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**ALGORITHMIC MANAGEMENT IN THE
DIGITAL TRANSFORMATION OF ENTERPRISES:
A QUALITATIVE STUDY OF MOTIVATIONS AND
STRATEGIC IMPLICATIONS**

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Introduction. With the development of digital technologies and the increasing penetration of artificial intelligence into business, algorithmic management is becoming an integral part of overall organisational management. This study, based on a qualitative analysis of logistics, finance, IT services, and manufacturing organisations, contributes to the understanding of algorithmic management in the development of digital transformation by examining the motivations of workers from different sectors of the economy.

Aim and tasks. This study focuses on introducing and using algorithmic management as a means of successful digital transformation in an organisation. The main aim is to explore the experience of specific business organisations operating in different sectors of the economy regarding the introduction and use of algorithmic management.

Results. The decision to implement algorithmic management is complex, influenced by both internal and external factors, including competitors and technological advancements. Social and ethical aspects relate to efficiency, faster decision-making, meeting customer needs, and fostering innovation. The impact on employees can be defined as two-way: algorithmic management presents an opportunity for better development, but it is also associated with direct concerns about job loss, changes in established work habits, invasion of personal space, and excessive control. Regardless of an organisation's field of work, ethical dimensions are always present and are perceived as a significant opportunity to overcome the negative consequences of implementing algorithmic management. The consequences reveal differences between sectors: for logistics, the emphasis is on the speed of service; in finance, on transparency and risk management; in the IT sector, on innovation; and in manufacturing, on process optimisation and cost reduction.

Conclusions. In order to be successfully and sustainably implemented, algorithmic management should be part of an overall strategy for the organisation's development in the context of digital transformation. It is recommended that organisations introduce a phased approach to algorithmic management, with parallel training for employees, the introduction of mandatory mechanisms for transparency in decision-making and uncompromising standards for personal data protection.

Keywords: Algorithmic Management, Digitalisation, Innovation, Sustainability, Resilience.

1. Introduction.

Currently, business reality is digital reality, and to survive, every organisation strives to be digital as quickly and as much as possible. Digital marketplaces span from supply and marketing to purchasing decisions, actual purchase, tracking, and final delivery of the shipment to the buyer (Mourtzis et al., 2021). From this perspective, digitalisation changes basic business processes and relationships, creates new jobs, and modifies others.

With modern technologies and the ability to process a huge array of data in real time and in fractions of a second, business is moving towards a completely new horizon in which artificial intelligence will be present. With the development of digital technologies and the increasing penetration of artificial intelligence into business life, the importance of algorithmic management is growing because elements of algorithmic management are becoming an integral part of overall organisational management.

In contemporary theoretical and practical reality, there is a discourse, albeit at a relatively early stage, that examines the various strengths and weaknesses of algorithmic management (García-Ruiz & Rocchi, 2025). With the development of new technologies and artificial intelligence, this discourse has acquired new dimensions and expanded, including the first steps representing attempts to regulate in legislative terms some of the most important elements of algorithmic management, which have already led to changes in some practices in the labour market established over the years. This indicates that algorithmic management will come into the field of view of both practitioners and scientists, with the idea of finding that balance that will, on the one hand, guarantee decent work, while at the same time improving the efficiency of the business organisation (Jarrahi et al., 2021; Vignola et al., 2023).

This study attempts to analyse the main challenges and opportunities facing enterprise development in the context of algorithmic management, related to the development of new technologies and, more specifically, the entry of artificial intelligence into business management.

2. Literature Review.

2.1. Functional and Conceptual Dimensions of Algorithmic Management.

Algorithmic management is a relatively new theme of discussion that has enjoyed lively interest from the academic community in the last few years. This is clearly understandable, given that the more widespread use of automated systems and artificial intelligence occurred precisely during this period. Koehler and Sauermann (2024) explored algorithmic management in the realm of crowd science and crowdsourcing. Algorithmic management (AM) manifests in five principal functions identified in existing organisational studies: task division and allocation, guidance, coordination, motivation, and facilitation of learning.

These applications rely on the ability of artificial intelligence to work almost instantaneously, deeply, and interactively. On the other hand, they also incorporate broader functionalities that allow them to perform functions such as matching and prediction. Sullivan et al. (2024) offer a hermeneutic analysis of the existing scientific literature on algorithmic management and explore the implications that different perspectives have for its understanding and application.

Li et al. (2025) examine the complex nature of algorithmic transparency, analysing both its positive and limiting effects. The authors find that when algorithmic governance is accompanied by clarity about goals and processes, it promotes a more positive perception of professional challenges by platform economy workers and helps reduce their sense of distance from work. The study also reveals that different dimensions of transparency do not operate equally: goal transparency enhances the positive impact of algorithmic governance on motivation.

Zhang et al. (2025) emphasise that a higher degree of transparency in algorithms encourages both in-role and out-of-role behaviour of workers. This connection is mediated by emotional labour – deep emotional engagement stimulates both types of behaviour, while superficial emotional performance mainly affects the performance of core job duties.

Zhu et al. (2024) note that platforms in the temporary employment economy use algorithms to optimise and transform traditional transaction mechanisms, thus creating new value for different participants in the ecosystem.

2.2.Social and Behavioural Implications of Algorithmic Management.

