



Uluslararası Akademik Yönetim Bilimleri Dergisi

Uluslararası Akademik Yönetim Bilimleri Dergisi (<http://dergipark.gov.tr/yonbil>)
2023, Cilt 8, Sayı 13

A DISCUSSION ON PROBLEMS AND SOLUTIONS OF INNOVATIVE PERFORMANCE MANAGEMENT IN THE PUBLIC SERVICE AND GOVERNMENT

KAMU HİZMETLERİNDE VE DEVLETTE YENİLİKÇİ PERFORMANS YÖNETİMİNİN SORUNLARI VE ÇÖZÜMLERİ ÜZERİNE BİR TARTIŞMA

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Abstract

Performance management is a tool that focuses on measuring and managing the progress in the working environment to evaluate organizational goals and provide new development opportunities. In Turkey, as in many developing countries, the public sector has suffered setbacks, primarily attributed to ineffective and inefficient management, subjectivities, politization, nepotism and disruptions in public services. That is why performance management is mainly related to business and organizational management sciences. There are multidimensional stakeholder management approaches, balanced scorecard approaches, corporate approaches, radical learning approaches, and artificial intelligence (AI) supported automation approaches that are becoming more and more effective in this field. In some studies, in the literature, it has been determined that one of the most significant effects of AI on HR is performance management, and it continues to progress like this. This study based on literature and market reports, gives a perspective on possible solution scenarios by evaluating the malfunctions in the performance system in the public sector and tries to present a highly innovative performance management approach based on AI tools that can increase the performance.

Keywords: Performance evaluation, key performance indicator, performance auditing, artificial intelligence.

Özet

Performans yönetimi, örgütsel hedefleri değerlendirmek ve yeni gelişim fırsatları sağlamak için çalışma ortamındaki ilerlemeyi ölçmeye ve yönetmeye odaklanan bir araçtır. Gelişmekte olan birçok ülkede olduğu gibi Türkiye'de de kamu sektörü, öncelikle etkin olmayan ve verimsiz yönetim, öznellikler, politizasyon, kayırmacılık ve kamu hizmetlerindeki aksamalara atfedilen gerilemelere maruz kalmıştır. Bu nedenle performans yönetimi esas olarak işletme ve organizasyonel yönetim bilimleri ile ilgilidir. Bu alanda etkinliği her geçen gün artan çok boyutlu paydaş yönetimi yaklaşımları, dengeli karne yaklaşımları, kurumsal yaklaşımlar, radikal öğrenme yaklaşımları ve yapay zeka (AI) destekli otomasyon yaklaşımları bulunmaktadır. Literatürde yer alan bazı çalışmalarda yapay zekanın İK üzerindeki en önemli etkilerinden birinin performans yönetimi olduğu tespit edilmiştir ve bu şekilde ilerlemeye devam etmektedir. Literatür ve piyasa raporlarına dayanan bu çalışma, kamu sektöründe performans sistemindeki aksaklıkları değerlendirerek olası çözüm senaryolarına bir bakış açısı sunmakta ve performansı artırabilecek yapay zeka araçlarına dayalı son derece yenilikçi bir performans yönetimi yaklaşımı sunmaya çalışmaktadır.

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Anahtar Kelimeler: Performans değerlendirmesi, temel performans göstergesi, performans denetimi, yapay zeka.

Introduction

Alignment between individual performance and organizational goals is critical to introducing an appropriate set of performance indicators. Performance management tools cannot provide sustainable high performance on their own. Management and governance must create a favorable environment (Esu & Inyang, 2009). Performance evaluations help to clearly define performance tasks and targets and facilitate organizational effectiveness (Çelik, 2014). Performance management in the public sector is a continuous, systematic approach to improving outcomes by focusing on evidence-based decision-making, continuous organizational learning, and accountability for performance. Performance management consists of concerted actions taken by an organization to apply objective information for management and policymaking to improve results (Ammons, 2008). Performance management remains stupefied if it does not use the evidence from measurement to support the planning, financing, and operations of activities necessary to achieve strategic goals. The restructuring studies carried out with a neoliberal perspective in Turkey continued with the change in public administration and the discussions in financial management in the 2000s. The inadequacy of the existing structuring and the need for reform, effective and efficient management of public resources and treasury immovables, performance monitoring in international and national regulations have been stated, and solutions have been presented (Yildirim *et al.*, 2021).

While measurement and management are often used interchangeably, few people know the difference. For years, some government agencies have measured outputs and inputs, and less commonly, efficiency and effectiveness. Performance measurement helps top management monitor performance while also ensuring accountability and transparency. Various factors affect the success of performance management and performance-based evaluation in the public sector. The extent to which systems developers have mastered performance appraisal, both from an organizational and implementation perspective, will undoubtedly affect their successful implementation. The audit units must perform performance evaluation competencies and provide assurance and guidance activities for the relevant units. However, as seen in the closure of the internal and external audit units of development agencies in 2021 in Turkey, senior management's low level of competence can sometimes cause the established orders to be overturned.

Reflecting individual performance differences in the organization's reward system is one of the primary purposes of performance evaluation. The most critical and problematic process is using performance evaluation results in wage-salary management. However, the fact that institutions have a scientific and well-founded wage system will eliminate the problems, and the success of the evaluation system will increase if the evaluation staff sees the relationship between effort and reward as fair.

Effective use of computer technology in performance evaluation will positively affect the system's success. The difficulty of accessing the personnel information collected in many files and folders kept in the cabinets and the reliance on the manager's memory in decisions prevented the efficient use of the data obtained from the performance evaluation system. After the performance results are revealed, organizations and employees need to focus on how to improve their performance. It may be considered to organize the training of those who are evaluated as unable to improve themselves and not add value to an institution or shift them to units where they will be more productive. Organizational performance and individual performance are related to production, and their history is as old as the history of humanity. However, it is challenging to come across systematic studies before the scientific management period in the literature (Erturgut & Keskin, 2013). Organizations can improve themselves and create opportunities to better establish and implement performance-based pricing systems by comparing them with other organizations. In other words, organizations can be better positioned by researching how organizations with positive performance results implemented the system and what mistakes those with negative performance results made. This study argues that performance measurement and management, which is not taken seriously and seriously disrupted in the public sector, can be revived by participating in the processes and supporting them with AI applications. In this context, first of all, the theoretical and conceptual framework in the relevant literature is presented; the research problem is structured; reasonable ways to improve the performance management process are explored; critical success factors required for integrated performance management are examined; The roles of performance auditing in performance management are evaluated, and finally, the roles of artificial intelligence as a new trend in performance management are discussed and concluded.

