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Automated Performance Evaluation and Due Process in Disciplinary Procedures

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Abstract

Digital technologies that are now increasingly being adopted in HRM have changed the way in which performance of employees is measured, monitored, evaluated, and managed. The systems for Automated Performance Evaluation (APE) make use of such technologies as rule-based scoring, key performance indicators (KPIs), machine learning, employee monitoring software, natural language processing (NLP), and Human Resource Information Systems (HRIS) for evaluating the behavior and performance of employees. While there is an array of advantages that the implementation of these technologies may bring, there are significant issues associated with the use of these technologies for disciplining. The score that is assigned by algorithms may have a bearing on any warning issued to the employee, development of performance improvement plan, suspension, promotion, termination, or any other decision affecting the employment. The study seeks to explore the link between automated performance evaluation and due process in workplace discipline proceedings. Concepts such as APE, algorithmic management, natural justice, and organizational justice will be developed. The study shall also explore technologies used in automatic evaluation of employee performances and how such technologies could be used in various phases of discipline processes. Special consideration shall be given to the right to notice, being given a chance to hear oneself, access to information/evidence, impartiality of decisions, explanations of algorithmic decisions, and the possibility of human review. Legal considerations include Indian labour laws and employment law principles, the Digital Personal Data Protection Act, 2023 and the Digital Personal Data Protection Rules, 2025 as well as the international approaches such as the General Data Protection Regulation (GDPR), EU Artificial Intelligence Act among others. The paper discusses some of the challenges associated with automated evaluation of employee performance such as opacity of algorithms, discrimination or bias, inaccuracies in the use of data, failure to take context into consideration, over monitoring, accountability issues, and power asymmetry. Finally, an automated evaluation process that is consistent with due process is developed.

Keywords: Automated Performance Evaluation, Algorithmic Management, Due Process, Disciplinary Procedures, Artificial Intelligence, Employee Monitoring, Natural Justice, Organizational Justice, Algorithmic Bias, Human Oversight.

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Introduction

The digital transformation has gradually begun to affect human resources management and decision making in the workplace. Organizational use of IT solutions for gathering employee data, calculating productivity, tracking attendance, assessing employees, identifying discrepancies from established criteria, and making managerial decisions became commonplace. Traditional employee evaluation is based upon supervisors, regular evaluations, interviews, performance reports, and qualitative assessment. The Automated Performance Evaluation (APE) is a more advanced technology-oriented practice that involves collecting and processing employee data to provide a score, ranking, alerts, recommendations, or predictions (Markku, 2021). Automated performance evaluation can be quite straightforward by using attendance dashboards and KPI calculation or involve more advanced tools like machine learning algorithms, predictive analytics, natural language processing (NLP), computer vision, and behavioral analysis. For instance, an organization can automatically calculate the number of tasks performed by an employee, evaluate how many of those were accomplished within pre-established goals, detect anomalies, analyze customer interaction, or generate performance alerts (Rainy & Chowdhury, 2022). It can also help to save time and deliver tons of information to managers. The increasing prevalence of automated assessment is especially critical because performance-related information can be the basis for making disciplinary decisions. For example, employees who continually fail to meet a particular minimum standard can receive automatic alerts. In certain situations, the automated system can make recommendations on issuing a warning, developing a performance improvement program, identifying possible misconduct, or even terminating the employment contract (Nudurupati et al., 2024). Consequently, the move from measuring performance to making a disciplinary decision raises the following legal and ethical challenge: how can automated evaluation be used without compromising the procedural rights of the employee? Proper procedure is crucial because there are several negative implications of workplace disciplinary actions. Receiving a warning might damage an employee's employment record, while suspension, demotion, reduction of remuneration, or termination of employment may damage livelihood and professional career. Automated systems can detect a certain statistical trend; however, this trend cannot be evidence of misconduct. There could be several valid reasons why an employee failed to perform adequately, including illness, technical problems, unreasonably high standards, different workloads, inadequate training, system faults, or duties that are difficult to quantify. the use of machine learning algorithms in the evaluation of performance and the identification of anomalies in user login behavior in enterprise networks, showing the benefits of automation in recognizing unusual behavior (Zhang, 2024). Li et al., (2025) discuss the implementation of Power BI as a means of intelligent evaluation and increased performance understanding, thus indicating the importance of data visualization in performance evaluation (Li et al., 2025). influence of automated writing assessment on self-efficacy, self-regulation, anxiety, and performance, thus indicating the wider implications of automated assessment on evaluated individuals (Sari & Han, 2024). Auto mated writing assessment from different perspectives in order to indicate that there is a need to use multiple metrics when assessing automated assessment systems (Wilson & Roscoe, 2020).

Therefore, the problem is not whether technology should be used in human resource management, but rather how to integrate technology into the process of making organizational decisions without sacrificing procedural fairness.

Problem Statement

Systems for automated performance evaluations are able to process huge amounts of work-related data rapidly and effectively. However, there is no automatic correlation between the objectivity of algorithms and fairness (Zhang et al., 2022). It all depends on how high-quality data is being used, what premises the criteria of evaluation have, how the algorithm works and in what environment results of algorithmic work are interpreted. The main trouble starts when people try to use results of automated algorithms as irrefutable proof. For instance, one employee may get poor productivity results, since his performance is assessed according to completed transactions but without taking into account that he has been working on more difficult cases. In addition, one person can get low results of performance, since the system compares him to the general average ignoring his working environment, experience, customers and conditions. There is also the issue of transparency. The employees may be aware of the existence of the software of monitoring and evaluation but may not be sure what particular information was gathered by the software, how the data were weighted, and how the final score would influence the decisions about disciplining the employees. There will be an imbalance of knowledge between the employer and the employee. The situation gets even worse when automation of performance information is done as a tool for implementing the disciplinary procedure. The traditional process of disciplining usually includes stages like notice, explanation, hearing, examination of evidence, representation, findings, and appeal. Automation of decision-making process might undermine these elements of the process. Thus, there should be a certain model which will ensure both technology and fair procedures.

Research Objectives and Questions

The objectives of this research paper include analyzing the concept, features, and usage of automated performance evaluation and understanding the relationship between automated performance evaluation and disciplining of employees. It intends to analyze the issues of due process and natural justice that emerge in the context of using automation for decision-making in the work place. Furthermore, it seeks to analyze the major technologies used in automated performance evaluation including rule-based systems, workplace analytics, machine learning, employee monitoring, natural language processing, and HRISs. It also analyzes the legal issues involved in automated employee evaluation and the due process issues that may emerge as a result of automated performance assessment. Apart from that, ethical issues such as transparency, fairness, privacy, dignity, accountability, and autonomy of employees will also be analyzed. Moreover, safeguards to ensure a fair and proper use of automated performance evaluation technology will be proposed along with developing a conceptual framework for implementation of automated performance evaluation. A number of research questions have been put forward as a guide for conducting the study. The first research question relates to what Automated Performance Evaluation is and how it affects the management of workplaces as well as employee evaluation. The second one considers the ways in which automated performance evaluation might influence various stages of disciplinary actions against employees. The third one relates to which elements of due process and natural justice can be involved in automated employee evaluation. The fourth research question asks about the technical and organizational conditions which may lead to the creation of threats to fair or accurate evaluation of employees. The fifth question considers what legal and ethical measures can be employed to protect employees from negative effects of automated performance evaluation.

