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Artificial Intelligence-Driven Talent Intelligence and Employee Retention: A Theoretical Framework of Personalised Career Development and Internal Career Mobility

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ABSTRACT

The invention of new technologies allows organisations to better analyse their employees, be aware of their future requirements, make learning programs more personal and create instruments for identifying career possibilities within organisations. Although it is evident that AI contributes much to employee retention, its effectiveness is determined by how data analysis results are used when forming the career of a worker. This paper provides a theoretical model demonstrating how talent intelligence based on AI might influence the level of employee retention through personalisation of the career development process and provision of career opportunities to workers.

The model uses concepts of Human Capital Theory, Social Exchange Theory, Job Embeddedness Theory and Resource-Based View Theory to interpret talent intelligence as a capability of the organisation to connect employee development with workforce information and deployment. Personalisation of the development process acts as a way of building the capability and internal mobility does this job of being a realisation of opportunities. The concept of perceived fairness of career opportunity is regarded as a contextual factor influencing whether employees find AI-powered career systems fair and trustworthy. This study elaborates on the career-transformational approach, which is based on the premise that talent intelligence proves to be effective in retaining employees only in the case where analytical information leads to meaningful training, training results in available internal job openings, and employees believe that the entire process is fair. The model encompasses technology, career development, internal labour markets, and employee retention and provides recommendations for management and research perspectives.

Keywords: Artificial intelligence; talent intelligence; employee retention; personalised career development; internal career mobility; career opportunity fairness

1. Introduction

Employee retention is an important strategic issue for businesses experiencing different needs in terms of skills, digital transformation, competition for specific talents, and increased demands for significant career advancement. Recruitment and development are not effective if an employee leaves before their skills and knowledge are put into use. Hence, retention looks at achieving more than retaining the employee as such, but rather providing them with sufficient opportunities for professional growth and making contributions to the company's goals.

Historically, talent management strategies have relied on regular evaluations of employees' performance, opinions of their managers, succession planning, and regularised training programmes. While these measures can be valuable, they do not accurately reflect an employee's changing skills and professional aspirations. Talent intelligence powered by artificial intelligence allows organisations to leverage data on all aspects of their personnel ranging from skillset profiles to career aspirations and from performance metrics to workforce needs. Applications of this technology can involve identifying potential skills gaps, recommending custom learning solutions, planning

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workforce deployment, and matching candidates with internal job openings.

However, technological advancement alone does not guarantee that retention rates improve. Many companies may possess advanced tools for data analysis yet have no adequate learning programs. Workers may receive advice on recommended development programs and positions to apply for but may choose to ignore it as they regard such recommendations to be unreliable, incompatible or unjust. The leading question thus appears to be: how can AI solutions be turned into the success of the employee experience?

The author of this article views employee development and internal career progression as a key link between the effectiveness of talent intelligence and retention. The framework is based on four different theories. The theory pertaining to Human Capital Theory is related to investment in employee capability. The second theory, i.e., Social Exchange Theory, explains employees' reactions to perceived support. The third theory, Job Embeddedness Theory, explains employees' attachment to the organization. The final theory, Resource-Based View, explains the strategic importance of development of machine intelligence as a function of human abilities. In this paper, career change perspectives for ways in which analytical competency can be used in the form of support and opportunities for growth and staying with the organization are discussed.

2. Conceptual foundations

2.1 AI-driven talent intelligence

When we refer to AI-enabled talent intelligence, we mean a certain ability of an organization to employ artificial intelligence and some technologies related to analytics in order to analyze workforce data and understand the capabilities of employees, predict the skills they will need in future, and assist in making decisions on the issues of development and staffing. This definition differs from the notion of just HR digitization, as keeping personnel files and performing routine technical tasks do not amount to talent intelligence, where the main aspect is referring to using workforce data to improve organization's decisions about its employees' skills and career opportunities.

Talent intelligence has three interrelated components. First of all, the process of intelligent skills identification involves analyzing the information about the employees and the jobs they perform to find out what skills they already possess and what skills they need to acquire. Secondly, predictive career and workforce analysis makes it possible to forecast what skills might be necessary in future and what career path the employees will take. Lastly, intelligent talent matching deals with combining information about employees' competencies, interests, and readiness with educational programs, job offers, projects, and positions in the organization.

The three dimensions serve different purposes: skills identification defines what employees are capable of doing, predictive analytics provides an understanding of what is needed in the future, and matching links the two together. The strategic value of talent intelligence depends not only on the accuracy of the analyses, but also on whether or not the organization has the necessary capabilities and processes through which to capitalize on the insights.