1. Theoretical And Conceptual Framework In The Literature

2.1. Theory of performance

Performance management refers to the systematic process of evaluating an employee's job performance and behavior within an organization. It includes goal setting, regular feedback, and performance appraisal. Theoretical background of performance management draws from various fields such as psychology, management, and human resource management.

One of the major theories in the background of performance management is the goal-setting theory, which states that specific and challenging goals lead to increased motivation and performance (Locke and Latham, 2002). This theory has been supported by numerous studies and is widely applied in the context of performance management.

Another important theory is the reinforcement theory, which states that behavior is shaped by consequences (Skinner, 1938). In the context of performance management, reinforcement theory suggests that providing positive reinforcement (e.g. rewards) for desired behavior can increase the likelihood of that behavior being repeated.

Finally, the equity theory (Adams, 1965) is also relevant to performance management. Equity theory posits that people seek to maintain fairness and balance in their relationships with others, including in the workplace. This means that employees are likely to be more motivated and satisfied when they perceive that their rewards and recognition are proportional to their performance and effort.

2.2. Literature Discussions

There have been many publications on performance in the literature. In searching for "performance management" using only the Google Scholar database, 816,000 publications were found. In the search made with the research words "*Performance evaluation, key performance indicator, public performance management, performance auditing, artificial intelligence,*" 22,400 publications were found. The literature defines "performance" as the ability of an entity such as a person, group, or organization to produce results related to specific and determined goals (Wraikat, 2010). Performance is also known as the actual work or output produced by a particular unit or asset. In other words, the concept of performance refers to the measurable achievements produced. In contrast, "measurement" refers to the capabilities and processes used to measure and control certain activities and events (Zeglat et al., 2012). Traditionally, the focus of performance measurement (PM) has been solely on financial measures. In the late 1980s, research has shown that historical financial data is insufficient to satisfy PM in the new economy due to the increasing complexity of organizations and the markets in which companies compete (Striteska and Spickova, 2012). The concept of performance management is theoretically supported by motivation theory. There are various motivation theories in the literature, such as Maslow's hierarchy of needs theory, Herzberg's two-factor theory, goal setting theory, expectation theory, McClelland's needs achievement theory, etc. (Bateman & Zeithaml, 1993; Kreitner, 1998; Inyang, 2008;). Of all these theories, the goal-setting theory is the most suitable for the concept of performance management. Philosophically, the goal-setting theory assumes that people have conscious goals that energize them and direct their thoughts and behaviors towards a goal (Bateman & Zeithaml, 1993). Whether in the profession, politics, academia, or community service, people have achieved their positions because they are goal-oriented and remain motivated at this point. Lessons from researchers in goal-setting theory show that adequately designed goals trigger a performance-enhancing motivation process (Locke, 1981). A general goal-setting model has four components: goal, motivation, improved performance, and performance-related feedback. The concept of performance management was first used by Beer and Ruh (1978). Oladimeji (1999) defines performance management as planned goals, objectives and that defines as a way to achieve better results from the organization, teams, and individuals by understanding and managing performance within the framework of standards. When using Brumbach's (1988) definition of the word performance, it will be seen that performance means both behavior and results. Behavior arises from the will to action and transforms performance from abstraction to action. The scope of performance is broader than performance appraisal. According to Fajana (2002, s.283), while performance focuses on the extent to which the individual fulfills the tasks assigned, as well as joint actions that can be taken by both the manager and the subordinate to manage the observed differences

between the established standards and the actual performance, performance management is the process that improves the design, development, and implementation of performance technologies. The concept became very popular in the mid-1980s (Akata, 2003). Armstrong and Baron (1998) and Armstrong (2004) define performance management as "a strategic and integrated approach to achieving sustainable success in organizations by improving the performance of people working for organizations and enhancing the capabilities of teams and individual contributors". Akata (2003) evaluates it as "*a systematic and holistic (all-encompassing) business planning, monitoring, and measurement process that aims to continuously improve the contribution of teams and individual employees to the achievement of organizational goals*". Performance management is proactive, while performance appraisal is reactive.

In a study Kucukyazici (2015), the author explored the performance management practices in Turkish public organizations. The research was conducted through a survey of senior managers in public organizations. Results indicated that performance management practices in the public sector in Turkey are not highly developed, but the majority of organizations are planning to implement more effective practices in the future.

In a study by Kucuk & Kucuk (2017), it is investigated the impact of performance management practices on job satisfaction and turnover intention in Turkish public organizations. The results showed that performance management practices have a positive impact on job satisfaction and a negative impact on turnover intention. The authors suggest that performance management practices should be improved in Turkish public organizations to increase job satisfaction and reduce turnover intention.

A study by Cakir (2016), explored the role of human resource management in performance management in Turkish government agencies. The author conducted a survey of HR managers in government agencies and found that HR managers play a key role in the performance management process by providing support and guidance to employees. The results also showed that HR managers need to have better knowledge and skills in performance management to be effective in their role.

In a study by Yildirim & Kose (2015) it is investigated the effect of performance management on employee motivation in Turkish public organizations. The authors conducted a survey of employees in public organizations and found that performance management practices have a positive impact on employee motivation. The results showed that clear performance expectations, feedback and recognition are the most important factors affecting employee motivation.

In a study by Eski (2017), the author explored performance management systems in Turkish local governments. The research was conducted through a survey of managers in local governments and found that performance management systems are in the early stages of development in Turkish local governments. The results showed that there is a need for

improvement in performance management systems, particularly in the areas of performance planning and evaluation.