Conceptual and Theoretical Framework

Automated Performance Evaluation and Algorithmic Management

Automated Performance Evaluation (APE) entails the application of computer programs, algorithms, data analytics, and artificial intelligence in gathering, analyzing, and assessing employee performance. This process ranges from simple rule-based models that compute Key Performance Indicators (KPIs) to highly sophisticated artificial intelligence processes that detect patterns, forecast performance, and generate suggestions. The APE process uses indicators such as the completion of tasks, attendance, response time, productivity, customer satisfaction, error rate, and service quality. Major characteristics of the APE process include the continual gathering of information, standardization of measurement, automated data analysis, immediate reporting, and managerial decision support. This process allows organizations to evaluate a large number of employees effectively. Nevertheless, automation does not imply neutrality because organizations determine the information gathered, indicators used, and the standards used in the evaluation process. Algorithmic management entails the automation of processes of task allocation, scheduling, monitoring, evaluating performance, and management of disciplinary measures. Workplace analytics entails transforming data related to employees into measurable indicators useful for managerial decision-making. Whereas this process is important in detecting performance patterns, high levels of monitoring could increase surveillance at workplaces and limit employee autonomy. Thus, the data collected must have a valid business purpose. Performance scores produced automatically must also be interpreted with caution. The cause for a low performance score could be different workloads, technical issues, difficult tasks, lack of training, or data inaccuracies. Thus, an automated performance indicator should be regarded as additional information to be examined, not necessarily proof of wrongdoings or bad performance.

Due Process, Natural Justice and Organizational Justice

Due process in the workplace entails applying fair procedure prior to any major decision being made. The concept of procedural justice entails providing notice, opportunity to respond, obtaining information, unbiased consideration, and proper review or appeal. On the other hand, substantive justice involves judging the reasonableness and appropriateness of the standards of performance and the disciplinary action involved. Natural justice gives some essential elements for fair decision making. Audi alteram partem means that the individual concerned must be provided an opportunity to be heard while nemo judex in causa sua addresses impartiality in decision making. In the case of automated appraisal, employees need to be given an opportunity to respond to any negative performance outcomes, dispute any inaccurate information, and make explanations prior to taking any major disciplinary action. Organizational justice theory also can serve as a valuable framework, which includes distributive, procedural, and interactional justice. Distributive justice involves the fairness of outcomes, for example, ratings, rewards, and disciplinary measures. Procedural justice is concerned about fairness of the process of making decisions and about the possibility for employees to take part in it or to receive a chance to challenge it. Interactional justice relates to treating people with respect and communicating properly. According to these principles, the automated system must not be

assessed just by its technical perfection. It can be inaccurate from the point of view of organizational justice if it uses improper criteria, does not have all the information required, ignores work-related context, and gives no chance to employees to react. Transparency plays an indispensable role in the effective use of Automated Performance Evaluation since employees need to have at least some understanding of how their performance is measured and what consequences that assessment might have on employment. While transparency does not involve disclosing every bit of the technical details of the algorithm, employees do need some level of information regarding what kind of data is collected, what performance indicators are used, what the goal of evaluation is, and what consequences it might have. Communication helps avoid confusion and allows employees to spot any errors in their performance evaluations. The second crucial component is accountability since responsibility for the automated decision must not be attributed only to the technology. Human intervention acts as an essential safeguard in cases where the automated assessment process has implications for employment. A human can consider aspects of the situation that might not have been reflected in the data, including changes in work load, technical issues, differences in duties, temporary difficulties, or lack of training. Human intervention must consider the situation and not merely ratify the automated decision. Workers must have adequate avenues to contest and/or correct any incorrect or unfair assessments through automation.

Privacy, Bias and Data Governance

Finally, the theoretical model needs to acknowledge privacy and data governance as relevant aspects of automated performance evaluation. Employee data should be used for legitimate purposes, kept confidential and deleted after a reasonable amount of time. Continuous surveillance raises the issue of infringement on the rights of employees and the existence of the Big Brother in an organization. The same is valid for algorithmic systems because of their ability to perpetuate any bias that existed in previous data and generate unequal results for certain groups of employees. Thus, it is necessary for companies to have specific data governance practices regarding how the data related to employees is gathered, processed, saved, communicated, and ultimately destroyed. The access to performance data must be limited only to the relevant people, while security standards must be kept in place to ensure that the data is not misused or leaked. At the same time, employees need to know the purposes for which the data is being gathered and the impact that it might have on performance-related decisions. The regular analysis of the process can reveal whether there is any inconsistency in the automated decisions made for different categories of employees. If there is some bias detected, the company needs to investigate the data used for decisions and take steps to fix the issue.

Fig. 1 The above framework depicts the connection between automated performance evaluation and due process protection in organizational disciplinary processes. First, workplace data are collected and analyzed through automation techniques to determine the performance trends of employees. In case there are performance issues, then there ought to be due process measures like transparency, accuracy of data, human involvement, participation of employees, and appeal process before making the disciplinary decision.