2.2 Personalised career development

Personalized career development refers to learning, feedback, competence development and career planning that are adapted to employees' abilities, aspirations, developmental needs and the opportunities available in the organization. It recognizes that employees have different knowledge, career stage, profession of interests and directions in which they want to progress. Artificial intelligence can facilitate this personalization by discovering the gaps in skills, suggesting which activity to undertake, amending the learning material with job descriptions and explaining what competence is necessary for advancement. However, just one suggestion is not enough for effective realization. It is necessary for employees to have access to the learning materials and to be involved in the process completely.

2.3 Internal career mobility

Internal career mobility is defined as the process of changing jobs within the same organization. This process can include promotions, lateral moves, cross-functional jobs, project roles, and the like. Internal mobility is different from development in that mobility refers to the mobility of accessible positions (paths) and development is the preparation for it. AI-enabled talent intelligence can help make job vacancies visible, point out applicable employee skills, and find suitable positions. However, internal mobility is still limited by corporate structure, availability of vacancies, budget, desire of management to let employees go, and policies of promotion.

2.4 Employee retention

Employee retention is the ability of an organisation to keep its employees. Common measures of retention include actual retention rate, employee tenure, voluntary employee turnover, and intentions to stay. These measures can be used interchangeably because an employee can say they intend to stay with the company but leave regardless of their decisions because of some opportunities or factors beyond their control, a good example of which would be a lack of opportunities for career development. In this sense, retention is the most important outcome of organisational activity. AI in talent management can help achieve retention on condition that it positively affects career development and internal transfers of employees so that they have more reasons to stay with their organisation. But retention is still affected by various other factors, like salary, management, environment, and labour market conditions.

2.5 Perceived career opportunity fairness

The idea of fairness concerning career opportunities deals with employees' evaluations regarding whether the availability of training, advancement opportunities, open positions, and career promotions is just. Fairness should not be confused with real availability because it is possible that there are positions, but the employees think that only selected people have access to them.

In the field of talent management, fairness may be at risk because of poor-quality data, historical bias, and unclear recommendation logic. It is necessary to use clear criteria, sound practices, employee input, and sufficient human oversight to ensure fairness. Thus, fairness acts as a key contextual condition determining how the employees perceive their career development.

3. Theoretical foundations and integration

3.1 Human Capital Theory

The Human Capital Theory classifies human knowledge, abilities, competencies and experience as tools that help individual efficiency and improve organisational performance (Becker, 1964). Employee development refers to the cost of the potential productive capacity. The role of AI-based talent intelligence can make this cost more efficient by detecting the skills that need improvement and targeting the development resources on the individual and organisational needs.

This viewpoint indicates the significance of personalisation in terms of career development: talent intelligence can reveal the directions for future development, whereas experience can help to form skills for the future job. However, an additional effect of career development is the improvement of external employment opportunities.

3.2 Social Exchange Theory

Social Exchange Theory elucidates how employees react to positive treatment by their employers. When staff members realize that the employer is investing in their development, acknowledging their skills, and making effort to realize their ambitions, they may view such actions as signs of concern on the part of the employer. As a result, employees may become more committed and keen to stay. At the same time, a recommendation made by AI is not synonymous with support. It is equally important for employees to go through the learning process, receive the necessary resources, and to have managers who want to implement employee development initiatives. Social Exchange Theory emphasizes the need for actual experiences of employees over mere technologies used.

3.3 Job Embeddedness Theory

According to Job Embeddedness Theory, one of the factors associated with the retention of employees is their relationships with the environment they work in, as well as sacrifices they have to make in case they decide to leave (Mitchell et al., 2001). Meaningful internal mobility may be a way to improve employees' fit since they can change their responsibilities without leaving the company. The advantages of staying may also relate to what employees learn and their relationships. Despite these benefits, the relationship is not always evident. In some cases, other factors may outweigh advantages of internal mobility, which makes it unwise for employers. Different relocation possibilities can decrease but not increase commitment.

3.4 Resource-Based View

The Resource-Based View places importance on resources and capabilities which allow organizations to gain a competitive advantage over time. Likewise, strategic talent management pays special attention to the recruitment and training of staff who occupy key positions (Collings and Mellahi 2009). It can be stated that the use of talent intelligence which incorporates artificial intelligence technologies cannot be perceived as something separate. It has to be regarded as a component of already existing employee skills, internal work processes, learning mechanisms, managerial decisions, and internal labor market.

While being provided with the same software, different organizations can achieve diverse results because the quality of data, HR functions, recognition of the career system, and availability of internal opportunities vary. The Resource-Based View proves the necessity of treating talent intelligence as the company's capability rather than an independent technology.

