DIGITAL PERFORMANCE MANAGEMENT IN ORGANIZATIONS: BALANCING EFFICIENCY, TRANSPARENCY AND EMPLOYEE WELL-BEING

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Аннотация. *В статье рассматривается развитие цифрового управления эффективностью труда как современного направления управления человеческими ресурсами. На основе анализа научной литературы раскрываются возможности цифровых и алгоритмических систем в оценке результатов деятельности работников, а также связанные с их применением вопросы прозрачности, справедливости, автономии и благополучия сотрудников. Обосновывается необходимость человеко-ориентированного подхода, при котором цифровые инструменты дополняют, а не полностью заменяют управленческое суждение и коммуникацию.*

Ключевые слова: *цифровое управление эффективностью, алгоритмическое управление, управление персоналом, цифровизация, прозрачность, справедливость, автономия, благополучие работников, оценка эффективности, человеческие ресурсы.*

Annotatsiya. *Maqolada tashkilotlarda raqamli samaradorlikni boshqarish inson resurslarini boshqarishning zamonaviy yo‘nalishi sifatida tahlil qilinadi. Ilmiy adabiyotlar asosida xodimlar faoliyatini baholashda raqamli va algoritmik tizimlardan foydalanish imkoniyatlari hamda ularning shaffoflik, adolatlilik, avtonomiya va xodimlar farovonligiga ta’siri ko‘rib chiqiladi. Raqamli vositalar boshqaruv qarorlarini to‘liq almashtirmasdan, insoniy mulohaza va samarali kommunikatsiyani to‘ldirishi zarurligi asoslanadi.*

Tayanch so‘zlar: *raqamli samaradorlikni boshqarish, algoritmik boshqaruv, inson resurslarini boshqarish, raqamlashtirish, shaffoflik, adolatlilik, avtonomiya, xodimlar farovonligi, samaradorlikni baholash, inson resurslari.*

Annotation. *This article examines digital performance management as an emerging approach to human resource management in organizations. Based on a theoretical analysis of contemporary academic literature, it considers the opportunities provided by digital and algorithmic systems for employee performance assessment while examining their implications for transparency, fairness, autonomy and employee well-being. The article argues for a human-centred approach in which digital technologies support rather than completely replace managerial judgement and organizational communication.*

Keywords: *digital performance management, algorithmic management, human resource management, digitalization, transparency, fairness, autonomy, employee well-being, performance evaluation, organizational management.*

INTRODUCTION

Digital transformation has increasingly changed the way organizations organize work, coordinate employees and make managerial decisions. The development of information technologies,

artificial intelligence, machine learning, big-data analytics and digital platforms has expanded the possibilities available to organizations for collecting, processing and interpreting information about employee activities. As a consequence, traditional approaches to performance management are increasingly complemented by digital systems capable of monitoring activities, generating performance indicators, providing automated feedback and supporting managerial decisions.

The transformation is particularly important because performance management is not simply a technical organizational process. It directly affects the relationship between an organization and its employees. Decisions concerning performance evaluation, rewards, promotion, development and recognition influence employees' perceptions of justice, trust, autonomy and their relationship with management. Therefore, the introduction of digital technologies into performance management creates both opportunities and social challenges.

The broader process of digital transformation is also relevant to Uzbekistan. National digital development policies have emphasized the expansion of digital technologies across economic and social sectors. The country's digital transformation agenda includes the “Digital Uzbekistan–2030” strategy, while the broader “Uzbekistan–2030” strategy emphasizes economic development, individual potential, justice and the development of a modern society.[1]

Within this environment, digitalization of organizational management should not be considered exclusively from the perspective of technological efficiency. The introduction of digital performance management systems changes how employee contributions become visible to managers, how performance is interpreted and how employees understand managerial decisions. Algorithms can record and rate activities, but the meaning of employee performance cannot always be reduced to measurable indicators.

Kellogg, Valentine and Christin identify several mechanisms through which algorithmic systems can influence workplace control. Their review demonstrates that algorithms can be used to direct workers, record activities, rate performance, and reward or discipline employees.[2] This suggests that digital performance management should be viewed not only as an information technology but also as a new form of organizational control.

At the same time, digital performance management can provide important benefits. Digital systems can process large amounts of information, improve the timeliness of feedback, reduce some forms of administrative work and provide managers with more systematic performance information. Recent research also suggests that transparency in algorithmic performance management can encourage employees' motivation to improve performance and proactive work behaviour.[3]

However, the same systems can create problems when employees do not understand how performance indicators are generated or how their data are used. Research on algorithmic management indicates that digital management practices may affect job autonomy, perceived justice and workplace well-being.[4] Thus, the central problem is not whether organizations should digitalize performance management, but **how digital performance management can be implemented without weakening transparency, fairness, employee autonomy and human judgement**.