However, scholars also claim that implementing algorithmic management gives rise to several unintended negative consequences for different participants, undermining their rights and interests, such as issues related to price discrimination, control over labour processes, and privacy concerns. García-Ruiz and Rocchi (2025) focused on meaningful work within the modern reality of algorithmic management. The main threats associated with algorithmic management and the regulatory requirements organisations must meet to ensure meaningful work are described. It was considered that the resistance strategies employees employ to achieve meaningful work standards when organisations fail or are unwilling to provide the necessary conditions.

At the same time, one of the serious subjects to consider when considering algorithmic management is the stress of this type of management and its overall influence on employee health. In this regard, Bajwa et al. (2018) specifically explored the health of workers in the global gig economy.

Vignola et al. (2023) examined the impact of AM on the quality of work related to employee health. After a comprehensive analysis of the scientific literature, scholars have concluded that algorithmic management is likely to impact workers' health and well-being. According to them, research in this area is just beginning, and further empirical studies are needed to examine the short- and long-term health consequences of such work.

Lang et al. (2023) focus on the mechanisms of control exerted on workers within the platform economy. Their study shows that burnout partially mediates the relationship between perceived algorithmic control and employee engagement. This means that the perception of excessive algorithmic supervision may indirectly reduce work engagement by increasing emotional and psychological exhaustion symptoms.

Additionally, flow experience moderated the indirect effect of burnout on employee engagement levels. Zhang et al. (2023) explored how the implementation of algorithmic management in gig platforms may result in harmful deviant behaviour among gig workers. Chi et al. (2025) also focused on deviant behaviour. The authors consider that control adversely affects the daily work behaviours (DWB) of app workers directly, and it also negatively influences these behaviours indirectly through job crafting. This indirect influence tends to be more pronounced when individuals have a higher level of technology readiness.

Algorithmic management can also positively amplify Deviant Work Behaviour through organisational dehumanisation, with this effect being more significant in contexts where technology readiness is lower. Semujanga and Parent-Rocheleau (2024) reached interesting results by exploring the relationship between time-based stress and justice in the gig economy. They claimed that the extent of exposure to algorithmic compensation was positively correlated with time-related stress. Surprisingly, it was outlined that this form of compensation is also positively linked to perceptions of procedural justice, and these findings suggest that this connection strengthens when there is a higher level of perceived algorithmic transparency.

Additionally, it was found that transparency does not influence the relationship between algorithmic compensation and time-related stress. Their results imply that while perceived algorithmic transparency enhances the fairness of algorithmic compensation, it does not reduce the associated stress levels. Saikrishna (2025) uncovered a continuous flexibility paradox in which the autonomy associated with gig work exacerbates role conflict and emotional stress. Participants indicated experiencing physical fatigue, pressures from scheduling, and cognitive overload as a result of the unpredictable demands of gig work combined with their caregiving duties (Ibid). Liu and Yin (2024) find that algorithmic management encourages workers in the platform economy to develop their work.

Conversely, it diminishes their prevention-oriented job crafting behaviours, which involve mitigating hindering job demands by restricting their sense of job autonomy. Wan et al. (2024) found that perceived algorithmic control has the potential to influence the relationship between job autonomy and work alienation, as well as positive emotions. Additionally, it can affect the indirect effects of job autonomy on workplace well-being through the mediating factors of work alienation and positive emotions.

Liang et al. (2024) analyse the dual impact of Algorithmic Control on Gig Workers. According to them, the assessment of algorithmic control on platforms as a hindrance can adversely affect gig workers' prosocial-service actions. Workplace interpersonal capitalisation positively impacts the relationship between challenge appraisal and employees' prosocial service actions. Nevertheless, it does not alleviate the negative consequences of hindrance appraisal on these behaviours (ibid).

Felix et al. (2023) conclude that the coincidence of individual and organisational preferences, for example, the general focus on greater autonomy at the expense of security, can create conditions for the deterioration of employee well-being. In turn, Chen et al. (2025) explore the three aspects of algorithmic control: standardised guidance, tracking evaluation, and behavioural constraint. It was found that algorithmic standardised guidance showed a negative correlation with ego depletion, which subsequently enhanced safety performance.

Conversely, both algorithmic tracking evaluation and behavioural constraints are positively associated with ego depletion, leading to a decline in safety performance. Yu et al. (2025) endeavoured to understand the relationship between online algorithmic control and workers' turnover intention, considering the mediating role of relative deprivation. Their results indicate that algorithmic behavioural constraints and evaluations of algorithmic tracking are positively associated with the intention to leave a job, mediated by feelings of relative deprivation, while the influence of algorithmic standardised guidance diminishes this relationship.

At the same time, Yang, Chi, Bi and Xu (2025) admit that algorithmic control may result in both organisational and personal objectification, which can reduce employees' drive to actively participate in customer service initiatives.

Recent research on the gig economy and algorithmic management has been conducted by: Meijerink et al. (2024), exploring the work with talent in the context of gig economy; Zheng et al. (2024), revealing the positive and negative effects on the virtual teams; Lin et al. (2025) focusing on the relation between gig worker's well-being and characteristics of social job; Jeyaraj et al. (2025), researching the connection between gig labour regulation and youth unemployment; McDaid and Free (2025), studying the resistance to algorithmic control; Herrmann et al. (2023), probing the impact that gig economy has on the higher education etc. In the Bulgarian academic context, this discussion is not well developed or focused.

