to keep employees motivated and engaged. Anis et al. (2011) [4], stated that focusing on employee engagement, job satisfaction, and organizational commitment can enhance retention effort.

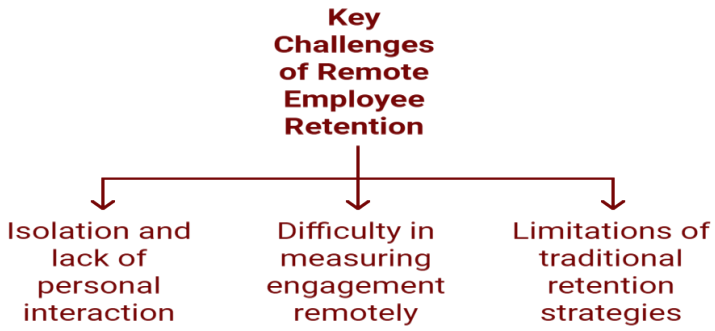

Figure 1 – Key challenges of remote work (prepared by authors)

Definition of Smart Retention: Retention is the process employers put in place to ensure that the employees do not quit their jobs. Defining "Smart" in the context of technology using Machine learning we can say "Smart Retention" is the technological strategies employed by employers to preserve their best talent from leaving the organization. Vishwanath et al. (2023) [5], reported that it is now becoming a modern trend where young professionals switch jobs at will and the cost of losing an employee costs double their annual salary. Hence, employee retention becomes paramount.

Machine Learning in Employee Engagement

Machine learning offers a data-driven approach to understanding and improving employee engagement. By analyzing patterns in employee behavior and communication, ML algorithms can identify signs of disengagement and predict turnover risks. According to Garg et al. (2022) [6], ML models can analyze data from various communication platforms to assess employee sentiment and engagement levels. While AI processes and translates data into understandable formats, ML, a sophisticated subset of AI, delves deep into data to discern patterns, adapting its algorithms accordingly.

Personalized Feedback and Learning

One of the key advantages of ML is its ability to provide personalized feedback and learning opportunities. ML algorithms can tailor training programs to fit individual employee needs, thereby enhancing skill development and job satisfaction [7]. Personalized learning not only improves engagement but also boosts productivity and retention.

Enhancing Communication and Collaboration

Effective communication is crucial in remote work settings. ML tools can analyze communication patterns to suggest optimal collaboration strategies, ensuring that team members remain connected and productive. For example, ML-driven sentiment analysis can help managers understand team morale and address issues promptly [8].

Predictive Analytics for Retention

Predictive analytics, powered by ML, can forecast employee turnover by identifying patterns and trends associated with disengagement. By proactively addressing these issues, organizations can reduce turnover rates and improve retention. A study by Svensson et al. (2021) [9], demonstrated how predictive models could effectively identify high-risk employees, allowing for timely interventions.