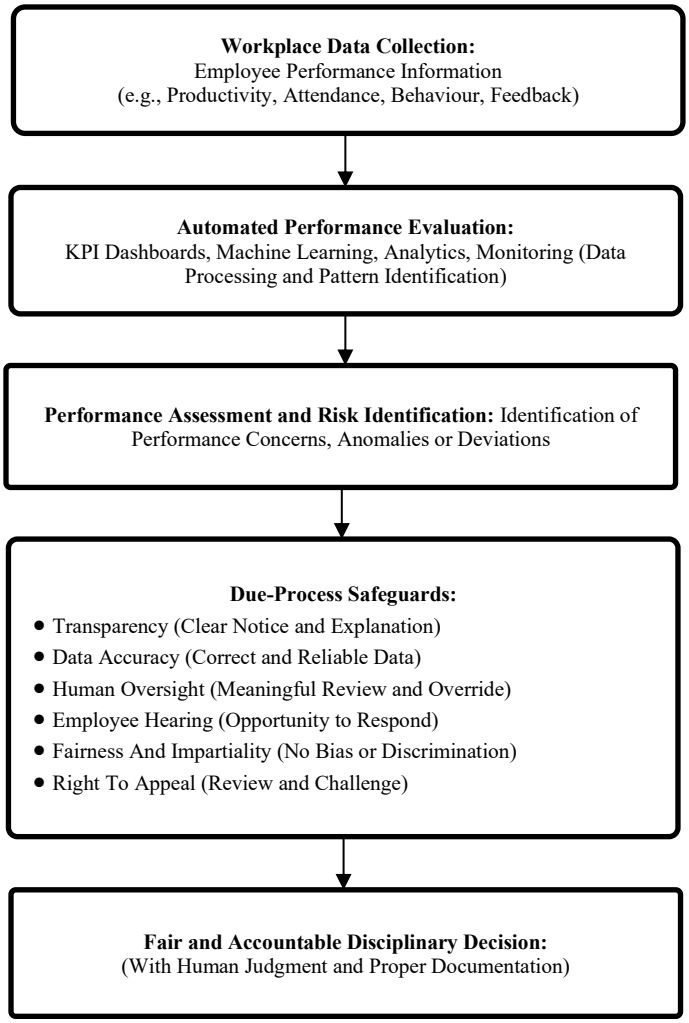


Fig. 1: Relationship Between Automated Performance Evaluation and Due Process

Technologies Behind Automated Evaluation

Automated Evaluation Technologies and Workplace Monitoring

Automation of Performance Measurement entails the use of digital means to gather, assess, analyze, and report on employee performance. Such digital means can include anything from rule-based approaches to advanced use of artificial intelligence and machine learning. Some common measurement approaches include rule-based scoring methods and Key Performance Indicator (KPI) dashboards that are used to evaluate performance measures like punctuality, sales performance, task completion, reaction time, productivity, customer satisfaction, and errors. Because the calculation process is based on certain rules, the calculations may be rather easy to comprehend. However, set performance goals may not fully account for workload and other factors. An alternative to an automatic evaluation process is machine learning or predictive models that offer a more sophisticated solution. The advantage of such tools is their ability to analyze large volumes of historic data and find trends, categorize performance, recognize abnormalities and make forecasts. Predictive systems may be used in workforce planning, employee retention analysis, productivity measurement, and recognition of performance issues. Machine-learning results are dependent on the quality of data utilized by the system. Also, historic organizational behavior may affect the results generated by the model. For these reasons, a forecast is not a proof of any misconduct or bad performance. Monitoring and Surveillance Technologies for Employees is yet another significant category. The technologies can gather data that is associated with working hours, attendance, computer use, applications used, locations, task completion, communication habits, and other workplace activities. The technologies can be of assistance to organizations in detecting organizational issues and in gauging productivity levels. However, constant monitoring can raise questions related to privacy,

employees' independence and trust within the organization. Monitoring data will not give an answer as to why a certain activity has taken place. For instance, low computer activity can happen because of a meeting, phone call, or even training. Other technologies include digital workflow solutions, biometric attendance solutions, customer relationship management applications, productivity software applications, and automated report generation tools. These technologies can produce vast amounts of data that can be subsequently used in performance evaluations. Given the growing prevalence of these technologies, employee performance evaluations can be conducted based on data gathered from several systems and not from one single performance appraisal. The application of several technologies can result in a higher volume and quicker access to relevant data, but this would also mean increased importance for data quality and proper interpretation. Companies should separate measurable activity from the performance itself. A high number of activities accomplished does not necessarily mean good performance when the quality of such activities is low; meanwhile, a smaller number of activities may be justified due to the difficulty of the task at hand.

The technologies that have been extensively used in automatic performance evaluation are shown in Table 1 below. These technologies allow gathering, processing, and analysing employee-related information. Nevertheless, the credibility and objectivity of results can only be achieved through proper data management and human oversight.

Table 1: Technologies Used in Automated Performance Evaluation

Technology	Application in employee evaluation
KPI dashboards	Measure targets, productivity and performance indicators.
Machine learning	Identify performance patterns and predict possible outcomes.
Employee monitoring	Record attendance, activity and work-related behaviour.
Natural Language Processing	Analyse written feedback and communication.
HR Information Systems	Store and manage employee performance records.

NLP, HRIS Integration and Data Governance

NLP allows computers to process human languages that are in written or spoken form. With regards to the working environment, NLP may be used to evaluate customer feedback, employees' opinions, performance reviews, emails, call center transcripts, reports, and any other text-based data. NLP could be used in organizations to detect patterns, summarize performance data, classify complaints, or analyze communication. NLP could also be used to identify whether an expression in the workplace communication is positive, negative, or neutral.

Nonetheless, language is very contextual. This is because there are factors like sarcasm, cultural differences, language skills, jargon, and different ways of communication that could affect interpretation of the language automatically. Consequently, there could be misinterpretations of an employee's expression by an NLP program. As a result, such evaluations should be viewed as supportive in most cases. Another significant technology platform on which the process of automated evaluation can be based is Human Resource Information Systems (HRIS). HRIS allows linking of the profiles of employees, attendance records, evaluation scores, training history, remuneration, leave records, and discipline records. Once the process of automated evaluation is integrated into HRIS, the manager will get a wider picture of performance and record keeping. The process of integration may be useful since no information has to be obtained manually from different sources. Still, there are dangers associated with integration of different systems in terms of the risk of transferring the wrong information between those systems. A simple mistake in entering data can later be repeated many times and will ultimately affect the evaluation of the performance or discipline record of an employee. Automated performance appraisal systems thus require the presence of data governance. Procedures must be clearly outlined with respect to the access of employee information, the type of information that is allowed to be accessed, its retention period, means through which any errors in the information are handled, and the use of the data.

Security is yet another factor that organizations need to consider when using an automated system since such a system stores sensitive employment data. The right security protocols can include appropriate controls on access, verification of access, appropriate storage of the information, and monitoring of any attempts at unauthorized access. It is important for organizations to document significant automated evaluations as well as human decisions. In general, technologies that enable automated evaluations may enhance speed, consistency, and scalability of evaluation of employees. However, technology needs to be used only as an instrument that helps in making a proper decision by management based on the correct information rather than a tool that substitutes the decision-making process of managers. Proper combination of automation, accurate data, proper assessment, transparency, and data governance may assist in avoiding improper disciplinary actions.