However, several studies could be pointed out: Anguelov (2023) explores digital dimension of HRM and in this point covers elements of algorithmic control; Dimcheva and Stoyanov (2023) examine the using of AI in decision-making process; Stoyanova and Stoyanov (2024) study the digitalisation in higher education; Temelkova, and Bakalov (2023) propose heuristic model for SMART Management in middle-sized industrial enterprises; Anguelov et al. (2020) explore the motivation of employees in IT sector (2020), while Ilieva et al. (2019) analyse mathematical algorithms for artificial intelligence.

Benlian et al. (2022) admit that despite all challenges related to algorithmic management, including all opportunities and threats to basic psychological needs; it will remain a key component for future work.

2.3. Algorithmic Management and the Future of Platform Economy

The rapid development of the platform economy and its increasing importance on a global scale (Alauddin et al., 2025). From this perspective, they advocate that for this new way of working to become sustainable for the whole society, targeted cooperation from all stakeholders is necessary.

This includes platform owners, policymakers, and representatives of labour organisations and the academic community. The main idea is that the benefits should be more fairly distributed among all participants, which, in a longer perspective, would be the basis for the sustainability of this business model. This, of course, also includes the real opportunity for workers to develop their professional potential.

3. Methodology.

This research is based on the results of a qualitative study aimed at exploring the perceptions, understandings, experiences, and attitudes towards the strategic development of the management of business organisations towards the introduction of elements of algorithmic management as part of the digital transformation of enterprises. The qualitative method was chosen purposefully because of several important and interrelated circumstances.

First, digitalisation in Bulgaria is present to varying degrees across different enterprises, even those from the same sector of the economy. This predetermines the desire for a deeper understanding of the transformation process, which is related to the reasons and methods of the chosen digital transformation.

Second, the focus is on the personal understanding and interpretation of digital transformation as a phenomenon that encompasses not only business processes but also all people who work in a given organisation. This leads to a change in the organisational culture, which can lead to changes in the specifics of the work of individual employees and change the relationships between employees, both between them and at the employee-manager level.

These circumstances predetermine the importance of subjective opinions to achieve greater clarity in understanding the transformation process and attitudes towards the various elements of algorithmic management. Next, in the argumentation justifying the choice of the qualitative approach, algorithmic management and its strategic challenges are not particularly familiar to a large part of the management of Bulgarian business organisations, and to the workers themselves.

This, in turn, allows for greater flexibility in conducting the study itself, since the methodology could be adapted in the course of the study according to the data already obtained from the interviews conducted and the new questions that arise within the framework of each semi-structured interview. The data obtained from the qualitative study also provides a much greater opportunity for their contextualisation, allowing us to understand the essence of digital transformation and the implementation of elements of algorithmic management in a much greater entirety, revealing different layers, including the social, cultural, and organisational dimensions of this change.

Based on a multiple case study approach, the research design was formed through a purposeful selection of four organisations representing different economic sectors. The selection was made to ensure maximum diversity regarding the level of digital maturity and the specificity of the organisational environment. The inclusion of a total of twelve respondents creates the prerequisites for cross-sectoral comparative analysis and guarantees the necessary analytical depth. The sample reflects the typological characteristics of the relevant industries, while not aiming to achieve statistical representativeness.

A major limitation of the study is that it is based on a qualitative approach and a small number of respondents (12), which does not allow for statistical generalisation and analysis. Future studies should combine qualitative and quantitative methods to achieve a higher degree of representativeness. The study is built on multiple case studies that allow for a comparison between the different circumstances, environments, and conditions in which enterprises operate, which provides great clarity for the different organisational contexts. Each case study consisted of a series of semi-structured interviews conducted with at least three representatives of the specific business organisation, supported by analyses of internal documents and publicly available materials and documents. To achieve depth and completeness of the qualitative research conducted, purposive sampling was used, and the study covered participants who met the following conditions:

- hold leadership positions or have a major role in processes related to algorithmic management.

- have direct observations or are directly responsible for the implementation of digital technologies in the business organisation.

- represents different sectors (e.g. logistics, finance, IT services, and manufacturing).

The total number of respondents was 12, representing four business organisations operating in the aforementioned economic sectors. Data were collected using generally accepted methods, primarily through semi-structured interviews lasting 45–60 minutes each.

The intention was to conduct the interviews face-to-face; however, due to the busy schedules of some representatives, three interviews were held online via the MS Teams platform. Each semi-structured interview covered key elements related to the following important themes of digital transformation and the introduction of algorithmic management:

Theme 1. Motivation for Introducing Elements of Algorithmic Management.

The primary objective of this theme is to reveal the factors behind the decision to implement algorithmic management and the attitude of the respondents towards this choice, that is, how they justify it. The following starting questions were used.

- What led your organisation to introduce algorithmic management?

- Which internal and external factors were the most significant in this decision? (e.g., the behaviour of competitors, the introduction of new regulations, technological progress, and global trends in ICT development)

- How does this decision fit into the organisation's overall policy for digital transformation?

- Are there specific goals that you aim for when introducing algorithmic management?

- How did stakeholders react to the introduction of algorithmic management (customers, management, and employees)?

- Was there a sceptical attitude among some of the stakeholder groups, and how did you manage to overcome it?

Theme 2. Challenges in the Introduction of Algorithmic Management.

The main idea behind this theme is related to the identification of the most serious barriers to the introduction of AM. The following questions were used in the interviews:

- What were the biggest difficulties in introducing algorithmic management?