This problem is particularly relevant for contemporary organizations because technological systems increasingly participate in decisions that were traditionally made by supervisors and HR professionals. The growing use of data-driven systems therefore requires organizations to reconsider the relationship between technological efficiency and the social dimensions of work.

PURPOSE AND ITS JUSTIFICATION

The purpose of this article is to theoretically examine the role of digital performance management in modern organizations and to identify the principal conditions under which digital performance management can contribute to organizational efficiency while maintaining transparency, fairness, employee autonomy and well-being.

The article focuses on three interconnected questions:

1. What opportunities does digital performance management create for organizations?
2. What social and organizational risks can emerge from the digitalization of performance evaluation?
3. What principles can help organizations achieve a balance between technological efficiency and human-centred management?

The selected problem is significant because existing research increasingly recognizes that algorithmic management has consequences extending beyond technological efficiency. Studies have examined algorithmic control, workplace well-being, transparency, employee performance and proactive behaviour, but these findings need to be considered together in order to understand digital performance management as an organizational and social phenomenon.

Recent research by Liu et al. demonstrates that algorithmic management can influence employee performance, while also identifying continuing research needs concerning creative and adaptive forms of employee performance.[5] Similarly, research by Deng et al. indicates that algorithmic monitoring and performance management can, under appropriate conditions, support perceptions of organizational fairness and workplace well-being, particularly when algorithmic transparency is present.[6]

Consequently, the scientific problem is characterized by a duality. Digital systems may make performance management more systematic and data-driven, but excessive reliance on measurable indicators can potentially reduce the complexity of human performance to a limited number of numerical measures. The scientific and practical challenge is therefore to identify an appropriate balance.

DESCRIPTION AND SOLUTION OF THE SCIENTIFIC PROBLEM

1. From traditional performance management to digital performance management

Traditional performance management generally involves establishing expectations, monitoring employee performance, providing feedback, evaluating results and connecting performance to organizational decisions. Historically, these activities depended heavily on managers' observations, periodic reviews and direct communication with employees.

Digitalization changes the information base on which these processes operate. Performance information can increasingly be generated automatically through enterprise systems, customer-management platforms, project-management software, digital attendance systems, communication tools and other workplace technologies.

Digital performance management can therefore be understood as a management approach in which digital technologies are systematically used to establish, monitor, evaluate and develop employee performance.

This concept is broader than algorithmic management. Digital performance management may involve relatively simple digital dashboards and electronic appraisal systems, while algorithmic performance management involves more advanced systems in which algorithms process employee data and contribute to evaluation or managerial decision-making.

The distinction is important because not every digital performance-management system necessarily makes autonomous decisions. A digital dashboard that provides performance information to a manager is different from a system that automatically assigns a performance score or recommends disciplinary action.

Nevertheless, both systems transform the relationship between employees, managers and performance information.

2. Opportunities created by digital performance management

The first major advantage of digital performance management is the **availability of timely information**.

Traditional performance reviews may depend on information collected periodically. Digital systems can continuously generate information, allowing organizations to identify performance trends and provide feedback closer to the time when work occurs. This can potentially make performance management more developmental rather than simply evaluative.

The second advantage is **data integration**. Organizations can combine information from different organizational processes and create a more comprehensive performance picture. For example, performance information may include project completion, customer feedback, achievement of objectives, quality indicators and other relevant measures.

The third advantage is **administrative efficiency**. Digital systems can automate repetitive processes such as collecting performance information, calculating indicators, generating reports and reminding managers about evaluation deadlines.

The fourth advantage is **consistency**. When appropriately designed, digital systems can apply the same formal criteria across employees and organizational units. This can potentially reduce some forms of inconsistency associated with purely informal evaluation.

However, consistency should not automatically be equated with fairness. A system may consistently apply an inappropriate indicator to every employee. Therefore, the quality and relevance of the criteria remain fundamental.

The fifth advantage is the possibility of **continuous employee development**. Instead of waiting for an annual review, employees can potentially receive information about their progress throughout the year. This allows performance management to become a continuing dialogue concerning goals, learning and improvement.

Research provides evidence that transparency can be particularly important in this process. Cai and Wang found that transparency of algorithmic performance management was positively associated with employees' motivation to improve performance and proactive work behaviour in their study of employees in Chinese high-tech companies.[3]

Thus, the value of digital performance management does not arise simply from the existence of technology. It depends on how the technology is incorporated into organizational processes and how employees understand and use the information it produces.

3. Transparency as a central condition

Transparency represents one of the most important issues in digital performance management.

When an employee receives a performance score from a digital system, several questions may arise:

- What information was used?
- Which indicators were considered?
- How were the indicators weighted?

- Why did the system produce a particular result?
- Can the employee challenge or correct inaccurate information?
- Who is responsible for the final decision?