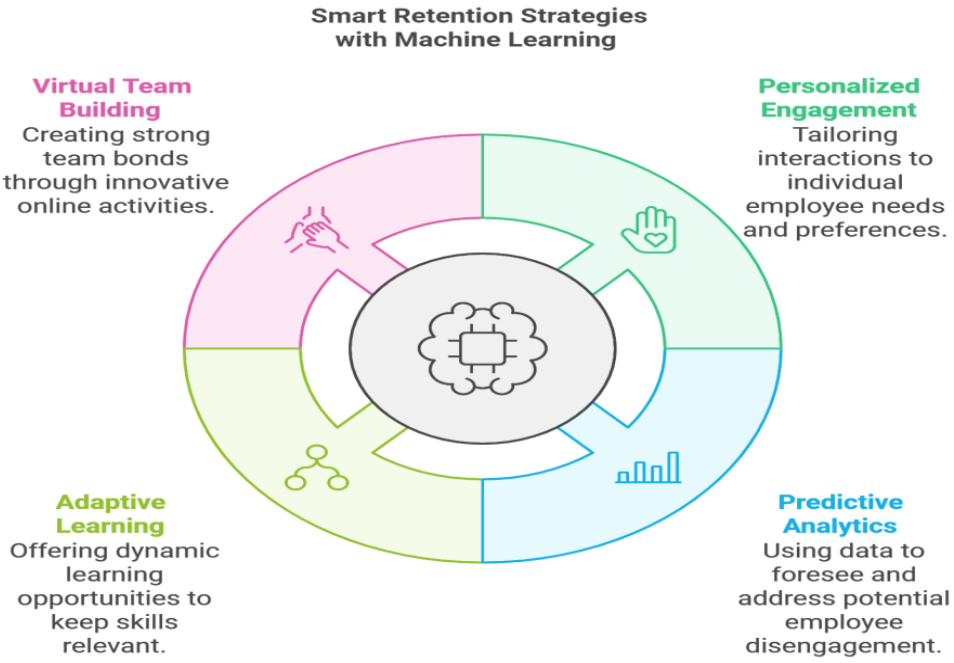

Figure 2 – Smart Retention Strategies with ML (Source: prepared by authors)

Case Studies and Applications

Several organizations have successfully implemented ML solutions to enhance remote work engagement. For instance, IBM uses ML algorithms to predict employee flight risk and identify factors that influence retention [10]. Additionally, AI/ ML can help HR executives gain insights into employees morale and attitudes, as it can help to identify emotions and moods trends by monitoring text- based communication channels which enables organizations to identify concerns and access employees' happiness in real time.

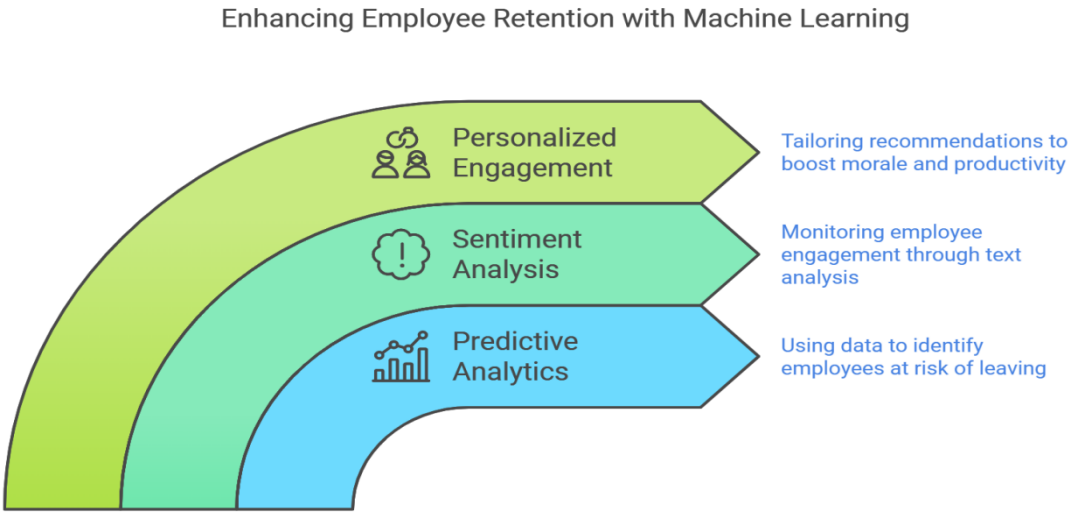

Figure 3 – How to Enhance Employee Retention with ML (prepared by authors)

Conclusion

Machine learning offers significant potential to enhance employee engagement and retention in remote work environments. By leveraging data-driven insights, organizations can create personalized experiences that foster a sense of belonging and motivation among employees. As remote work continues to evolve, the integration of ML technologies will be crucial in addressing the unique challenges it presents. By investing in smart retention strategies, companies can ensure a more engaged, productive, and satisfied remote workforce.

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