3.5 Integrated theoretical explanation

In combination, these theories clarify different aspects of the framework. According to Human Capital Theory, capability development occurs; Social Exchange Theory states that employees' possible responses to perceived investments take place; Job Embeddedness Theory indicates that compatible job opportunities strengthen attachment; and finally, Resource-Based View describes the strategic integration of technology, people, and processes. Thus, the framework goes further than merely claiming that AI is sufficient for retaining talent. Talent intelligence as an AI-enabled strategy is an organizational capability, development and mobility serve as career-related mechanisms, perceived fairness matters in employees' interpretation of the experience, while retention is a result.

4. Critical synthesis of the literature

4.1 Strategic talent management and retention

Strategic talent management refers to the processes of recognizing, nurturing, employing, and preserving employees who can positively contribute or affect organizational effectiveness. According to Collings and Mellahi (2009), talent management can be positioned through a strategic lens, whereas Cappelli and Keller (2014) identify some of the theoretical and practical difficulties associated with it. In this regard, the researchers claim that talent management is broader than only recruitment and the management of routine HR processes. Nonetheless, only strategic talent management is insufficient to reveal the connection between data-heavy systems and employees' career opportunities and retention. This paper's framework solves the problem of linking talent intelligence to a certain experience related to careers.

4.2 Career development and sustainable careers

Career study emphasizes the aspect of developments in skills, competencies, flexibility, and the connection between personal needs and contexts which enable the fulfillment of those needs. Akkermans and Tims have analyzed the issue of competencies in relation to success in career through job crafting while De Vos et al. provided a conceptual framework presenting sustainable careers. The above mentioned literature calls for treating development as the process which goes on through the course of time rather than one training event.

However, it should be stressed that development and promotion should be differentiated. Personalized learning may prepare one for his/her job but does not guarantee the provision of one's access to the right job. Therefore, the presented framework shows how capability-building achieved through the process is different from the realization of opportunities owing to mobility.

4.3 AI and human resource management

The research on Artificial Intelligence (AI) in human resource management (HRM) involves algorithmic analysis, automation, and data-based human resource decisions. Strohmeier and Piazza (2015) looked into AI technologies applied in HRM, Tambe et al. (2019) talked about difficulties in the implementation, and Vrontis et al. (2022) analyzed the relationship between AI, robotics, advanced technologies, and HRM. This literature identifies the possible pros and cons associated with the application of AI in HRM, including the importance of data quality, organizational context, choice of implementation, and human supervision.

One of the problems is that the ways in which AI capabilities are incorporated into employees' working experience need to be examined. In this case, an algorithm may help point out the gaps in skills, but this means that the company has to organize training. In addition, while AI may show that the internal candidate has potential, the vacancy has to exist along with the fair process of selection of the candidate.

4.4 Turnover and embeddedness

The studies of turnover indicate that the decisions to leave and to stay depend on the personal, organizational, and situational factors. Hom et al. (2017) investigated the turnover theory and research of the last century, whereas Mitchell et al. (2001) presented the importance of job embeddedness in voluntary turnover. These thoughts suggest that satisfaction, salary, or any HR practice alone cannot account for retention: fit, ties, career alternatives, and costs of leaving are also taken into consideration. Internal mobility can facilitate career advancement without leaving the organisation. Instead of leaving to get new tasks, the

employees can achieve their changing aspirations in the organisation.

4.5 The unresolved theoretical issue

Clients are provided with significant yet somewhat independent justification regarding the capabilities offered by HR in terms of both AI support of the career development and retention of employees. Thus, the unsolved question remains in how the above processes interconnect. The perspective of career transition states that talent intelligence provides a knowledge about employees' competencies and the needs of the organization; the development enables to transform this knowledge into competencies; the mobility allows connecting the competencies and the roles; and fairness determines whether employees accept the opportunities given. These processes may contribute to strengthening the employees' desire to stay.

5. Theoretical problem and conceptual contribution

This framework calls into question the idea that having better workforce analytics means better outcomes for employees. There are three main points to consider. First of all, having analytical intelligence is not the same as having developmental action. While it might be helpful to find out where skills are lacking, it does not mean that the people will be trained, mentored, or gain practical learning experience afterward. Secondly, capability of development is not the same thing as the opportunity to pursue a career since people may have needed skills without a chance to move forward in life, due to unavailability of job positions, limited transfers or unclear requirements. Finally, opportunity for career growth is not the same as perceived support of the organization, because people can have negative responses when they see job openings issued in a capricious way.

The idea of career conversion rationalizes that the retention of worth of AI-based talent management technologies relies on the conversion of analytics to developmental assets, developmental assets into career opportunities and career opportunities into credible work experience.