If employees cannot answer these questions, digital performance management may become a "black box" system.

The problem is not limited to technical complexity. Transparency has an important social dimension because employees need to understand the basis on which organizational decisions affecting them are made.

Recent research demonstrates that transparency can influence employee behaviour positively. Cai and Wang's study found that transparent algorithmic performance management was associated with stronger motivation to improve performance and proactive work behaviour.[3]

However, transparency should not be understood simply as revealing technical code. Employees do not necessarily need to understand the mathematical structure of an algorithm. What they need is meaningful information about the purpose of the system, the types of data collected, the criteria used, the consequences of performance results and the mechanisms available for questioning decisions.

Therefore, effective transparency should be **organizationally understandable**, not merely technically available.

4. Fairness and the human interpretation of performance

Fairness is another fundamental condition for successful digital performance management.

Performance evaluation has consequences for employees' professional development, recognition, rewards and career opportunities. Therefore, employees are likely to care not only about the result but also about whether the evaluation process is fair.

Algorithmic systems may appear objective because they rely on data and standardized procedures. However, the use of data does not automatically eliminate bias.

For example, an employee's performance may be influenced by factors that are difficult to measure digitally. Creativity, mentoring colleagues, solving unexpected problems, maintaining customer relationships and supporting team members may contribute substantially to organizational success without being adequately represented in conventional performance metrics.

This creates the possibility of **measurement distortion**: employees may be evaluated according to what a system can easily measure rather than what the organization genuinely values.

Kellogg et al. show that algorithmic workplace control can operate through recording and rating mechanisms.[2] The implication for performance management is that organizations must distinguish between the availability of data and the validity of the conclusions drawn from that data.

Digital performance management should therefore provide managers with evidence rather than remove managerial responsibility.

5. Employee autonomy and well-being

The relationship between digital performance management and employee well-being is complex.

On the positive side, digital systems can provide employees with clearer goals, timely feedback and greater visibility of their achievements. When employees understand how their performance is evaluated, digital information may support learning and professional development.

On the negative side, excessive monitoring can create a perception of continuous surveillance. Employees may begin to focus primarily on the indicators used by the system rather than on broader organizational objectives.

Research by Kinowska and Sienkiewicz, based on European organizational data, found that algorithmic management practices had a moderate direct relationship with workplace well-being and also influenced well-being indirectly through job autonomy and total rewards.[4]

This finding is important because autonomy is not necessarily opposed to performance. Employees often require discretion to adapt their behaviour to changing circumstances. A system that measures every activity too rigidly may discourage employees from experimenting, solving unusual problems or exercising professional judgement.

Consequently, digital performance management should distinguish between **performance visibility** and **performance control**.

Performance visibility provides useful information to employees and managers.

Performance control becomes problematic when employees are given little opportunity to interpret circumstances, explain unusual results or exercise professional judgement.

A balanced system should therefore provide measurable objectives while preserving reasonable employee discretion.

6. The changing role of managers

Digital performance management does not necessarily make managers less important. Instead, it changes the nature of managerial work.

In a traditional system, managers may spend substantial time collecting information about employee performance. Digital systems can reduce this administrative burden. Managers can instead devote greater attention to interpreting information, coaching employees, discussing difficulties and making contextual decisions.

This creates a potentially more valuable managerial role: **the manager as interpreter rather than simply evaluator**.

Algorithms can identify patterns, but managers can consider context.

An algorithm can identify that a target was not achieved, but a manager can ask why.

An algorithm can identify declining productivity, but a manager can investigate whether the reason was a temporary workload, an organizational problem, inadequate resources or a change in responsibilities.

An algorithm can produce a performance score, but a manager can consider contributions that are difficult to quantify.

Therefore, the most effective approach is not necessarily “human versus algorithm”. A more productive approach is **human–digital complementarity**.

7. A proposed human-centred model of digital performance management

Based on the literature reviewed, this article proposes a conceptual model in which digital performance management is organized around five interconnected principles.

Table 1. Principles of human-centred digital performance management

Principle	Main organizational function	Main employee concern	Recommended approach
Data quality	Improve accuracy of performance information	Incorrect or incomplete data	Regular data verification
Transparency	Explain evaluation processes	"Why did I receive this result?"	Clear explanation of criteria and processes
Fairness	Support legitimate evaluation	Bias and inappropriate indicators	Human review and appeal mechanisms
Autonomy	Preserve employee discretion	Excessive monitoring	Measure outcomes rather than every action
Human oversight	Maintain contextual judgement	Automated decisions	Human involvement in consequential decisions

The model suggests that digital performance management should not be evaluated solely according to technological sophistication. Its quality should be assessed according to the relationship between technology and organizational processes.

The first requirement is **reliable data**. Poor data produce poor decisions regardless of how advanced the algorithm is.