Legal and regulatory landscape

Employment Law, Disciplinary Procedures and Natural Justice

Legal aspects regarding the use of performance evaluation by automated means can be related to the employment law, organization policy, employment contract, standing orders, disciplinary procedures, and natural justice. The exact provisions that can apply to any particular employee can be determined according to the nature of the organization, the nature of employment, the employment contract, and the statutory context. Under Indian law, the Industrial Relations Code, 2020 is a consolidated code regarding industrial relations and standing orders. This statute also covers disciplinary proceedings wherein an investigation or inquiry will be conducted under a prescribed procedure in case of suspension of a worker. The use of automated performance evaluation does not exempt organizations from adherence to disciplinary procedures that are relevant. Automation systems could, for instance, be used to spot unusual performance trends, calculate the productivity scores, measure them against predetermined standards, and even raise flags for the attention of the management. It is, however, necessary for human decision-makers to determine whether the information generated is accurate and adequate before proceeding to take any disciplinary actions. Typical steps in disciplinary procedure would involve pinpointing an alleged issue, reviewing pertinent information, notifying the person, giving an opportunity to defend oneself, conducting investigation when necessary, analyzing evidence, making findings, making a decision on action, informing the concerned party, and, where necessary, creating an opportunity for appeal or review. Automation processes can facilitate many of these steps through proper documentation, spotting performance trends, timestamping of pertinent documents and information, and searching for relevant information. Automation processes should, nevertheless, enhance rather than replace the procedural protections that are inherent in disciplinary decisions. The principle of natural justice becomes particularly significant in the case where automated information influences the negative employment decision. In accordance with the principle of audi alteram partem, there is supposed to be a proper opportunity for hearing, whereas nemo judex in causa sua refers to the impartiality in decision making. In an automated environment, the questions arise regarding whether employees understand the reason for their negative assessment and whether they have an opportunity to contest the information provided by the system which could be inaccurate or incomplete. The employee should know the reason for negative assessment, the information on which it was based, and the way this information influenced the decision.

The context also matters when analyzing automated performance information. For instance, an employee could have received poor performance scores because of technical issues, complicated assignments, extra duties, training, or work done beyond the system under review. While a number could accurately reflect the activity performed, it does not necessarily explain its full nature. Thus, automated information should usually be analyzed together with other information. Additionally, the Industrial Relations Code establishes a formal mechanism for standing orders and allows interested parties to raise queries regarding their enforcement or interpretation. Under certain conditions, the Code ensures that there is a reasonable opportunity to be heard on such issues before the Tribunal makes any determination. This highlights the significance of following the formal process when dealing with employment-related regulations and associated discipline. Consideration may be required of judicial and quasi-judicial reviews of disciplinary decisions as to whether any necessary processes have been followed and any appropriate evidence taken into account. As algorithms become increasingly common, output of the algorithms may become a piece of evidence taken into account in employment-related disputes. As such, concerns may be raised regarding the sources of the data, the accuracy of the records, evaluation criteria, reliability of the algorithm, and how influential the automated output was in reaching the ultimate decision. Accordingly, organizations should separate an automated signal of performance from the final disciplinary decision. The automated process will only detect areas in need of additional investigation, but the process of investigation and subsequent decision-making must still adhere to employment-related processes.

Data Protection, Equality and Emerging AI Regulation

Evaluation of employee performance through automation needs to process information about employees. The information can be about their attendance, performance, activity, location, communications, performance score, customer feedback, training, and disciplinary information. In this regard, data protection and privacy have an important role in the legal environment regarding automated employee performance evaluation.

The Digital Personal Data Protection Act, 2023, of India sets the standards for the processing of digital personal data. The Digital Personal Data Protection Rules, 2025 were notified by the Ministry of Electronics and Information Technology on 14 November 2025. The Rules are designed to be brought into effect in phases, each having some provisions that will come into effect at various stages. For companies doing automated employee evaluation, the relevant points to consider are purposes, security, access, retention, accuracy, and management of employee information. Privacy issues may become especially critical when an employer utilizes the technology of continuous

monitoring. Information about the application behavior, computer activities, location, communications, or work habits may be collected in such volumes. The organization should ensure the relevance of the information collected and apply appropriate protection measures. Otherwise, there might arise certain issues regarding the privacy and freedom of employees. The European Union offers an international guideline with regard to GDPR Article 22, according to which an automated decision-making is referred to when the decision entails legal or similarly significant effects. Safeguards, depending on certain conditions, imply the possibility of human intervention, expressing of views, and contesting of the decision made. These requirements are related to automated employment decisions due to their consequences for people. A related question pertains to issues of equality and non-discrimination. An automated system can result in discrimination based on inequality in the historical data set that reflects past organizational practice or because supposedly neutral variables become proxies for protected attributes. For instance, a system based on online activity will discriminate against those whose job involves mostly offline duties. Additionally, any historical performance ratings might reflect similar discrepancies in case the ratings were subject to subjective assessment in the past. Issues of equality and non-discrimination can be addressed through regular testing, documentation, algorithmic audits, and impact assessment. These reviews can assess the quality of training data sets, criteria of evaluation, errors and differences in their frequency and magnitude, and the level of human involvement. This approach will enable organizations to find out if an automated evaluation system produces biased results which must be fixed or checked. Regulation of AI has created new concerns regarding employment-related automated systems. Thus, according to the AI Act of the European Union, some AI systems that are employed in assessing people in the context of employment and management of workers are classified as high-risk systems.

These examples show that automated job assessment is seen more and more as an issue of governance, rather than just technology. It is important not only to assess the ability of the algorithm to calculate the score but also whether the information was processed in compliance with the laws, whether employees could understand and object to the outcome, and whether there is human accountability for it. Generally speaking, the legal and regulatory regime of automated performance assessment relates to employment law, disciplinary processes, natural justice, privacy, data protection, equality, and governance of AI. The key issue is how information is collected, assessed, interpreted, and then used to make decisions affecting the employee's rights. The proper legal and procedural way of using such technology is combining efficiency of technology with human accountability.

Where Automation Meets Disciplinary Procedure

Automated Disciplinary Stages and the Transition from Performance Flags to Formal Action

The use of automation may affect different steps in the process of discipline. Automation may be used to collect data from the workplace, assess performance based on certain criteria, discover discrepancies and raise performance flags. The automated performance flag must be viewed as a reason to do additional research rather than as the ultimate decision. For instance, if the productivity score of an employee is under the threshold level defined by the company for several weeks in a row, it is necessary to conduct an investigation to understand the cause before initiating disciplinary actions. The low performance may be caused by increased difficulty of tasks, technological issues, lack of training, change in business processes, inaccurate data, malfunctioning of the system, extra duties or other factors. Thus, the process of moving from the automated identification of the issue to taking the next step towards disciplinary action needs to be properly assessed by humans. The reviewer should assess the validity of the information, consider the context within which the result was obtained, allow the employee to have their say on the issue and determine if there is need for any further investigation.