- How would you identify these difficulties? Are they more related to the technological aspect of the change or the change in organisational culture?

- How did you manage to overcome the concerns that inevitably arise related to the lack of sufficient transparency and, therefore, an insufficient degree of trust and reliability in algorithms?

- Have you ever been in a situation where an algorithm made a controversial decision? How did the management react in this situation?

- What specific changes in work processes did the organisation have to undertake due to the change in technology?

Theme 3. Strategic Benefits.

The main idea for this theme is related to the views of the representatives of the organisations on the strategic development and strategic benefits for the business from the introduction of AM, and how it plans or measures them. The following starting questions were included in this theme:

- What direct benefits has the organisation achieved so far from the implementation of AM?

- Can you provide specific examples of improvements (e.g. time, cost, quality, etc.)?

- Have new business opportunities for the organisation emerged as a result of the introduction of AM?

- How is the success of AM and digital transformation as a whole in your organisation specifically measured?

- Are there areas, aspects, or processes in which the achieved effects are weaker than expected?

Theme 4. Impact on the Workforce.

The main objective of this theme is to identify the ways in which algorithmic management changes the roles, processes, relationships, dynamics, and the overall atmosphere and climate in which teams work.

The main starting questions in relation to the overall objective of this theme were as follows:

- How have employees' daily tasks changed after the introduction of algorithmic management?
- Did the introduction of AM lead directly to staff reductions and/or team restructuring? Was there a redeployment of employees from some processes and activities to others?
- Is there a change in the relationship between managers and their teams?
- Is there a change, and if so, what is the relationship between the employees?
- How did employees react to the new way of working?
- Did you conduct training when introducing AM? How was it perceived by employees?
- Did the change require new competencies from employees?

Theme 5. Ethical Aspects of the Introduction of Algorithmic Management.

The main objective of this theme is related to the identification of moral, social, cultural, and regulatory challenges that are usually associated with the introduction and use of algorithmic management.

The starting questions for the interviews were as follows:

- Have you personally encountered ethical problems related to the use of AM and algorithmic control?
- How does the organisation deal with the main challenges in the use of AM related to transparency, algorithmic bias, and the possibilities for protecting personal data and respecting rights when implementing algorithmic control?
- Have you witnessed cases in which the algorithm made a decision that was met with resistance among the team - i.e. it was difficult to explain and argue, and therefore accepted by the team?
- What policies, mechanisms, and processes are in place in the organisation to ensure the ethical use of data collected by the algorithm?

- What is the organisation's position on stronger regulation of Artificial Intelligence, and in particular AM?

- How do you respond to public expectations at the European level regarding the imposition of regulations on the use of AI?

The information collected from the semi-structured interviews was supplemented with documentary analysis, a study of available internal organisational documents, procedural manuals, work rules, presentations, training materials for employees, strategic plans, and publicly available reports.

The interviews were recorded with the informed consent of the respondents and were transcribed verbatim. To ensure the reliability and validity of the data, a triangulation of sources was used through interviews, documentary analysis, and observation notes. Summaries of the interviews were made, containing the most important data. Each interview summary was provided to its source to confirm the accuracy of the data presented. This study adhered to the principles of anonymity and confidentiality.

The five main themes of the semi-structured interviews reflect the main focus of this study and contain the research questions that guided the study. Based on these, we define the following hypotheses for analysis:

H1: Algorithmic management is perceived by the management of organisations as an opportunity for innovation, but at the same time, it can also become a source of tension.

H2: The main challenges in implementing and using AM are related to cultural, ethical, and organisational factors rather than technological limitations.

H3: For AM to be successfully implemented, a complete rethinking of the roles of managers and employees is required.

H4: The perceived benefits and opportunities of algorithmic management are significantly influenced by the organisation's digital maturity level.

H5: Ethical and regulatory aspects act as barriers to the speed and scale of algorithmic management implementation.

Table 1. Integrated Methodological Framework: Relationships Among Research Themes, Hypotheses, and Indicators.

Theme from the interview	Related hypothesis	Potential Indicators
1. Motivation for introducing elements of algorithmic management	H1: Algorithmic management is perceived by the management of organisations as an opportunity for innovation, but at the same time, it can also become a source of tension.	Competitive pressure. Customer or partner requirements. Impact of technological trends. Pressure from regulations or government programs.
2. Challenges in the introduction of AM.	H2: The main challenges in implementing and using AM are related to cultural, ethical and organisational factors rather than being a result of technological limitations.	Expected efficiency benefits. Expected transparency benefits. Cost savings.
3. Strategic Benefits	H3: In order for AM to be successfully implemented, a complete rethinking of the roles of managers and employees is required.	Improvements in execution speed. Reduction of operating costs. Improved quality of solutions. New business models or products. Better forecasting and planning. Increased customer satisfaction. Freeing up resources for strategic tasks.
4. Impact on the workforce	H4: The perceived benefits and opportunities of algorithmic management are significantly influenced by the level of digital maturity of the organisation.	Change in hierarchical relationships. Emergence of new roles and competencies. Difficulties with integration into existing systems. Conflicts between departments. Conducting training and retraining. Insufficient preparation or training.
5. Ethical aspects of the introduction of AM.	H5: Ethical and regulatory aspects act as a barrier to the speed and scale of implementing algorithmic management.	Transparency of algorithmic decisions. Bias and discrimination in algorithms. Securing privacy and ethical use of data. Regulatory compliance Mechanisms for appealing algorithm decisions.