By inferring from the literature approach above, performance management has the potential to help government agencies address the performance challenges they face, such as:

1. *The need to improve outcomes within resource constraints:* Organizations are continually challenged to deliver high-quality services and improved outcomes within limited resources.
2. *The organization needs to focus on results that matter to stakeholders:* Performance management begins with setting goals and objectives related to the needs and expectations of stakeholders.
3. *Rapid changes in the environment and the need to involve all public officials:* Narrow expertise or basic skills in planning and budgeting will not insulate the manager from the need to know how to do more with less.
4. *The need to gain and maintain the trust and confidence of the public:* Performance management increases accountability and fosters trust in senior management and leaders.

While the first governments in the United States grappled with inefficiency and corruption, then, as a reform, an attempt was made to establish a bureaucratic, merit-based system focused on processes that would eliminate financial irregularities and nepotism and promote fair access to government contracts ². While bureaucratic processes, which are legal and rational by Max Weber's definition, focus on preventing bad things, performance management ensures that the government produces genuinely positive results. A process approach to accountability alone is not enough. Officials, managers, and workers must be responsible for following processes and producing the results the public needs. For example, mayors and governments must face the threat of losing and being held accountable in future elections due to poor performance. Performance management should be seen as a professional expectation and an ethical expectation for public officials and employees. As seen in the figure, the core of all performance systems consists of the life cycle of planning, implementation, follow-up, and review. Audit units also have to take a serious role, especially in the review processes and system setup. With the guidance and consultancy activities of the audit units, institutions can detail these stages and enrich them with new tools and techniques, taking into account their own goals, values, and existing capacities.

²For further discussion of this transformation, review the Performance Management Advisory Management Commission publications by Santa Barbara County Chief Executive Officer Michael F. Brown: <http://pmcommission.org>.

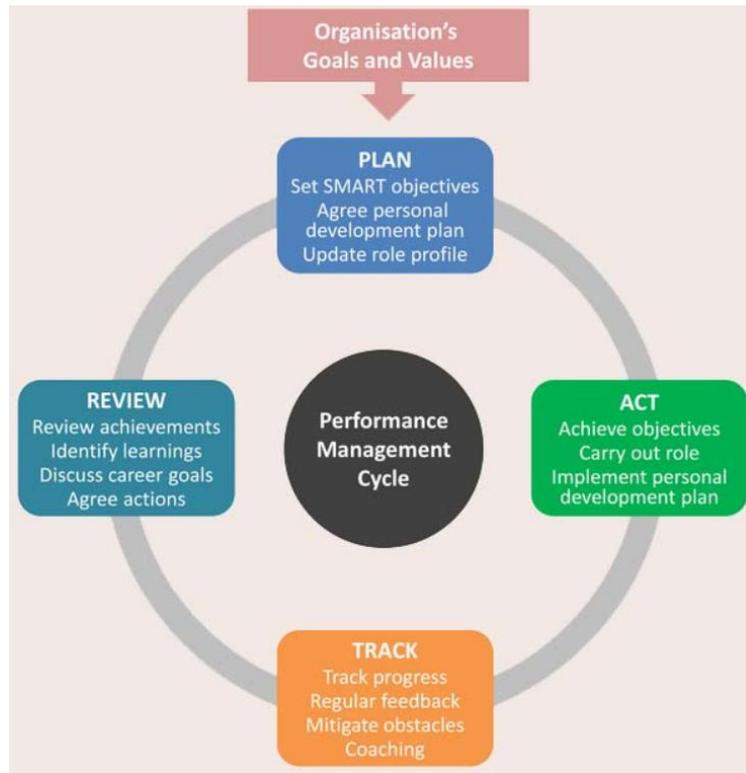


Figure 1. Performance management process cycle (Hearn, 2017)

The evolution of performance management as a new Human Resource Management Model represents a shift of emphasis in organizations from command and control to a model of facilitating leadership. Serious problems arise when performance management is not a process in which individual efforts are evaluated.

2. Research Problem

Some systematic problems seriously affect the excellent performance of civil servants. Some of these issues are discussed below (Trivedi, 1995):

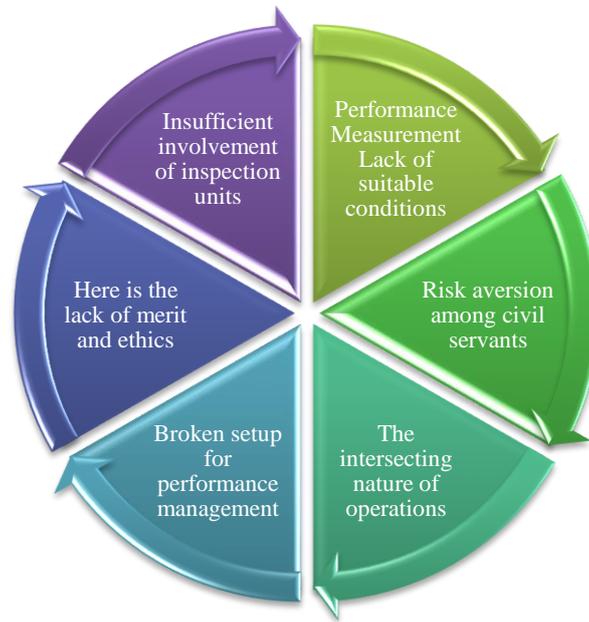


Figure 2. The most significant issues with performance management

a. *Risk aversion among civil servants*: Studies have shown that entrepreneurs are less risk-averse than employees, civil servants are more risk-averse than private-sector employees, and women are generally more risk-averse than men (Hartog *et al.*, 2003). Civil servants are accountable to several institutions and organizations of the country. Some institutions, such as the Court of Accounts, IDDK, KGK, legal commissions etc. tend to focus on the form and procedure of execution and its perceived flaws or excesses. This has increased the problem of risk aversion and demoralization among civil servants.