Human Oversight, Automated Decisions and Workplace Applications

The human in the loop model implies that there must be some human intervention before making any critical decisions about employment. It means that humans should have enough time, authority, information, and competence to evaluate the automated outcome independently. It also implies that humans can challenge, amend, or ignore the automated recommendation if there is not enough evidence supporting it. Thus, human intervention should not be just a formality that implies accepting the decision made by the system automatically. On the contrary, a purely automated decision-making process implies that a system can decide about some outcome with almost no human intervention at all. Automated outcomes can raise many problems because they can lead to warnings, disciplinary actions, suspension, firing, etc. The problem is that managers can be required to accept the outcome made by the system without any questions. Implications of automated disciplinary evaluation in practice can be seen in different workplaces. Algorithms can be used by digital labour platforms in order to assess workers' performance and assign tasks to them, monitor their activity and manage them. In warehouses, performance can be measured by such criteria as task completion, process time, and other. In call centers, employees can be evaluated according to call duration, customers'

satisfaction, response time, and rate of solving issues. Such approaches enable obtaining standardized and quantitative data, but numerical markers cannot reflect the full picture of people's work.

For instance, an employee of customer services can spend more time on helping a client with a complicated or emotional issue. While the extra time will negatively affect the worker's automated performance score, he or she might need to spend more time for providing adequate services. Also, in warehouses, delays caused by equipment or workflow changes can happen to employees, but not affect their performance. Thus, automation in performance metrics needs to be understood in light of the context. The process of human intervention serves as one of the ways of detecting mistakes, understanding reasons, and making sure that automated information is not taken as the ultimate truth. Automation in disciplinary processes, therefore, needs a compromise between efficiency and rationality.

Due Process Challenges Posed by Automated Evaluation

Transparency, Explanation and the Right to Contest Automated Outcomes

One of the major difficulties associated with automated performance evaluations is algorithmic opacity, commonly known as the "black box" difficulty. The employee receives a score or classification without being able to understand how this result was derived. There may be many variables and their statistical interactions involved in a complex system based on machine learning, which would make it difficult to give an easily comprehensible explanation of each particular output. This represents a procedural difficulty in the sense that the employee might be unable to dispute the evaluation if it is unclear to him or her. Thus, the organization should provide relevant information on the main types of data used, criteria for the evaluation, factors affecting it, and automation itself. An explanation is not meant to involve giving out proprietary source code; it should simply allow the employee to understand what happened .Employees must also be given proper notice whenever the use of automated systems is involved in monitoring or evaluating their work, especially in cases where the results of such automated processes might affect any discipline or other significant employment decision. The notice should include details about what kind of information will be collected, the reasons for the collection of information, how the evaluation process will take place, what kind of decisions will be made based on the results of automated systems, who has access to the information, and how to raise objections or fix inaccuracies. The right to be heard about the automated results is also crucial. In case the system discovers that an employee has shown unusually low productivity, there should be the chance for an employee to argue about the technical problems, increased workload, or some other reasons that could have affected the process and its results. The good contest procedure can give employees the possibility to get their performance information, to correct factual mistakes, to add explanations, to get the decision reviewed by the competent manager, and to escalate the issue to the HR department or any other appeal body.

Bias, Data Quality, Accountability and Power Asymmetry

The other major issue to consider is that of bias and discrimination. The sources of bias in the automated evaluation system may include past history, performance labels, choice of predictors, modeling process, scoring criteria, or interpretation of the results. To give one scenario, if a company's previous manager appraisals contained discrimination against certain groups, then the machine learning model will simply perpetuate this discrimination pattern. Bias auditing needs to be done not only prior to deployment but also during the operation of an automated evaluation system. Reliability of automated evaluations is equally influenced by the quality and accuracy of the data available. Inaccurate, insufficient, obsolete, redundant, or inconsistent data can result in erroneous performance evaluations. Even where data is technically correct, there is the possibility of automated systems failing to take into account the context of the activities. While the system may register a low number of completed tasks by an individual compared to expectations, it may fail to determine whether the individual was doing complicated tasks, helping other colleagues, going for training, handling technical issues, or doing other things not covered by the system.

Automated decision-making may also lead to gaps in accountability and responsibility. There are several parties involved in the creation and implementation of the automated evaluation system. They include software engineers, technology providers, human resources departments, managers, high-ranking executives, as well as data protection specialists. In case the automated system provides an unfair or inaccurate output, it may be unclear who will be held accountable for addressing the problem. Therefore, there is a need to define clear responsibilities in relation to system design, data management, monitoring, human review, and employment-related decisions. External technology provider's participation should not absolve organizations of their responsibilities. Moreover, power imbalance and consent are essential factors that have to be taken into account when it comes to monitoring at work. The nature of employment implies that there will always be an imbalance in terms of the bargaining power of employees, who have

limited options to reject monitoring when it is required as part of their job. This means that the consent of the employees may not be enough as the sole factor when assessing whether monitoring is fair in the workplace.

Table 2: Comparison of Automated Evaluation and Due-Process Requirements

Automated evaluation concern	Required due-process safeguard
Lack of transparency	Clear notice and explanation
Inaccurate performance data	Data verification and correction
Algorithmic bias	Regular fairness and bias audits
Absence of employee participation	Opportunity to be heard
Automated disciplinary decisions	Meaningful human review
Unclear accountability	Documentation and responsibility
Unfair disciplinary outcomes	Independent review and appeal

Table 2 identifies the key threats that exist in automated performance evaluations and the precautions needed to safeguard employees from procedural injustice. It shows how an organization can ensure that it is maintaining the principle of procedural justice in its automated process of discipline.

Ethical Considerations

Fairness, Transparency, Accountability and Employee Wellbeing

A process of ethical automated performance evaluation is supposed to ensure that systems will be designed, developed, implemented, monitored, and reviewed while adhering to such principles as fairness, transparency, accountability, respect for human dignity, human autonomy, and proportionality. The principle of fairness implies that employees must be evaluated based on appropriate and reasonable criteria and not on factors that have nothing to do with their actual job duties. Transparency implies that organizations are supposed to offer to employees comprehensible explanations regarding the nature of automated evaluation, kinds of information that will be analyzed, and influencing factors. Accountability implies that some identifiable people from within an organization are responsible for the decisions even if they are made through the use of automated tools. The implementation of the process of continuous workplace monitoring poses challenges from the point of view of respect for employee dignity and individuality. In case there are many activities monitored for a particular person, it is possible that the individual's contribution will be simplified into numbers instead of considering his/her contribution as a complex of qualities including skills, experience, cooperation, creativity, and responsibility. In addition, such excessive control may lead to employees' engagement not in productive work but in making their performance indicators higher. Organizations have to consider whether it is necessary to implement monitoring and whether other, less intrusive ways exist that can help to reach the same goal of the organization. Trust between the organization and its employees is another ethical issue that should be considered. Employees will probably be more receptive to automated tools if they know what the reasons for their implementation are, what kinds of data are collected through them, and what measures are taken to avoid misusing this information. Good communication could lower the degree of ambiguity and make employees see the connection between monitoring, evaluations, and organizational goals. Otherwise, covert monitoring, mysterious scores, and automated information without adequate evaluation could undermine the trust in the management. The doctrine of proportionality and necessity also dictates that organizations must refrain from using technology to collect information simply because it is possible to do so. Before putting in place any automated information gathering system, the organization should know exactly what problem the system is supposed to solve and whether the type of information it will generate is really needed to solve it. It is also important to ask whether there are other, less invasive ways to accomplish the same goal, the amount of time the information will need to be stored, its accessibility, and protection against misuse.