4. Results.

Theme 1. Motivation for Introducing Elements of Algorithmic Management.

After content analysis of the data collected from the interviews with respondents, it can be concluded that the decision to introduce algorithmic management is usually the result of a combination of internal strategic priorities and external pressures. There is comparative variability in terms of the origin of external pressure, which can be primarily market or regulatory, or as a result of the exercise of multi-level pressure by the external environment.

Among the most frequently cited motives are the desire for higher operational efficiency, the possibility of greater transparency and traceability of processes, the need to comply with regulatory requirements, the desire to maintain or achieve a competitive advantage, follow global technological trends, and realise cost savings.

According to a financial sector manager:

“If we do not switch to algorithmic management now, we risk being left with outdated processes while the competition automates everything. This is not just an innovation, but a necessity” (R07).

In a logistics context, the emphasis is on customer service:

“Our goal was to be able to respond to customer inquiries in minutes, not hours. With the help of the algorithm, this becomes easy and fast to implement, as it processes the information in fractions of a second. Everything happens instantly” (R03).

Most respondents emphasised the positive aspects of the introduction and use of AM. After the initial positive opinion, however, some participants admitted that the introduction was also associated with concerns, mainly due to the need for organisational changes and the pure social adaptation associated with the more difficult-to-adapt change in work habits.

This dual nature of AM, reflected in the opinion of the participating respondents, can also be interpreted as a direct confirmation of the first hypothesis: algorithmic management is perceived on the one hand as an opportunity and a stimulus for innovation, but at the same time, it is also seen as a potential and real source of tension. The effects obtained actually confirm H1. Algorithmic management is perceived by organisational management as an opportunity for innovation, but at the same time, it can also become a source of tension. The expectations associated with introducing and using AM are directly related to the expected strategic benefits, including increased efficiency, transparency, competitive advantage, and compliance with regulatory requirements.

This observation is supported by the many positive statements in which algorithmic management is described as a “necessity” and a “natural step” in digital transformation. At the same time, however, respondents express concern about potential negative effects related to the need to introduce significant changes related to restructuring, which can inevitably lead to the emergence and development of a significant risk of resistance among employees.

These negative effects are further exacerbated by the possibility of future dependence on algorithmic solutions. This ambivalence shows that the perception is complex and contains both an element of enthusiasm and an element of caution, fully in line with the hypothesis.

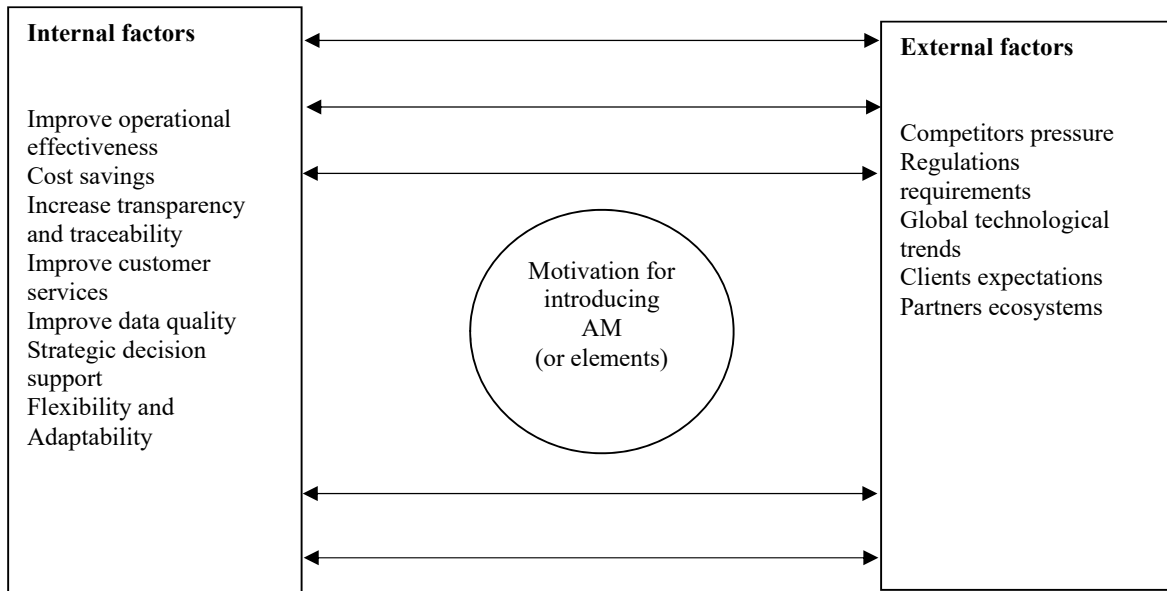


Fig. 1. Cause-Effect Model for Motivation of Introducing Algorithmic Management.

Theme 2. Challenges in Introducing Algorithmic Management.

The interview analyses revealed that the introduction of algorithmic management rarely proceeds without problems. The participants described difficulties that, in many cases, were more of a cultural and organisational nature. Organisations tend to overcome the technical aspects of change more easily than the social dimensions of change. Among the most common are a lack of trust in algorithms, difficulty in explaining automatically made decisions, and employee resistance.

These tendencies are further strengthened in cases where new systems change established hierarchical roles, lead to changes in tasks, restructuring, or are perceived as directly limiting the autonomy of employees from making decisions about the ways of performing some activities and tasks.