b. *Performance Measurement Lack of suitable conditions*: It is essential to apply appropriate performance measurement methods and provide conditions for measuring the performance of public sector organizations (Balaboliene and Vecerskiene, 2015). While talking about the performance of civil servants, it is necessary to consider the limitations of the environment in which they work. The performance of an individual in a particular position is determined by factors such as seniority and individual qualities.

c. *Cross-cutting nature of operations*: The nature of government functions and public service duties is such that it is multidimensional, involving multiple institutions in the decision-making process and appealing to a wide range of stakeholders. In other words, there is no limited and specific customer group. Some units claim that they do not have sole control over the decision-making process of the public service related to their duties and can blame others for inaction or ineffectiveness, thus leading to a blurring of organizational and individual responsibility. Department departments may also face the problem of obtaining the permission of the finance department at every stage of their work, and sometimes, some activities in their work programs may be canceled depending on unexpected situations. In contrast, new activities and projects

that are not in the account or that the capacity cannot afford may need to be implemented. This negatively affects measurability and effectiveness in performance.

d. *Disconnected setup for performance management*: The impact of measures on an organization's performance can be examined and analyzed to identify potential areas for improvement (Kagioglou *et al.*, 2001).

e. *Here is the lack of merit and ethics*: The difficulties of traditional models and approaches to performance management stem from the fact that current approaches are flawed and unethical because they do not focus on providing merit in practice, demotivate staff, and are often perceived as forms of disciplinary control (Winstanley & Stuart-Smith, 1996). Management of unqualified persons, especially one of the most important factors that negatively affect the performance in the job, is to be appointed to positions according to political influence, community, and acquaintance relations. The increase in the number of people who think they cannot rise without a political or other acquaintance, even if they show superior performance, will cause severe problems in the performance system.

f. *Insufficient use of the audit units*: Audit units are not required to be aware of all non-compliance cases. It is because managers refrain from detecting and reporting the deficient performance, and audit units are not well equipped with performance management tools and techniques. These are serious issues that need attention in this regard.

While the performance management systems are being renewed, some questions and systemic problems will arise. The above problems can be the subject of different studies. In this study, the questions asked in the light of the above problems are also determined below:

- *Can super artificial intelligence applications based on machine learning be used effectively in human, process, unit, and institution performance evaluation and reporting?*
- *How to evaluate the performance of a person who performs multiple tasks as part of different programs/projects and can report to different authorities simultaneously?*
- *How can one distinguish between personal, unitary, and institutional determinants of an individual's performance?*
- *When do different departments/organizations work together for a single project or program?*
- *How is the performance of an individual operating under institutional constraints such as lack of flexibility in performance program design, frequent transfers, lack of knowledge of teams, incompetence, and budgetary constraints?*

In this study, it is impossible to answer all of the questions here. However, it is thought that the performance system can give the desired results if the above problems are resolved. In this study, a disposition that will include the answers to the above questions has been constructed, especially to reach the answer to the last question. In order to answer these questions, it is crucial to determine the existence of the performance management process and the reasonable ways and methods on how it can be improved.

3. Data On Market Trends

According to a report by MarketsandMarkets, the performance management and monitoring market is estimated to grow from \$14.31 billion in 2020 to \$22.24 billion by 2025, at a CAGR of 9.3%. The report also mentions that the market is segmented into various tools, such as Application Performance Management (APM), Network Performance Management (NPM), IT Operations Analytics (ITOA), and others. Another report by ResearchAndMarkets shows that the APM market is projected to reach \$9.4 billion by 2023. The report states that the APM market is dominated by players such as New Relic, AppDynamics, Dynatrace, and CA Technologies.

A report by Technavio highlights the growth of the NPM market, which is expected to grow by \$3.76 billion during the period 2019-2023. The report mentions that major players in the NPM market include Infosys, SolarWinds, CA Technologies, and IBM. A report by Technavio highlights that the cloud-based performance management and monitoring solutions segment is expected to grow at the highest CAGR during the forecast period due to the increasing demand for cloud computing services and the growing trend of digital transformation. Another report by Gartner states that the demand for performance monitoring tools is increasing among organizations as they aim to improve customer experience, reduce downtime, and increase the efficiency of their IT infrastructure. The report also mentions that the adoption of DevOps and the increasing focus on digital business operations will drive the growth of the market.

2020 State of Application Performance Management (APM) Report: The 2020 State of APM Report by Instana (2020) surveyed over 1,000 IT professionals and found that 83% of organizations use APM tools, while 17% do not.

The Future of APM: This report by Dimensional Research, commissioned by New Relic, found that 92% of IT organizations are using APM tools to monitor application performance, with the majority (63%) using more than one APM tool.

Gartner Market Guide for APM: Gartner's Market Guide for APM found that the APM market continues to grow, with increasing demand for solutions that can provide deep visibility into the performance of modern applications, such as cloud and microservices-based applications.

APM Market Trends: This report by Technavio predicts that the APM market will grow at a CAGR of over 13% from 2018-2022.

APM Survey Report: This report by Datadog surveyed over 1,200 IT professionals and found that 85% of organizations use APM tools, with the majority (58%) using more than one APM tool.

4. Ways To Improve The Performance Management Process

Performance evaluation and process management are needs that prudent managers can adopt and implement. When we look at the universe, the truths of nothingness, wastelessness, order, and moderation require acting following them. For this, by examining the planning, implementation, and reporting processes, it is necessary to determine essential issues such as where to start and where, what is missing or overdone, what targets and resource planning are done correctly, how the necessary competencies are provided, which can be achieved entirely with the presence of performance management. The hadith by Prophet Mohammad, " *Take yourself to account before being brought to account,*" can also be considered a spiritual guide. Forward-thinking managers and institutionalized organizations are already trying to implement innovative solutions that enable the process to deliver accurate results and improve employee performance and business profitability by taking concerted steps to address the negative consequences of performance management³. It considers six practical steps that can be used to improve performance management processes:



Figure 3. Necessary measures for effective performance management establishment and implementation

4.1. Setting Effective Goals to Align the Vision and Mission of the Institution and Personnel

Public administrators grapple with how it will affect organizational performance. Result-oriented management approaches emphasize the importance of target alignment in performance management programs to achieve corporate goals (Ayers, 2013). Some organizations choose to include competencies in performance expectations to strengthen the link with business strategy, vision, and mission. An accepted framework to help write practical goals is SMART (S – Specific, M– Measurable, A– Reachable/Achievable, R– Result Oriented/Realistic/Relevant,

³To understand and compare what's going on within the scope of innovative solutions on the subject, see: <https://www.sap.com/products/human-resources-hcm/talent-management.html>

T- Time-Dependent). Some managers prefer to further define goals with a start and end date with milestones in between.

