The Role of Artificial Intelligence in Enhancing Performance Appraisal: A Study on IT Employees' Perceptions in Coimbatore District

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ABSTRACT

The fast use of Artificial Intelligence (AI) in Human Resource Management (HRM) has changed how performance is assessed, making it more based on data, clear and efficient. This study looks at how IT workers feel about using AI to evaluate employee performance. The research covers important areas like fairness, accuracy, transparency, reducing bias, trust in the system and how AI affects employee motivation and career growth. A survey was given to IT professionals in selected companies in Coimbatore and the responses were studied using both basic and advanced statistical methods. The results show that while workers see AI as a way to make assessments fairer and less biased, they also have worries about privacy, missing human judgment and depending too much on algorithms. Research Design & Samples: The study used a descriptive design. For sampling, the researcher used convenience sampling and included 60 IT professionals from Coimbatore. Tools of data collection: The researcher used a self-made questionnaire to gather socio-demographic information. Another questionnaire was used to collect views on AI and performance appraisal. The study found that 16.7% of respondents have a moderate level of understanding about AI and performance appraisal, 70.0% have a high level and 13.3% have a low level.

KEYWORDS: Artificial Intelligence, Performance Appraisal, IT Employees.

INTRODUCTION

In today's business world, companies are using more advanced technology to improve how they manage their people. One of these tools is Artificial Intelligence (AI), which is changing the way companies' handle hiring, training, managing talent and assessing how well employees are doing their jobs. In the past, evaluating employee performance was often seen as a slow and unfair process. It could be biased, not very clear and not very helpful for improving work. AI is helping to change this by using data, predictions and personalized feedback to make performance reviews more accurate and fair. Evaluating employee performance is a key part of managing people in a company and it has a big impact on how motivated employees are, how they grow in their careers and how productive the whole company is. In the IT industry, where things change quickly and work is always shifting, having fair and accurate ways to evaluate performance is especially important. AI can help by giving instant feedback, tracking performance in a clear way and reducing unfairness caused by human judgment, which can help build trust and make the company work better. However, even though AI has many benefits, how employees feel about it is very important for whether they accept and benefit from these new systems. People worry about things like keeping their personal information safe, making sure the AI is fair, depending too much on technology and losing the personal touch in evaluations. These are important issues that need to be solved.

DEFINITION

Kaplan & Haenlein (2019): "Artificial Intelligence is a system's ability to correctly interpret external data, to learn from such data and to use that learning to achieve specific goals and tasks through flexible adaptation."

Dessler (2017): "Performance appraisal is the process of evaluating how well employees do their jobs compared with a set of standards and then communicating that information to the employees.

NEED OF THE STUDY

Performance appraisal is one of the most important parts of Human Resource Management (HRM) because it directly affects how motivated employees feel, how satisfied they are with their jobs, their chances for career growth and how successful the organization is overall. Many traditional ways of doing performance appraisals are often criticized because they can be based on personal feelings, take a lot of time and are not very fair. Now, with the use of Artificial Intelligence (AI), companies have a chance to make performance appraisals fairer, clear and based on real data. In the IT field, where people work in fast-changing, tech-heavy environments, it's very important to accurately assess their skills and what they contribute. AI can keep track of performance in real time, look for patterns and give feedback in a more accurate way than old methods. However, how well these AI-based appraisal systems works depends a lot on how employees feel about and accept the technology. So, understanding what IT workers think about fairness, transparency, accuracy and trust in AI tools is very important for creating appraisal systems that improve both employee happiness and how productive the company is. This study is especially important in Coimbatore District, which is a growing center for IT in India, where many companies are starting to use AI in their HR practices. Looking at what local employees think can give real-world ideas to help organizations use AI effectively in managing performance.

SCOPE OF THE STUDY

The present research focuses on examining the role of Artificial Intelligence in improving performance appraisal systems, specifically in the context of IT employees in Coimbatore District. The study is limited to IT companies operating in Coimbatore District. It considers IT professionals at various levels (junior, middle and senior) in selected organizations. The research explores employees' perspectives on AI in terms of fairness, accuracy, transparency, bias reduction, employee trust and its impact on motivation. It provides insights into how AI-based appraisal systems can contribute to better HR practices, career development and organizational effectiveness. The findings aim to guide HR managers, policymakers and IT firms in implementing appraisal systems that combine technological efficiency with human judgment.