Generally, ethically conducted automation of evaluation entails balancing organization efficiency and consideration for the rights and interest of employees. Fairness, transparency, accountability, dignity, trust, and proportionality are not to be considered in isolation from each other but rather as related principles which underlie the proper use of the technology in the workplace. Proper integration of these principles into the design of the system and its application in organizations allows the more responsible use of automated evaluation while minimizing unwanted risks.

Safeguards and Design Principles for Fair Systems

Transparency, Explainability, Human Oversight and Data Governance

Automated performance assessment systems must be built in such a way as to allow for comprehensible explanation and be supplemented by proper documentation. Organizations should have information about the goal of the system, sources of data, criteria of evaluation, performance standards, assumptions, as well as changes in the model. Audit trails should document the important steps of the evaluation process including relevant data used, automated outputs, human review, and important decisions. Documentation allows organizations to understand how the automated outcome is arrived at and facilitates accountability in case of problems. Human review and override should be included when the automated assessment could potentially lead to important disciplinary or employment decision. Reviewers should have the necessary authority to refuse the automated recommendation, to ask for further evidence, to correct any inaccuracies in information, to delay making the decision, to escalate the issue, and to take into account the factors not considered by the automated system. Thus, human involvement should be meaningful and not merely a formal procedure. A reviewer needs to independently assess whether there is enough evidence for the action recommended by the system. Access to relevant information about an automated assessment of performance must also be provided to employees, subject to legitimate requirements of confidentiality, privacy, and security. If an automated system issues a negative performance assessment of an employee, then the employee should receive adequate information in order to understand what this assessment was based on and be able to respond adequately to it. Access to information may assist the employees to find mistakes in the data, clarify unusual situations and contradict inaccurate conclusions. Also very important is the issue of proper data governance and documentation. The organization should keep records related to automated notifications, data sources, output of algorithms, human review of assessments, explanations from employees, information considered by the system, decisions made, appeals, and changes in the system. Such accurate records provide audit trail which can be used for investigation of complaints and review of disciplinary measures taken, detection of errors in the system, and analysis of the human and automated elements of a decision-making process.

Bias Audits, Employee Appeals and Worker Participation

An audit for algorithmic bias and impact assessments need to be undertaken by organizations to determine if their automated performance systems function effectively and in an equitable manner. An impact assessment may look at issues of accuracy, false positives and negatives, disparate treatment, data integrity, transparency, privacy concerns, worker effect, and proportionality. This needs to be done both before an implementation and periodically afterwards due to potential changes in performance and working environments of the systems. When an automated performance assessment is impactful on employment, outside reviews may add an element of credibility. Grievance and appeal processes should be available to employees for contesting their automated performance evaluations. One example of such a process may include employee challenge, manager's review, HR review, independent appeal, and remediation in case an error or unfair decision was made. Such a process will ensure clearly defined responsibilities, adequate timeframes, proper documentation, and methods of fixing inaccuracies in the record. Having a good mechanism of appeal allows for the automation of performance assessment not to be seen as the end of the decision-making process. Trade unions and other workers' representatives can also play an important role in the responsible governance of automated technology in the workplace. They can voice their concern over the methods of monitoring, performance criteria, privacy issues, data use, algorithmic discrimination, and disciplinary procedures. Consulting before implementing the system into practice gives organizations an idea of what the real situation in the workplace is based on their experience which cannot be seen in the system's data.

Generally, measures to ensure automated performance assessment may be considered in terms of technical control, human monitoring, employee involvement, third-party verification, complaints processes, and documentation. This will allow guaranteeing that automated performance assessment systems stay accountable and that employees have real chances to gain understanding and make questions about decision-making processes that influence their work. The goal is not to reject automation but to create a system in which technical efficiency co-exists with procedural fairness and responsible human intervention. Moreover, companies should make sure that the outcome of the audit and employee feedback is integrated into the ongoing improvement of automated performance assessment system. In case the audit reveals inaccuracies in the measurement, discrepancies in outcomes, risks of violation of privacy or weaknesses of the evaluation criteria, corrective measures need to be taken and their efficacy needs to be assessed. It should be made sure that employees are aware of the changes that are made in order to address identified issues and thus the process of governance will be transparent. Employee engagement could also go beyond the process of consultation, and include participation of employee representatives in creation and periodic evaluation of criteria of performance, processes of monitoring and the appeal procedure. This kind of participation could give practical

information on workplace issues which are not necessarily covered by organizational data. The organization needs to document findings of the audit, complaints from the employees, the outcome of appeals and corrective measures. This way, the organization could increase trust in automation and balance technological efficiency with fairness, transparency, privacy and proper human control.

Proposed Framework / Model

Due-Process-Compliant Automated Evaluation Framework

The APE that complies with the due process must divide the process of measuring the performance of the employees from the ultimate decision-making process on their punishment. The proposed model can begin with the data collection that is done transparently and consists of the identification of the information needed for a legitimate purpose and informing the employees what kinds of data are collected. Then, the collected data can be evaluated automatically through the use of performance indicators, thresholds, or models that will help detect some patterns or deviations. In case of an unusual outcome, this result must first be considered as the flag regarding the performance and not the misconduct.

At this point, the next step ought to be a process whereby a competent reviewer looks at the information and checks whether the automatically generated results reflect the actual conditions of the employee in question. In the event that a serious problem exists, the employee needs to be informed about it along with any evidence that points to such a situation. At this point, the employee will be in a position to give his or her side of the story, explain the information and provide any other evidence he or she might have in this case. A decision-maker will have to take into account the information provided by both parties before making a reasoned decision. The review and appeals process should also be incorporated into this model to ensure that there is a chance for employees to contest any decision made on the basis of automated assessments. Documentation should be ensured throughout the entire process of assessment and discipline in terms of data, criteria, observations, explanations and rationale behind the decision made. Documentation may help increase accountability in this regard and make it easy to detect any problems in the system. The organizations should ensure clarity in terms of who is responsible for different aspects such as the manager, HR staff, IT experts, and decision makers and thereby avoid shifting the accountability onto the automated system. Audits should also be carried out regularly in order to detect any erroneous data, discrimination, inconsistency, and abuse of employee data. It is important, therefore, that automated assessment serve as a means of support in making decisions rather than an entity which will impose any forms of discipline on its own accord. Humans must have the role of taking into consideration certain considerations which are not taken into account by any form of automated system, like the amount of workload, state of health or personal situations, changes in jobs and even workplace conditions among others. Through all these means, it is possible to develop a performance evaluation process which will foster efficiency and at the same time ensure due process. It is equally essential for the framework to set the standards of communication, reviewing, and corrections in every phase of the process of evaluating performance. The employees need to be informed on time about the detected problems with their performance using automated system to have enough time to comprehend the situation and explain their position on the issue. When needed, the organizations should apply different corrections, including additional training, clarification of their job roles and requirements, providing technical assistance, or any other means to improve their performance before taking further actions. It is also important to make the distinction between the temporary problems and those persisting in the long run by analyzing the problem in the context of its duration, frequency, and circumstances. Periodic evaluation of the automated model is required to decide whether the criteria used by the automated system still remain relevant considering the changes in organizational structure, technology, job requirements, or working environment.