4.2. Integrating performance planning with corporate strategy and business planning

Based on set goals, performance planning sets the stage for the year by communicating goals and setting an actionable plan that will guide the employee in achieving the goals successfully. Research results show that planning is beneficial, but contextual factors such as the innovation of firms, compliance with performance goals, and cultural environment significantly affect the relationship. This evidence proposes an accompanying and dynamic approach combining planning, performance, and learning (Brinckman et al., 2010).

4.3. Establishing a corporate process based on data, information, and documentation

Decisions regarding civilian systems should be supported by an integrated reliability-based life-cycle multi-objective optimization framework, considering the probability of successful performance and the total expected cost incurred over the entire life cycle, among other factors (Frangopol, 2011).

Developing intelligent systems for automatic and dynamic information mapping and electronic sharing in project documents is crucial. Such systems will enable fast searching for supporting decision-making and optimization efforts in future projects using good practices and lessons learned (Marques et al., 2017).

4.4. Gathering information from multiple sources and establishing an influential feedback culture

In most cases, feedback decreases rather than improves performance. Therefore, educating coaches on providing feedback and setting goals is critical to an effective coaching process. For feedback to bring about a positive behavior change, the following should be considered (Latham, 2005):

- (1) Focus on behavior rather than a person.
 - (2) Being selective about the "critical minority" so as not to overwhelm the person; and
 - (3) Focusing on desired behavior rather than undesirable behavior and showing it.
- Sensitivity and tact in giving feedback are essential to changing behavior.

Human resources research and practice need to measure feedback orientation and culture and capture longitudinal feedback processes to understand better and influence the effects of feedback on self-awareness, self-confidence, and job performance (London & Smither, 2002).

4.5. Prepare, align, and train managers

It is not surprising that a performance appraisal often poses legal challenges for evaluators and the organization that employs them (Latham *et al.*, 2005). Managing another individual's performance is no easy task and requires many skills.

4.6. Linking performance to rewards, recognition, quality, and career planning

More and more organizations are linking performance to compensation. Research has proven that feed-forward interviewing is beneficial for human resource managers looking for ways to improve their organization's human resource performance over traditional performance appraisal (Budworth *et al.*, 2014). Research results showed that conscientious effort was unrelated to performance on all tests, while perfectionist efforts predicted higher performance in both reasoning tests and work example tests (Stoeber & Kresting, 2007).

Performance evaluation can be seen as a standard, expensive, and inefficient practice. Unfortunately, sometimes it can be a futile exercise (Grupp, 2007). Poor performance jeopardizes individual and organizational goals, and targets are not met, deadlines, complaints from colleagues, direct reports or complaints from managers, staff members, negligence, etc. Managers observing underperforming staff should consider possible causes (for example, change like the job, need for training, vague feedback, health or other conditions beyond the staff's control, conflict in the workplace, etc.). A range of possible solutions should be found during conversations for concerns about the work and the quality of support and guidance received. After six months, a review should be done.

5. Performance Auditing

As seen in the strategic plans in the Turkish public administration system, it is seen that there should be an obligation mechanism for an issue to be implemented successfully. Successful execution of a system or process is learned over time and by making mistakes since the infrastructure of our system is not sufficiently established. However, getting enough training to do things right will reduce, if not eliminate, these problems. Let us look at the subject in terms of performance management. Unfortunately, it is seen that there are not enough education policies and practices in Turkey, which is an essential factor in education. Considering that the top managers in many public institutions do not have sufficient knowledge and understanding on how to increase the organization's performance, it will be revealed that these managers do not adequately support the training of the employees. In addition, while the State Personnel Presidency is considered necessary in the training of state personnel, the inadequacy of this institution in this regard is striking that the institution was closed with the KHK number 703 dated July 09, 2018 and transferred to the Ministry of Labor of Türkiye.

Performance management should not be done only once every two years or even once a year. It is not an administrative imposition, and it is a management tool that helps teams stay on track. Practices that should be part of daily chores where homework is set, goals are clarified, and performance feedback is given to recognize and reinforce what works well and what may not. Staff should also take an active role in performance management. It is good to keep their managers updated on their progress and/or the challenges they face. Ongoing dialogue and

feedback are also meaningful because they are surprises at the end of the loop performance management review.

There should be audits whether the administration fulfills its classical functions and proposes systems and recommendations to change and improve the administration by questioning the performance when the change in the scope of the audit is considered (Genç, 1995). When we look at the control systems in the world, we see that two trends emerged as the Continental European and Anglo-Saxon control systems (Dursun and Altınışik, 2019). Today, performance auditing is an independent profession that plays an essential role in managing organizations and states' policies. Performance auditing can be defined as investigating whether the public is doing the right things correctly and at minimum cost. In terms of its scope of execution can be carried out in all public sectors, including central government and local government. The program, which aims to improve efficiency by creating a management and control system that increases efficiency and financial responsibility requirements at all levels, initially emerged in connection with the budget (Fındıkçı, 1999). Although the performance management system shows similarities with this budget system, which defines the first services to be performed by the spending institutions and divides them into programs and activities, it can be applied without considering the budget (Özer, 1997). The concept of performance management is based on two essential management principles. First, the organization management should ensure that its funds are used in the best way and show decisions at monetary value by charging the authorities and expenditures of the managers. Second, is the principle of charging managers for the careful and effective use of resources (Coşkun, 1998, p.43). Performing performance audits independently of the state whose activities are within the scope of the audit will help this (Tekin, 1999). As a large scale of self-consciously different practices, performance auditing has been dated mainly since the late 1970s (Pollitt & Summa, 1997). It spread widely, especially in the 1980s, due to numerous factors: (Barzelay, 1997; Brignall & Modell, 2000):

(1) The scope of institutional activities of the state and public institutions has expanded more than once. Because of the simple function of administering justice alongside law and order, most governments are now committed to playing an active role in socio-economic development.