The second is **meaningful transparency**. Employees should understand the basic logic of performance evaluation.

The third is **procedural fairness**. Employees should have opportunities to question inaccurate information or explain exceptional circumstances.

The fourth is **preservation of autonomy**. Digital monitoring should not automatically become continuous behavioural control.

The fifth is **human oversight**. Decisions with significant consequences for employees should not rely exclusively on automated outputs.

8. Implications for organizations in Uzbekistan

The development of digital management in Uzbekistan creates a relevant context for considering these principles. The country's digital policy has emphasized the widespread introduction of information and communication technologies across sectors, while the "Digital Uzbekistan–2030" strategy provides a national framework for digital transformation.[7]

At the same time, the current "Uzbekistan–2030" strategy emphasizes economic development, individual potential, justice and social stability.[8] These priorities suggest that digital transformation should not be interpreted exclusively as technological modernization. Digital organizational practices should also be consistent with principles of fairness, human development and responsible management.

For organizations operating in Uzbekistan, the implementation of digital performance management may therefore require particular attention to employee understanding and organizational communication.

Employees should know:

1. why digital performance systems are being introduced;

2. what types of information are collected;
3. how performance indicators are calculated;
4. how performance results influence organizational decisions;
5. how inaccurate information can be corrected;
6. when managers can override or reinterpret automated recommendations.

Such communication can reduce uncertainty and help employees understand digital systems as organizational tools rather than simply mechanisms of surveillance.

Furthermore, organizations should avoid transferring digital performance systems directly from one organizational context to another without considering local organizational practices, employee expectations and institutional conditions.

Digital transformation is not merely a technological process. It is also a process of organizational change.

9. The central scientific problem: efficiency versus human-centred management

The literature indicates that the effects of digital and algorithmic performance management cannot be classified as simply positive or negative.

Kellogg et al. demonstrate that algorithmic systems can strengthen organizational control while also generating new forms of worker resistance.[2]

Kinowska and Sienkiewicz show that algorithmic management can be associated with workplace well-being but also influence autonomy and reward-related practices.[4]

Cai and Wang demonstrate that transparency can contribute to positive employee behaviour.[3]

Deng et al. similarly show that algorithmic monitoring and performance management can support fairness and well-being under appropriate conditions, with algorithmic transparency strengthening these relationships.[6]

Taken together, these studies suggest that the effects of digital performance management depend significantly on **how systems are designed, communicated and governed**.

This leads to the main conceptual proposition of the article:

Digital performance management creates sustainable organizational value when technological measurement is combined with transparency, procedural fairness, employee autonomy and meaningful human oversight.

The proposition moves the discussion away from technological determinism. Technology itself does not determine whether performance management becomes beneficial or harmful. Organizational choices surrounding the technology are equally important.

CONCLUSION

Digital performance management represents an important transformation in contemporary organizational management. The integration of digital technologies, data analytics and algorithmic systems into performance evaluation provides organizations with opportunities to improve information availability, administrative efficiency, feedback processes and performance monitoring.

However, digital performance management is not simply a technological innovation. It changes the social relationship between employees, managers and organizations. When employees are evaluated through digital systems, questions of transparency, fairness, autonomy, trust and well-being become central to the effectiveness of the system.

The theoretical analysis presented in this article demonstrates that digital performance management contains both opportunities and risks. Its potential advantages include timely information, systematic evaluation, administrative efficiency and continuous feedback. At the same time, excessive monitoring, opaque evaluation procedures, inappropriate performance indicators and excessive reliance on automated decisions may undermine employee autonomy and perceptions of fairness.

The scientific significance of the analysis lies in the integration of these dimensions into a human-centred conceptual approach to digital performance management. Rather than viewing technological efficiency and employee well-being as competing objectives, organizations should seek to design systems in which they reinforce each other.

The practical significance is particularly relevant for organizations undergoing digital transformation. Digital performance systems should be supported by clear communication, reliable data, transparent evaluation criteria, mechanisms for correcting inaccurate information and meaningful human oversight. Managers should use digital information as a basis for judgement rather than treating algorithmic outputs as unquestionable decisions.

For Uzbekistan, where national strategies continue to emphasize digital transformation and modernization, the development of responsible digital management practices is increasingly relevant. The implementation of digital performance management should therefore consider not only technological capability but also organizational culture, employee understanding, fairness and human development.

Future empirical research should examine how employees in Uzbek organizations perceive digital performance management, particularly with regard to perceived fairness, transparency, autonomy, communication and workplace behaviour. Such research could provide evidence for adapting international approaches to the specific organizational and institutional conditions of Uzbekistan.

Ultimately, the successful digitalization of performance management should not be measured only by how much information an organization can collect or how many managerial decisions can be automated. Its success should also be assessed by whether technology enables organizations to manage performance more fairly, transparently and constructively while preserving the human dimension of work.

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