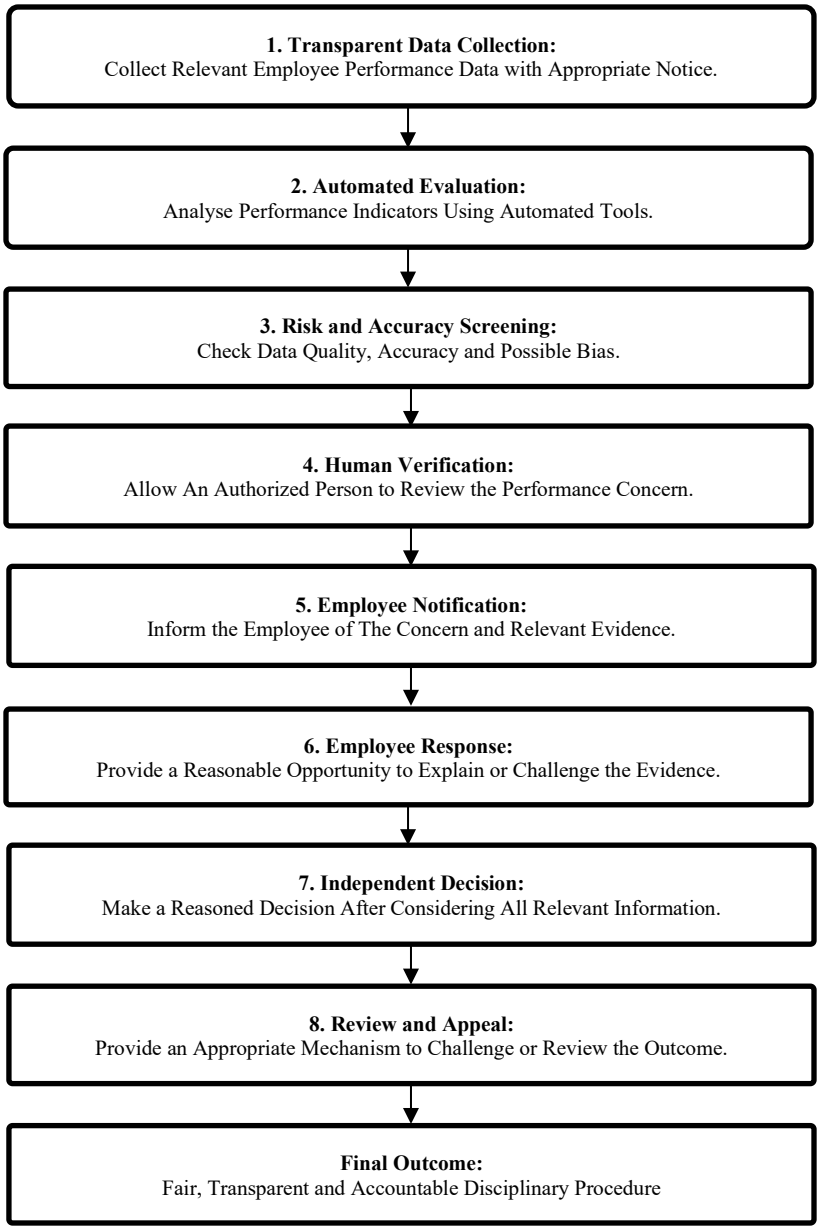


Fig. 2: Proposed Due-Process-Compliant Automated Evaluation Model

Fig. 2: The suggested flowchart provides a model consisting of eight steps for combining the process of automated performance appraisal with due process. First, there is data gathering and automated evaluation, which is followed by verification of its correctness and human validation. Then comes employee notification about the issues and his/her chance to respond. Finally, the evidence is considered to make a rational decision while offering an option of review and appeal. With the suggested model, automated performance measures will not affect disciplinary action on their own.

Implementation Guidelines, Compliance and Organizational Accountability

Governance, Compliance and Employee Protection

Organizations that plan on automating their performance evaluation process must have a well-articulated governance policy in place prior to the integration of such a system into the work environment. This governance policy should articulate the goals of the performance evaluation process, types of information about employees that are to be gathered, legitimate reasons for collecting such information, performance standards that will be used, automated

means of analyzing the information collected, degree of human intervention that is required, and roles of managers and human resource professionals. The governance policy should also include measures for correcting data, retention of information, access control, security, audits, grievances and complaints, and decision making. Employees need to have a sufficient knowledge of the meaning and functioning of automated assessment procedure. They should know the type of data being gathered, calculation of performance indicators, ways in which automated findings could affect employment, and actions which they could take if they think that the assessment is erroneous. Awareness and training programs would help employees know more about their rights and obligations in the system. Managers and human resource specialists also should get adequate training since automated results of performance need careful analysis. A score or warning obtained automatically does not mean automatic proof of bad performance or conduct on the part of the employee. Managers need to look at the working conditions, nature of job, work load, problems with technology, lack of resources, necessary training and other factors affecting performance A good compliance evaluation framework should first evaluate if the automatic evaluation system has a proper purpose and the information being gathered is pertinent to the purpose. Organizations must not gather too much employee data simply because the data is technically available just for the sake of collecting information. Furthermore, a good compliance evaluation framework will also take into consideration if the employees were provided with enough information regarding automatic evaluation and if they were able to discover errors within their information, which would allow them to correct or contest those inaccuracies. Major decisions relating to their employment, discipline, reward, or any other condition of employment must be made based on substantial evidence and proper evaluation thereof. There must therefore be a requirement of human review prior to the taking of serious disciplinary action.

The process of compliance should also be followed by assessment at intervals as to whether the standards of evaluation are still appropriate for certain categories of workers under certain working conditions. An indicator of performance which would be appropriate for one group of workers does not necessarily mean that it would also be appropriate for another group of workers. For instance, the differences between job duties, customers, environment of work, or use of company resources could affect the measurement of performance. The process of compliance may be used to check whether there are any inconsistencies or unfairness in the system.