(2) Scarcity of resources necessitates more rational and informed decision-making on public spending.

(3) The need to manage the risk of legal liability is a known fact.

(4) The development of democratic institutions and the people's consciousness and representatives have also increased.

(5) Improved internal management systems etc. It is up to the wise to seize opportunities to increase productivity gains through

Performance auditing has been defined in various ways. INTOSAI's Auditing Standards state: "Performance auditing is concerned with auditing economy, efficiency, and effectiveness and includes (INTOSAI, 1995):

(a) Supervision of the economy of administrative activities following sound administrative principles and practices and management policies.

(b) Auditing the effectiveness of the use of human, financial and other resources, including the procedures followed to review information systems, performance measures, and monitoring arrangements and to remedy any deficiencies identified by audited entities; and

(c) Audit of the effectiveness of performance in achieving the objectivity of the auditee and auditing the actual impact of the activities against the intended impact.

Performance auditing is also defined in various ways in the scientific literature, for example, Waring and Morgan define performance auditing as follows: "*Performance auditing is a systematic, objective evaluation of the achievements or processes of a program, project or activity to determine its economy, efficiency or effectiveness*" (Waring & Morgan, 2007). The purpose of the performance audit is to evaluate the performance and management of the audited organization in terms of economy, efficiency, and effectiveness and to take corrective, complementary, and preventive measures by making suggestions on how the performance of the said organization can be improved (Daujo taité & Macerinskienė, 2008). Because every action or practice is subject to independent, professional, impartial audit scrutiny and public disclosure of results, it should be subject to prompt corrective controls, including a penalty. The review indicates that an intentional error has been made (Michel, 1991). In the private sector, where performance auditing provides a mechanism that provides effective and quality service, efficient, economical, and successful work, the public needs a mechanism to replace the market mechanism. When resources are limited, the primary decision focus should be on program or organization selection. Performance auditing helps to establish a basis for such decisions about future investments and priorities (Ertaş, 2014).

Performance auditing in Turkey's public administration is primarily seen in personnel evaluation. The top-filled registry reports are the best example of this. In our country, there are authoritarian management types. The employees' freedom to express their thoughts to their superiors is low, the positions and titles are essential, and the hierarchical structures are rigid (Öğüt & Kocabacak, 2007: 152). As the new regulations are implemented, organizational culture will be formed in which the employees of the institutions can express their thoughts more. The biggest problem in our country is the lack of a certain standard in public institutions. The fact that managers are the only authority in performance evaluation makes public institutions ineffective in achieving their goals. The Public Financial Management and Control Law No. 5018 aims to monitor the developments in the performance of the institutions in their budget practices and convey information to the relevant units. Innovations such as the obligation to prepare a strategic plan, the transition to performance-based budgeting based on

this plan, and financial transparency have been introduced. Article 63 of the same law introduced the principle of internal auditing to institutions. With this principle, it is foreseen that the auditors will guide the resources to manage them according to the economy, effectiveness, and efficiency principles. The internal control system will have positive contributions to performance management. The internal control system aims to maximize efficiency, economy, and productivity in corporate performance (Tosun & Cebeci, 2006:134).

The practical and efficient functioning of the performance system in public institutions is closely related to continuing the assurance and consultancy activities of the audit units in this area. But 14.07 in 2021. With CB Decree No. 4 in 2021, development agencies' internal and external audit units were abolished entirely. With the "Regulation Amending the Development Agencies Personnel Regulation" published in the Official Gazette dated October 20, 2021, and numbered 31634, the regulations regarding the employment of internal auditors and the procedures and conditions of employment were abolished. As seen in this example, it can be said that there are negative attitudes towards internal control, risk management, and internal audit. If it continues in this way, the operability of the performance system, which is closely related to audit units, internal control, and risk management, will be questionable.

According to the official Turkish AI strategy website (<https://cbddo.gov.tr/uyzs>), performance monitoring and performance auditing are handled through the creation of a National AI Governance Platform. This platform aims to ensure the effective and efficient implementation of the AI strategy by regularly monitoring and evaluating the performance of AI initiatives and projects. To achieve this, the platform has established a set of performance indicators and targets for AI initiatives, which are regularly monitored and audited. Additionally, the platform also works with relevant government agencies, organizations, and stakeholders to promote the development of AI initiatives and to ensure that they are aligned with the national AI strategy. Furthermore, the platform also focuses on ensuring the ethical and responsible use of AI, through the development of guidelines and regulations to regulate the development and use of AI in Turkey. This helps to ensure that AI initiatives are aligned with the national AI strategy, and that they are used in a way that is transparent and accountable. In conclusion, the Turkish AI strategy handles performance monitoring and performance auditing through the creation of a National AI Governance Platform, which focuses on ensuring the effective and efficient implementation of the AI strategy, while also promoting ethical and responsible AI practices.