Another problem that could be outlined is that inadequate information about the meaning of the implemented change and the timely training of personnel is also associated with this issue.

This affects the quality of work between individual employees and the teams themselves, creating tension between teams and units that are differently affected by the introduced change and have different perspectives on the implementation goals. Simultaneously, the lack of adequate training can raise ethical questions about potential biases in the systems, the answers to which should be provided as early as possible in the AM implementation. Here, the technical challenges in integrating the algorithms with existing internal platforms should not be ignored, as they can also lead to additional stress among employees, especially if there is no timely and adequate training. A manager from the manufacturing sector explained:

“The algorithm sometimes offers a solution that is difficult to explain to the team. This creates distrust and reluctance to follow the recommendations” (R05).

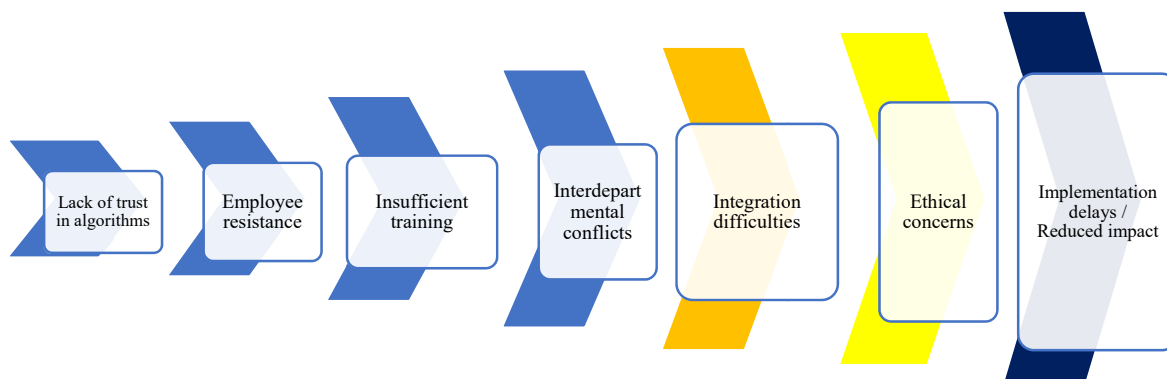
An IT specialist adds:

“We have the necessary technology, but people were not trained on how to use it effectively. This delayed the implementation for months” (R02).

In some cases, challenges also manifest themselves in the coordination between different units:

“Algorithmic management has also affected the way we communicate between departments. Sometimes decisions come from the system, but are not coordinated with other units” (R09).

These observations confirm the idea that difficulties in implementing AM should be sought at many levels, from a technological point of view, from organisational maturity, that is, the readiness of organisations to manage change, build trust, and adapt their internal culture to the new way of working. The results support H2 that the primary challenges in implementing and using AM stem from cultural, ethical, and organisational factors rather than technological limitations. Almost all interviewees mentioned the technical difficulties that have arisen, but described them as relatively easy to overcome and, at the same time, possible with satisfactory planning. However, the majority of the interviewees emphasised problems related to trust in the system, lack of sufficient training, emerging conflicts between teams and units, and ethical considerations. This shows that even the most advanced algorithmic solutions cannot deliver the expected results without targeted work to build organisational readiness, transparency, and acceptance of the new management method.



Note: Legend: Blue – Organizational & Cultural Factors; Orange – Technical Factors; Yellow – Ethical Factors.

Fig. 2. Fishbone Diagram of Perceived Challenges in Implementing Algorithmic Management (Theme 2).

Theme 3. Strategic Benefits from Algorithmic Management.

Based on the analysis of the data and the information gathered from the interviews with the respondents, the adoption of algorithmic management is an integral part of organisations for qualitative improvement of their efficiency. No one views AM as a sporadic technological solution for a specific problem. Its implementation is seen as a comprehensive opportunity to achieve sustainably higher efficiency and strengthen competitive positions. The respondents pointed out numerous benefits, most of which are generally recognised.

Among the most frequently cited benefits are increased accuracy in decision-making, which is due to reliable analyses based on the processing of database arrays; scaling of activities in response to changes in demand; the ability to provide more precise customisation of products and services to individual customer needs; increased flexibility in responding to market fluctuations and unforeseen situations; proactively ensuring compliance with regulatory requirements; and the release of expert capacity for innovation activities. One of the participants shared:

“After implementing algorithmic systems, we were able to direct our best analysts to develop new solutions, instead of engaging them in repetitive data checks. This not only improved internal morale, but also accelerated the launch of new products” (R12, IT sector).

The data obtained support the hypothesis that when integrated into an organisational strategy, algorithmic management can provide measurable competitive advantages through process optimisation, improved quality of solutions, and better customer service. The interview results outline a wide range of strategic benefits that organisations associate with the implementation of algorithmic management. All the benefits mentioned are summarised in Table 2. These observations confirm H3 that algorithmic management necessitates a comprehensive re-evaluation of the roles of managers and employees for successful implementation.

Theme 4. Impact on the Workforce.

Interviews with participants show that algorithmic management is inevitably profoundly impacting everyday work activities. It changes the specific daily tasks that employees are assigned and how they are performed. This is also leading to a transformation of the very nature of work.

The change has been positive for some, reducing routine tasks and allowing them to engage in more meaningful and creative activities. For others, however, the new processes bring uncertainty, a sense of loss of control, and the need for serious adaptation.