Continuous Monitoring, Auditing and Organizational Accountability

Accountability within organizations must include the whole lifecycle of the automated performance evaluation process. In this regard, specific accountabilities must be provided to guarantee data accuracy, evaluation platform management, algorithmic performance monitoring, human review, disciplinary action, complaint handling, appeal processing, and auditing. The need for accountability is especially necessary since the employees must be aware of which specific individual or department they can approach when there seems to be something wrong with the automated performance evaluation process. An organization must realize that the automation process cannot be regarded as a decision-making process itself. Responsibility for any decision based on automated information must still be retained. The procedure of grievance and appeal needs to be formalized to enable employees to file objections against the results of the performance evaluation that they consider to be inaccurate, partial, subjective, or based on irrelevant data. It should enable to take into account the relevant evidence and to correct the mistakes whenever there are any. In case the result of automated evaluation is inaccurate, the corresponding measures should be taken to rectify the mistakes in data and review all the previous decisions based on the mistake.

Moreover, the continuous monitoring is required to ensure reliability of automated performance evaluation. The performance of the system needs to be regularly evaluated to make sure that there is no loss of data quality, accuracy of evaluation results, consistency between different employee groups, changes in the performance pattern and discrimination. The audit of the system should evaluate not only its technical performance, but also the compliance with organizational policies and procedures of performance evaluation. It is important to review and document any major change to algorithms, metrics, data, thresholds, and evaluation processes. Organizations need to have documentation on changes in systems, findings in audits, complaints, rectifications, appeals, and decisions that are made following the reviews. Documentation helps organizations become accountable for their actions and also makes it easy to identify issues that recur. Documentation also proves if decision makers have followed proper procedures in assessing an employee. Effective communication between employees, HR professionals, managers, technologists, and other concerned parties can enhance governance. Input from such stakeholders may be useful in improving the metrics, flaws in the evaluation process and making sure technology is aligned with organizational responsibility. Organizations should inform employees of any major changes in the system. Privacy and confidentiality issues should also become an additional element of continuous governance. Only authorized persons with a legitimate need for accessing employee performance information should have such access. Organizations should develop procedures for

storing and deleting data and secure information from any unauthorized access. Security checks may also reduce the risk of any harm from the use of confidential employee information.

In general, continuous monitoring, human control, transparency of documentation, employees' involvement, and accountability may enable organizations to ensure that automated performance evaluations will be a controlled tool for supporting decisions rather than an uncontrolled tool for managing employees. A proper combination of these elements may increase organizational efficiency while keeping such important procedural issues as transparency, privacy, accountability, participation of employees, and dignity. It is also necessary for organizations to define some performance metrics regarding the governance of the automation process. Such metrics could consist of the number of rectified evaluations, complaints from employees, successful appeals, audit results, data errors, and bias concerns. Tracking such metrics will help the management recognize the weakness in the process and understand if there are improvements in the correction measures. If there are any recurring problems, then the organization needs to review the algorithm, data used, performance metrics or even the decision-making process, instead of dealing with each issue separately. Reports can also be generated periodically and provided to senior management and the appropriate oversight groups.

Discussion

A PEA can increase efficiency in organizations by reducing the amount of administrative burden, processing a large volume of employee information, determining performance trends, standardization of measurement, and aiding managerial decision-making. Efficiency, however, should not come at the cost of process integrity. In disciplinary cases, the role of algorithms should be to assist decision-making processes and not replace them entirely. An algorithm can determine what happened, when it happened, how often it happened, and whether the performance level differs from the standard level. Decisions, on the other hand, should factor in why something happened, the responsibility of the employee, reasonableness of the performance standard, mitigating factors, the employee's response to the allegation, and appropriateness of the punishment. A number of jurisdictions have been devising legal and regulatory responses to these challenges. In particular, the Digital Personal Data Protection regime of India offers a good basis for responsible handling of personal data; meanwhile, the GDPR provides protections with regard to certain automated decisions having major implications for individuals. The EU AI Act considers certain types of employment and worker management AI systems as high risk, whereas the EU Platform Work Directive deals with automated monitoring and decision-making in platform work. Such developments demonstrate increasing interest in transparency, responsibility, human oversight, and protection of workers' rights. Consequently, for the organizations involved, responsible use implies proper governance, data quality management, cybersecurity, communications with employees, auditing, and human review. Human resources specialists and technologists need to take into account explainability, responsibility, security, and human involvement in evaluation systems design. In addition to this, there should be a process set up whereby the organizations can evaluate the reliability and limitations of the automated process of performance evaluation prior to utilizing its outputs for any employment decisions. The performance criteria need to be frequently reviewed to ensure that they are still valid for the current tasks and work environments. There must be adequate avenues through which the employees will be able to correct errors as well as challenge the outcomes where they do not reflect accurately on their performance. The managers should take into consideration other variables that may be considered by the automated system to determine any possible discrimination. Through regular audits, issues such as poor-quality data, security weaknesses, inconsistent results, and other discriminatory tendencies can be identified. Through technology, good governance, communications, human intervention, and regular review, organizations can achieve both efficiency and justice.

Conclusion and Future Research

Automated Performance Evaluation is a noteworthy innovation in modern human resource management where technologies like KPI dashboards, machine learning, workplace analytics, employee monitoring, natural language processing, and HR information systems are being used more often to evaluate performance. Though there are certain benefits related to improved efficiency and availability of performance-related information through these technologies, their use within the disciplinary process raises issues related to inaccurate data, algorithmic bias, lack of context, opaqueness, privacy issues, and lack of accountability. The concepts of due process and natural justice can be used effectively to address these issues because through due process and natural justice employees get the opportunity to gain insight into allegations raised against them, assess relevant evidence, present explanations, correct erroneous information, and challenge decisions. The possibilities for future research lie in exploring how automated evaluation is implemented in various sectors and the perceptions of employees toward algorithmic evaluation and transparency.

Comparative studies in India, the EU, the US, and elsewhere could reveal the differences in regard to privacy protection, rights of employees, human involvement, and organization governance. Future research also needs to consider the potential for algorithmic discrimination in respect of different characteristics and types of employment and the performance of human-in-the-loop systems. Future workplace automation efforts must consider not only how much decision-making process can be automated but how it could be done while maintaining transparency, accountability, and dignity. Furthermore, there should be policies set by organizations regarding the proper use of automated performance evaluation systems. There is much that can be done to mitigate potential risks of errors and injustices, such as conducting audits, managing data properly, developing explainable algorithms, offering feedback mechanisms for workers, and supervising the process. It is also important for managers to be trained to understand the results generated by automated systems, instead of just following their suggestions. It may be beneficial to offer employees information about how their data is processed and analyzed.

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