One of the main issues to be considered in the technological transformation process is the existence of internal control necessary for businesses and an audit mechanism to evaluate it, together with the integration of cognitive technologies into business processes. Since each AI sub-technology has different characteristics, these differences must be considered in establishing an internal control, governance, and risk management mechanism. This is a sign that indicates the need for control. Since the system can carry out internal audit activities, continuity in auditing is essential. It is risk-oriented requires us to create an audit algorithm on the system according to the risks defined in the system and the appropriate controls corresponding to the risk, whichever activity is created and audited on the system. Since progress can be made through application examples while creating a flow for the system to

work, an algorithm should be developed considering the control applications associated with high-risk areas. For this reason, it is foreseen that the responsibility of internal audit and internal control experts will increase at the point of transferring the audit function to the system. Auditors need to transfer their experience and approaches to AI in the machine learning process. Here are some popular solutions and tools for performance auditing:

1. Employee Performance Management Software: Tools like BambooHR, Namely, and 15Five offer automated performance evaluations, goal tracking, and feedback processes.
2. 360-Degree Feedback: 360-degree feedback is a performance evaluation process that gathers feedback from peers, supervisors, subordinates, and customers to provide a comprehensive view of an employee's performance.
3. Project Management Software: Project management software like Asana, Trello, and Monday.com can help track progress on projects, assign tasks, and evaluate employee performance.
4. Survey Tools: Tools like Qualtrics, SurveyMonkey, and Google Forms can be used to gather feedback from employees and customers to assess performance.
5. Performance Appraisals: Performance appraisals are a structured evaluation process that assesses an employee's performance against specific goals and objectives.
6. Time Tracking Software: Tools like Toggl, RescueTime, and DeskTime can help track employee productivity and performance.
7. Data Analytics: Data analytics tools like Google Analytics, Tableau, and Power BI can help analyze performance data and identify areas for improvement.

Continuous performance monitoring and continuous auditing can be integrated using AI tools to automate the process and provide real-time insights into the performance and compliance of a system. AI tools can be used to collect, process and analyze data from multiple sources to identify trends, patterns and anomalies in performance and compliance.

Some of the ways AI tools can be used to integrate continuous performance monitoring and continuous auditing include the following items (Gartner, 2019; Deloitte, 2020; PwC, 2019):

1. Predictive analytics: AI algorithms can be used to predict potential performance or compliance issues based on historical data. This allows organizations to identify potential problems before they occur and take proactive measures to prevent them.
2. Rule-based monitoring: AI can be used to monitor systems based on pre-defined rules and policies. This can help to ensure that systems are in compliance with regulations and standards.
3. Anomaly detection: AI can be used to identify unusual or unexpected behavior in systems, which may indicate performance or compliance issues.
4. Natural language processing: AI can be used to analyze large amounts of unstructured data, such as emails, social media, and chat logs, to identify performance and compliance issues.

5. Machine learning algorithms: AI can be used to learn from historical data and adapt to new situations, improving the accuracy of performance and compliance monitoring over time.

6. Roles Of Artificial Intelligence As A New Trend In Performance Management

Artificial intelligence has been a popular topic in academic and social circles lately, and its effects are reverberating in the business world. Artificial intelligence technology is developing at an exponential rate, and this brings benefits and challenges (Kılınç & Ünal, 2019). In the pandemic period, it has become more essential to ensure efficiency and make the right data-driven decisions through innovations such as AI to strengthen the organization and prepare for the future. While tech companies start using AI to conduct performance reviews and performance management in general, it will take some time for other organizations to adapt. In an AI-assisted performance management model, data collection is continuous and automatic. The KPI should be a combination of qualitative and quantitative measures. An organization needs to experiment with different employee metrics and choose the most appropriate ones for the employees and the organization.

AI) has the potential to revolutionize performance management in government agencies in a number of ways. Some possible opportunities for using AI in this context include:

1. *Predictive analysis*: AI algorithms can be used to analyze large amounts of data, identify patterns and trends, and make predictions about future performance. This can help government agencies identify areas for improvement, make more informed decisions, and prioritize their efforts (Al-Sharafat, 2018).
2. *Real-time monitoring*: AI can be used to monitor government agencies in real-time, providing instant feedback and insights into performance. This can help identify issues quickly, respond more effectively, and improve overall outcomes (Fan et al, 2020).
3. *Automated report generation*: AI can be used to automate the generation of reports, reducing the time and resources required to produce them. This can help free up staff time to focus on more important tasks, and ensure that reports are accurate, consistent, and up to date (Mäkinen & Kujala, 2020).
4. *Improved data analysis*: AI can be used to analyze vast amounts of data and uncover insights that would otherwise go unnoticed. This can help government agencies make more informed decisions and improve their overall performance (Rajan & Singhal, 2019)
5. *Personalized feedback*: AI can be used to provide personalized feedback to government agencies, helping them understand their strengths and weaknesses, and identify areas for improvement. This can help drive better performance and ensure that government agencies are working towards the most important goals (Zhang & Fan, 2020).

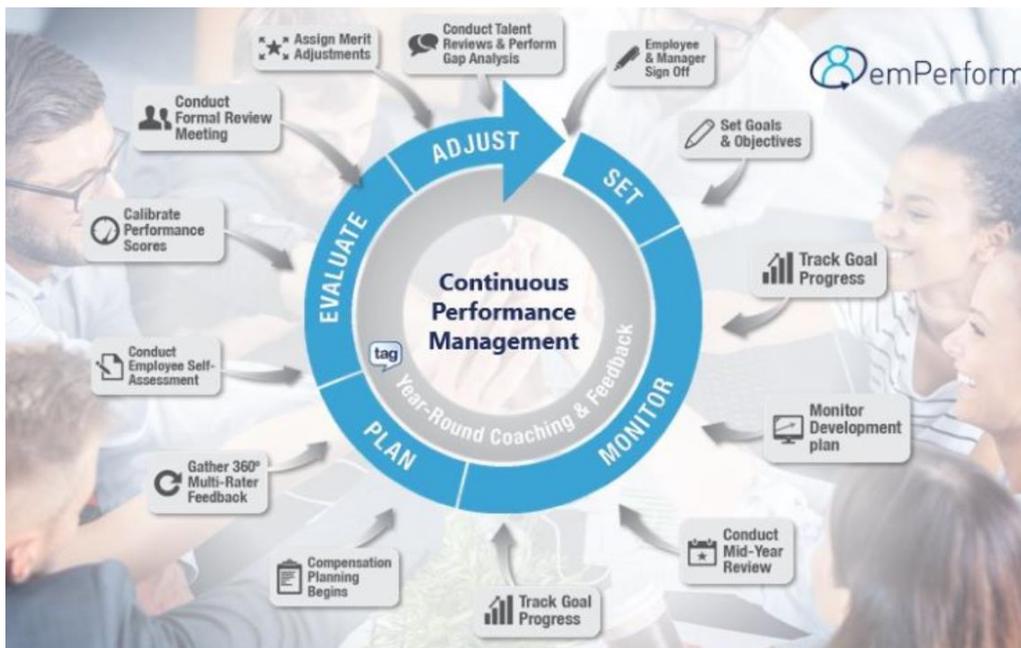


Figure 4. Continious Performance Management (Source: <https://t.ly/dEqB>)