6. The integrated theoretical framework

The framework defines AI-powered talent intelligence as an organizational capability that drives the development of careers and internal movement, with the result of keeping employees in the company. The framework has both sequenced and parallel pathways. On one hand, development can contribute to retention and support employees in their development. On the other hand, the mobility factor could support retention by providing employees with career advancement opportunities facilitating their development and relocation within the company. The sequenced pathway shows that talent intelligence can identify the necessary skills allowing for personalized development enabling people to acquire the skills and the necessary traits for particular positions. The perceived fairness of career opportunity serves as one of the boundary conditions affecting employees' interpretation of their experiences. The model does not postulate that the impacts of AI will be uniformly positive; rather, the outcomes will rely on the quality of implementation, the presence of real opportunities, and the perception of candidates. In a visual representation, the usage of talent intelligence by AIs should lead to individualised career growth and mobility which should be connected with mobility in turn; the result of career mechanisms should be retention; fairness of career opportunity perception will be a factor affecting the conversion of experiences into retention.

7. Discussion

7.1 From technology adoption to career conversion

This framework counters the technology-centric approach to HR management using AI. AI can enhance the processing of information regarding the workers, but processing information does not make workers’ experiences any better on its own. The insights derived from the analysis should be converted into development opportunities for the workers.

7.2 Development and mobility as distinct mechanisms

Once development is well established in an organization, mobility gives rise to the chances for its application and expansion. It may provide ample training opportunities but few or no internal openings, forcing the workforce to search for ways of advancement outside the company. On the other hand, there may be vacant positions, but little or no development support for employees, so they may not be capable of competing for the jobs. Thus, proper talent management requires development of proper structures linking development system and internal labour market.

7.3 Fairness and the legitimacy of AI-enabled decisions

The workers may wonder if their skills are accurately represented, their career guidance is

rational, and their opportunities are assigned correctly. Fairness is about more than technical construction: it is about management responsibility, employee engagement, transparency of operations, and tools to fix wrong evaluations. There is still a need for human judgment because abilities and career dreams cannot always be drawn from the past information.

7.4 Retention as a contingent outcome

The defines still means that AI-based talent intelligence would not guarantee the retention of all employees. Things like pay, leadership, workplace conditions, personal factors, and outside options are still important. The stronger claim is that proper growth initiatives, internal possibilities, and fair career practices can make workers want to continue working in the organization. This contingent meaning saves the idea from technological determinism.

8. Managerial implications

Organisations ought to judge AI-enhanced talent management in terms of the job opportunities it generates instead of simply assessing the technology implementation.

To start with, they need to create stable, regularly revised talent profiles and provide employees with an opportunity to review and amend their profiles. Second, it is necessary to tie AI recommendations to concrete learning resources, development objectives, timeframes, and possible positions. Third, talent management ought to be coupled with internal recruiting and workforce planning to help employees know about vacancies, project assignments, requirements for promotion, and transferable skills. Fourth, companies should implement the transparent resource allocation process and have AI support rather than replace managers' responsibility and people's, or management personnel's role.

Finally, it is important to assess both short- and long-term results. Useful indicators are perceived relevance of learning, completion of learning pathway, number of internal applications and moves made, perceived fairness of career development, plans to stay in the company, and voluntary turnover rate. No single measure can serve as evidence of successful retention.

9. Future research directions

Future investigations could explore whether the framework's functionality varies for different knowledge-intensive fields like IT, healthcare, financial services, professional services, or logistics. Differences in career stages could also be relevant: for example, employees at early stages of their career may focus on gaining new skills while those with more experience may be interested in promotions or specialized career paths.

Researchers may explore what effect the internal labour market system, the extent of support from managers the availability of positions, and the quality of HR data have on talent intelligence transformation into career success. Fairness studies can demonstrate the need for defining the elements of fairness in relation to procedural, transfer, perceived algorithmic bias, or employee voice. Longitudinal studies can help to distinguish between intentions concerning retention and real retention or voluntary turnover.

The potential unintended consequences need to be considered. The excessive dependence on algorithms in making decisions may limit career options, continue inequalities from the past, or place organizational interests over the personal interests of the employee. More studies (both practical and theoretical) may therefore focus on both the pros and cons of the systems based on AI technologies.

10. Conclusion

A new theoretical framework is proposed in this paper to better understand the impact of AI-powered talent intelligence on employee retention. The main argument is that the effectiveness of talent management through AI technologies directly relies on the conversion of analytical knowledge into beneficial growth opportunities. Human Capital Theory explains how skill formation occurs, Social Exchange Theory describes potential responses to the investment made by the organisation, Job Embeddedness Theory outlines how viable opportunities enhance commitment, and Resource-Based View addresses the necessity of integrating technology, capabilities and practices of the organisation. The most important aspect to discuss is the difference between development and mobility. Employees should have both the necessary skills for career advancement as well as opportunities to put them into practice. The way career opportunity fairness is perceived influences the interpretation of the experience. This theoretical framework goes beyond the assumptions that technology implementation automatically leads to beneficial results and explains how organisational processes on the level of both organisation and employees work.

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