Among the more frequently mentioned effects are the shift of employees from mechanical to analytical work, the need to learn new digital skills, changes in motivation, restructuring of responsibilities, increased interaction between departments, and, in some cases, open resistance to new technologies.

One of the respondents from the logistics sector said:

“I no longer fill in spreadsheets all day; now I analyse data and make recommendations. Honestly, my work has become more interesting” (R10).

However, another opinion comes from production:

“The algorithm does some of the tasks that I used to solve. I understand that it is faster, but I feel that I am losing control over the process” (R05).

In the financial sector, adaptation often involves learning unfamiliar systems:

“I had to learn software that I had never heard of before. It was difficult at first, but now I am glad that I can do it” (R08).

The collected data confirm that the organisation's digital maturity largely determines its effect on the workforce. In organisations with experience with new technologies and innovations, for example, which are part of everyday life, the transition to AM can be perceived as smoother, and the employees themselves are ready to free themselves from banal routine tasks and focus on more creative and challenging tasks.

Table 2. Strategic Benefits Identified Through Algorithmic Management

Category	Benefit	Description	Quote
Process and Decision Making	More accurate solutions	Data-driven recommendations that reduce subjectivity and the risk of error, ensuring more consistent decisions.	<i>“We used to work more by gut feeling; we can see patterns that we would never have noticed otherwise”.</i> (R04, logistics)
	Faster problem detection and resolution	Systems detect irregularities and inefficiencies in real time and secure immediate response.	<i>“As soon as there is a bottleneck in production, the algorithm immediately lights up”.</i> (R09, manufacturing).
Flexibility and Market Reaction	Easy expansion of operations	Processes can be quickly adapted to increased demand without a proportional resource increase.	<i>“We doubled online orders without hiring new people – the system took over everything.”</i> (R11, IT sector).
	Greater operational flexibility	Ability to quickly adjust processes in the event of market changes or crises.	<i>“The supplier let us down? We rearranged the schedule in a few hours with the help of the system”.</i> (R06, Manufacturing).
Customer Experience and Personalisation	Better Personalisation	Algorithms analyse customer preferences and offer products and services based on their needs.	<i>“The recommendations are so accurate that people ask if we have a personal consultant for them”.</i> (R01, Finance).
	Faster service	Automation allows for instant processing of customer inquiries and orders.	<i>“Something that used to take a whole day now takes five minutes”.</i> (R03, Logistics)
Compliance and Risk Management	Proactive Regulatory Compliance	Systems automatically monitor changes in regulatory requirements and adapt processes.	<i>“By the time we were reading the new rules, the algorithm had already changed the reporting templates”.</i> (R07, Finance).
	Reducing operational risks	Predictive analytics detects potential failures or problems before they happen.	<i>“We save downtime because the system tells us which machine needs service”.</i> (R09, Manufacturing).
Innovation and human capital	Fostering innovation	Freeing experts from routine tasks allows them to work on new ideas and projects.	<i>“Our best people are now thinking about new products instead of digging through spreadsheets”.</i> (R02, IT).
	Better cross-departmental collaboration	Standard algorithmic tools create a “same language” between departments.	<i>“Marketing and manufacturing now look at the same data – and decisions come faster”.</i> (R05, Manufacturing)

On the other hand, however, in organisations with lower technological readiness, the introduction of AM or its elements is associated with tension, conflicts, resistance, and, as a result, slower adaptation. This conforms to H4 that the level of digital

maturity of an organisation determines how the benefits of algorithmic management are perceived and realised. Higher digital maturity supports the strategic use of these technologies, while lower maturity limits their effectiveness and adoption (Table 3).

Table 3. Impact of Algorithmic Management on the Workforce.

Impact	Description	Quote
Refocusing on analytical work	Automation takes over routine tasks and frees up analysis, coordination and planning time.	<i>“I no longer fill in spreadsheets all day – now I analyse data and make recommendations.”</i> (R04, logistics)
Need for new skills	Employees are learning new digital competencies and skills to work with algorithmic systems.	<i>“I had to learn software that I had never heard of before. It was difficult at first, but now I am glad that I can do it.”</i> (R07, finance)
Change in motivation	For some, motivation increases due to more interesting tasks, while for others, it decreases due to losing control.	<i>“The algorithm does some of the tasks that I used to solve... and that is not always pleasant.”</i> (R05, manufacturing)
Organizational restructuring	Redistribution of responsibilities and changes in the hierarchical structure.	<i>“After the new system, some roles merged, others disappeared – it was a shock for some colleagues.”</i> (R03, logistic)
Increased interdepartmental interaction	Need for coordination and data exchange between departments through common algorithmic platforms.	<i>“Marketing and logistics now work in one system – this saves us a lot of emails.”</i> (R04, logistics)
Resistance and adaptation	Some employees experience difficulty or reluctance to adopt new processes.	<i>“At first we all grumbled that it was complicated, but after a month no one wants to go back.”</i> (R09, manufacturing)

Theme 5. Ethical Aspects of the Introduction of Algorithmic Management.

At first glance, the main conclusion and impression left by the interviews with the respondents is that their basic perception of algorithmic management is an unchanging positive step towards modernising the business organisation, which will necessarily lead to increased efficiency. On a second level, however, the conversations also reveal a more complex side to the introduction and use of algorithmic management: ethical challenges. Some are directly related to how algorithms make decisions, while others are related to their impact on the people who work in the system.