Therefore, performance reviews can be continuous rather than periodic, if AI powers automated and rapid assessments. AI can go beyond collecting data and detect and evaluate based on established algorithms, leveraging a centralized repository from previous reviews and other multiple data sources. This makes employee performance review more meaningful as it will eliminate errors in evaluations. AI's continuous performance evaluation is a relatively modern approach to effective performance management. Contrary to the traditional annual performance review approach, which takes place once a year, continuous performance management includes ongoing control meetings and real-time feedback to regularly improve employee performance.

There are some AI software programs available in the market that have been reported in their web sites to provide continuous performance management of government agencies.

1. WorkFusion (<https://www.workfusion.com/>): WorkFusion is an AI-powered RPA (Robotic Process Automation) software that automates manual, repetitive tasks in government agencies. It can also help improve process efficiency, increase accuracy, and provide real-time performance tracking.
2. Cognitivescale (<https://cognitivescale.com/>): Cognitivescale is an AI-powered platform that provides real-time performance management for government agencies. It uses machine learning algorithms to analyze data and provide insights on areas of improvement, allowing for more effective decision making.
3. UiPath (<https://www.uipath.com/>): UiPath is an RPA software that provides continuous performance management for government agencies by automating manual, repetitive tasks and providing real-time performance tracking.

4. Blue Prism (<https://www.blueprism.com/>): Blue Prism is an RPA software that provides continuous performance management for government agencies by automating manual, repetitive tasks and providing real-time performance tracking.
5. Automation Anywhere (<https://www.automationanywhere.com/>): Automation Anywhere is an RPA software that provides continuous performance management for government agencies by automating manual, repetitive tasks and providing real-time performance tracking.



Figure 5. Key advantages of AI-based performance appraisals (Source: www.profit.co & <https://www.softwaretestinghelp.com/>)

As part of AI performance management, it can:

- It can support decisions made when human experience is not at hand.
- It can monitor processes and detect anomalies that could be early indicators of impending problems.
 - By learning statistically from historical data, AI models can predict an outcome or variable based on the historical data it consumes.
 - It can allow to predict and plan work times or transition times more accurately and, in turn, reduce unexpected costs such as labor or energy costs that come from working an extra shift.
 - It can predict how far get to the plan today or tell what common issues should expect at the upcoming party and help find the root causes.

- Understanding how 'normally' operates a facility can identify missed steps or operator errors and ensure action before it becomes an expensive operational issue.

Conclusion

Managing perceptions by keeping all employees informed about the process, results, and systematic achievements can be a valuable way to motivate them. Performance guidelines and circulars should be clear and appropriate from the employee's point of view. Feedback on performance status should be used to communicate evaluation results and monitor and discuss performance in the period between approval of the performance plan and formal evaluation. There are also opportunities to participate in the system's setup, and for communication to be effective, it must be done sincerely.

There are a few innovative performance management applications in the public sector that use artificial intelligence:

1. *Predictive Analytics*: This technology can help in forecasting future performance based on past data and trends, enabling better decision making and resource allocation.
2. *Chatbots*: A chatbot-based system can provide employees with quick and easy access to performance-related information and support.
3. *Sentiment Analysis*: AI algorithms can analyze employee feedback, comments and social media posts to assess the overall mood and engagement level of the workforce.
4. *Personalized Performance Coaching*: AI algorithms can analyze an employee's performance and provide personalized coaching and support to improve their skills and productivity.
5. *Goal Tracking*: AI algorithms can automatically track an employee's progress towards their goals and provide real-time feedback and support.

These are just a few examples of how AI can be used in the public sector to improve performance management. The goal is to provide employees with better support, more effective feedback and more meaningful engagement, all of which can lead to better performance and outcomes for the organization. Uncertain expectations are one of the most critical barriers to good performance and motivation. Therefore, communication and feedback reduce uncertainty and provide performance-related information. Of course, the future of performance management looks bright thanks to innovative AI applications that will initiate significant advances in business operations and daily activities to eliminate performance management challenges. AI-based activities and automation will completely change how we run ordinary and daily tasks. Since AI can also understand movement, facial expressions, and body language, it will also help employees' emotional and mental health. Confidence is needed when choosing an AI-powered automated performance management solution.

The best innovative performance management approach to AI applications in the civil services, public sector, and government would depend on the specific goals, objectives, and challenges faced by each organization. However, some best practices can be applied:

1. *Data-Driven Approach*: The use of data-driven AI algorithms to optimize decision-making, allocate resources and manage performance can help organizations streamline operations and improve efficiency.
2. *Evidence-Based Decision Making*: AI can support evidence-based decision making by providing real-time insights into performance metrics and data, enabling leaders to make informed decisions quickly and with confidence.
3. *Collaborative Management*: AI can be used to facilitate collaboration and information sharing among departments and stakeholders, making it easier for organizations to identify opportunities for improvement and develop effective performance management strategies.
4. *Continuous Learning and Adaptation*: AI applications can continuously learn and adapt, providing organizations with real-time data and insights that can be used to optimize performance and improve outcomes over time.
5. *Ethical Considerations*: It is important for organizations to consider ethical and legal implications of using AI in the public sector and government, including privacy and data security concerns.

In summary, the best innovative performance management approach to AI in the public sector and government will be one that leverages the power of data and AI to support decision-making, collaboration, and continuous learning and adaptation while prioritizing ethical considerations.

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