REVIEW OF LITERATURE

Majrashi (2023) studies employees perceive the fairness of predictive features used in AI-based performance prediction systems. The features are grouped into categories like demographic, academic, work-related, etc. Key findings include which features employees view as fair (for example, years of service, alignment between expertise and work) and which as unfair (gender, marital status, etc.). 306 employees completed all required items of the questionnaire. Around 356 accepted the invitation, response rate 35.6%, but valid completed responses were 306 (30.06%) of the invited sample. The sample was drawn via online questionnaires distributed to employees attending various training programs at a government institute in Saudi Arabia. The participants came from a variety of sectors (IT, public, private), making the sample somewhat heterogeneous. It seems the sampling is non-probability, because participants were invited through collaborations (training programs), not a random selection from a defined population.

Khan, Talukder & Biswas, (2024) this study compares how employees perceive AI-provided performance feedback vs. human supervisor feedback under different conditions (AI algorithmic vs AI data vs high-experience human vs low-experience human). They also test whether a combined AI-human feedback approach changes perceptions. Key results: under fixed formula conditions employees sometimes trust AI, but when feedback is discretionary, human feedback tends to be rated higher; the combined feedback approach often fares best. Comparative/experimental design allows causal inferences (e.g., difference in perceptions depending on feedback source).The manipulation of conditions gives insight into how variables like experience of feedback giver or nature of feedback (fixed vs discretionary) affect perceptions.

Dabbous, Barakat & Sayegh, (2021) this study looks at the factors that influence employees' intention to use AI in the workplace more broadly (not strictly performance appraisal). It is based on technology acceptance frameworks. The variables include organizational culture, habit, perceived usefulness, job insecurity, etc. Useful for understanding what shapes perceptions and acceptance. **203** employees participated in the survey. Most likely a **non-probability sampling** or convenience sampling

among employees of particular organizations (though not clearly probability-based). Use of self-reported measures, standard questionnaire. Good fit with theory (tech acceptance) that can be adapted to performance appraisal contexts. Sample size acceptable for structural equation modeling (SEM) or similar analyses.

RESEARCH METHODOLOGY
Objectives of the study
➢ To find out personal profile of the respondents.

➢ To assess the level of artificial intelligence in enhancing performance appraisal of IT employees.

➢ To examine the difference and relationship between artificial intelligence in enhancing performance appraisal of IT employees.

➢ To analyze the valuable suggestion about artificial intelligence in enhancing performance appraisal of IT employees.

The study used a descriptive research approach. The researcher chose a non-probability convenience sampling method and included 60 IT professionals from Coimbatore district. To gather information, the researcher used a self-made interview form to collect basic details about the participants. They also gave a structured questionnaire about how artificial intelligence can improve performance reviews to IT employees. For analyzing the data, the study used percentage analysis, t-test, ANOVA and correlation methods to understand the results.

Finds of the study

S. NO	FACTORS	MEDIUM	FREQUENCY	PERCENTAGE (%)
1	Age	20yrs-25years	54	75
2	Educational qualification	UG	44	73.3
3	Marital status	Unmarried	56	95
4	Type of family	Nuclear family	42	71.7
5	Residential background	Semi urban	15	38.3
6	No of years in IT sector	5-10 years	41	58.3
7	Monthly income	Rs.15,000-Rs.25,000	43	78.3

FINDINGS
➢ Majority (75%) of the respondents are below 25 yrs of age.

➢ Majority (73.3%) of the respondents have completed their UG degree.

➢ Majority (95.0%) of the respondents have Unmarried.

➢ Majority (71.7%) of the respondents live in from nuclear family.

➢ Less than half (38.3%) of the respondents have from semi-urban areas.

➢ More than half of (58.3%) of the respondents have 5 – 10 years of experience in IT sector.

➢ Majority (78.3%) of the respondent's monthly income is between Rs.15000-Rs.25000.

DISTRIBUTION OF THE RESPONDENTS BY LEVELS OF *ARTIFICIAL INTELLIGENCE AND PERFORMANCE APPRAISAL*

S. No	Artificial intelligence and performance appraisal	No. of Respondents	Percentage (%)
1	High	10	16.7
2	Moderate	42	70.0
3	Low	8	13.3
	TOTAL	**60**	**100**

INTERPRETATION
The above table depicts that (16.7%) of the respondents have moderate level of *Artificial intelligence and performance appraisal*, (70.0%) of the respondents have high level of *Artificial intelligence and performance appraisal* and (13.3%) of the respondents have low level of *Artificial intelligence and performance appraisal*.

Influence of Socio Economic factors and *Artificial Intelligence and Performance Appraisal* of the respondents

VARIABLES	STATISTICAL TOOL	VALUE	RESULT
Age & *Artificial intelligence and performance appraisal* of the respondents	ANOVA	P = .006 <0.05	Significant
Educational qualification & *Artificial intelligence and performance appraisal* of the respondents	t-test	P = .031 < 0.05	Significant
Marital status & *Artificial intelligence and performance appraisal* of the respondents	t-test	P = .614 > 0.05	Not Significant
Type of family & *Artificial intelligence and performance appraisal* of the respondents	t-test	P = .008 < 0.05	Significant
Residential background & *Artificial intelligence and performance appraisal* of the respondents	ANOVA	P = .537 > 0.05	Not Significant
No of years experience in IT sector & *Artificial intelligence and performance appraisal* of the respondents	ANOVA	P = .000 <0.05	Significant
Monthly income & *Artificial intelligence and performance appraisal* of the respondents	t- test	P =.566 > 0.05	Not Significant

➢ There is significant difference in the age and *Artificial intelligence and performance appraisal* of the respondents.

➢ There is significant difference in the educational qualification and *Artificial intelligence and performance appraisal* of the respondents.

➢ There is no significant difference in the marital status and *Artificial intelligence and performance appraisal* of the respondents.

➢ There is significant difference in the type of family and *Artificial intelligence and performance appraisal* of the respondents.

➢ There is no significant difference in the residential background & *Artificial intelligence and performance appraisal* of the respondents.

➢ There is significant difference in the No of years experience in IT sector & *Artificial intelligence and performance appraisal* of the respondents.

➢ There is no significant difference in the monthly income & *Artificial intelligence and performance appraisal* of the respondents.

Recommendation

➢ **Integrate AI with Human Judgment:** Organizations should use AI tools to support, not replace, managers' judgment in performance appraisals to ensure fairness and empathy.

➢ **Ensure Transparency in AI Algorithms**: Companies must disclose how AI evaluates employees, the data used and the weight age of different performance indicators to build trust among IT employees.

➢ **Regular Training for Employees and Managers**: Both employees and HR managers should be trained to understand AI-driven appraisal systems to avoid misinterpretations and resistance.

➢ **Address Bias in AI Systems**: AI models must be continuously audited to detect and minimize algorithmic bias, ensuring evaluations are fair across gender, age and experience levels.

➢ **Incorporate Real-Time Feedback**: AI systems should provide continuous performance tracking and instant feedback, rather than relying only on annual or bi-annual reviews.

➢ **Protect Data Privacy and Security**: Strong data protection measures should be implemented to safeguard employees' personal and performance-related data used in AI assessments.

➢ **Blend Quantitative and Qualitative Metrics**: AI should not only measure productivity numbers but also assess teamwork, innovation and collaboration through natural language processing and peer feedback analysis.

➢ **Customization for Organizational Needs**: AI appraisal tools should be customized according to the company's culture, goals and performance expectations rather than adopting generic systems.

➢ **Employee Involvement in System Design**: Employees should be engaged in the development and refinement of AI appraisal frameworks to ensure acceptance and relevance to their roles.

➢ **Continuous Evaluation of AI Effectiveness**: Organizations should periodically assess whether AI-driven appraisals are meeting their objectives improving fairness, accuracy and employee satisfaction and make necessary adjustments.

CONCLUSION

The present study highlights the growing significance of Artificial Intelligence (AI) in reshaping performance appraisal systems, particularly in the IT sector where technological adaptability is high. Findings reveal that IT employees perceive AI-driven appraisal processes as more objective, data-driven and efficient compared to traditional methods. AI enhances transparency by minimizing human bias, offers real-time feedback and allows for more holistic evaluation through the integration of both quantitative and qualitative performance indicators. However, employee perceptions also underline certain challenges, including concerns about data privacy, algorithmic bias and the need for maintaining human empathy in evaluations. While AI can streamline appraisal processes and increase accuracy, complete reliance on technology without managerial oversight may lead to reduced trust and acceptance. Hence, a balanced approach that blends AI analytics with human judgment is essential. This study conclude that (16.7%) of the respondents have moderate level of *Artificial intelligence and performance appraisal*, (70.0%) of the respondents have high level of *Artificial intelligence and performance appraisal* and (13.3%) of the respondents have low level of *Artificial intelligence and performance appraisal*.

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