Respondents often mentioned the lack of transparency in situations where it was unclear why the algorithm recommended a given decision. There are also concerns about possible biases embedded in the data, which, although unintentional, can lead to unfair results. Confidentiality and protection of personal data are other fundamental and sensitive themes. For some employees, losing control and autonomy is also a problem; in the case of mistakes, it is not always clear who is responsible.

A participant from the financial sector shared:

“The algorithm decides who gets a bonus, but no one can explain the logic. It leaves people with a bitter taste” (R08).

In a technology company, another respondent highlighted the risk of implicit bias:

“Even if there is no intention, if there is a distortion in the data, the algorithm reinforces it” (R02).

From manufacturing, the following observation was made:

“I feel like I am part of a machine. I do what the system says, without having a say” (R06).

The data support the view that ethical issues are on the agenda and inevitable in implementing algorithmic governance. The way organisations deal with them – through transparency, explainability, and personal data protection – directly impacts employee trust and attitudes. With clear rules and open communication, resistance is lower, and acceptance is easier. This supports H5, which states that ethical and regulatory aspects hinder the speed and scale of implementing algorithmic management.

Table 4. Correlations Between “Communication and Coordination” and “Crisis Situations”.

Ethical Challenge	Description	Quote
Lack of Transparency	Algorithmic decisions are not always explainable to employees and managers, which creates distrust.	<i>“The algorithm decided who to promote, but no one could explain why.”</i> (R07, finance)
Data Biases	Risk of reproducing or amplifying existing biases embedded in historical data.	<i>“If the data is skewed, the system will only perpetuate the error.”</i> (R12, IT)
Privacy Issues	Processing sensitive personal data of employees and customers, often without fully informed consent.	<i>“The system collects information about us, and no one tells us where it goes.”</i> (R07, Finance)
Loss of Autonomy	Feeling that important decisions are made by a “black box” with no room for human intervention.	<i>“I feel like part of a machine, not an expert.”</i> (R09, manufacturing)
Unclear Responsibility	Lack of clarity about who is responsible for an algorithm error.	<i>“When the system messes up, no one says whose fault it is.”</i> (R08, Finance)
Psychological Strain	Increased anxiety and stress from constant monitoring and evaluation by algorithms.	<i>“I know I’m being watched every minute and that makes me nervous.”</i> (R10, logistics)

The analysis of the interviews, consistent with the five main themes, outlines the complexity of the situation regarding the introduction and use of AM in business organisations. The motivations for implementation (Theme 1) are diverse and complex, and they are certainly combined; different organisations have different impacts.

The primary motivations stem from the management’s desire to achieve greater efficiency, strengthen its competitive position and meet regulatory requirements. At the same time, the identified challenges (Theme 2) are mainly associated with technical, organisational and cultural difficulties that can not only hinder, but also almost completely limit the effectiveness of the implementation. In addition, the participants highlight the strategic benefits (Theme 3), manifested through more informed decision-making, increased operational adaptability and stimulation of innovation processes.

The impact on the workforce (Theme 4) was manifested through liberation from routine tasks and the development of new skills, as well as a feeling of loss of autonomy and a period of adaptation. Ethical dilemmas (Theme 5) – from lack of transparency and potential bias to issues of confidentiality and accountability – add to the complexity of the process.

The interaction between these five basic themes shows that algorithmic management is a comprehensive strategy that is both a source and a prerequisite for organisational change and innovation, and it has the potential to push the organisation to a different level of development. In any case, for the process to be comprehensive, it must be integrated into the strategic development plans of the organisation, as it certainly requires reaching a high digital maturity of the organisational culture and close attention to ethical standards.

5. Conclusions.

The present study, related to the possibilities for implementing digital transformation through algorithmic management, is related to the identified need to study the ways of integrating it into organisations in more depth. Given the underrepresented theme within Bulgarian academic discourse, the study was based entirely on a qualitative approach to achieve greater clarity. Given the specificity of the topic, the analysis focused on five main themes.

Theme 1 aimed to explore organisations’ primary motivation when deciding to introduce and use AM. The main conclusions are that the arguments vary greatly and are of a complex nature.

However, in most cases, the idea of achieving a sustainable competitive advantage and a desire for strategic development is at play.

Theme 2 aimed to identify the main challenges arising from the introduction and integration of AM. Technical challenges are important but relatively easy to overcome, as they can be foreseen, and organisational management can take preliminary measures accordingly. However, the primary focus remains on change's social and ethical dimensions.

Theme 3 focused on the main strategic benefits of using AM, with the leading ones being the possibility of rapid decision-making based on precise analysis after processing an extensive data set in a very short period of time, the possibility of flexibility and rapid expansion and compliance with customer requirements, and opportunities for innovation.

Theme 4 relates to the impact of AM on the workforce. Here, the main opportunities are perceived as providing more time for analytical and creative work. However, at the same time, there are concerns about the acquisition of new skills (which are not perceived unambiguously by everyone).

Serious concerns related to the implementation of algorithmic management should not be ignored, including inequality between the platform and the employee, excessive control, and lack of transparency in decision-making by the platform. It also involves an entirely new approach to work tasks and changes in work habits, leading to fear of job loss and conflicts. Theme 5 was dedicated to the ethical dimensions of the introduction of AM, which are related to ensuring transparency in decision-making, compliance with ethical standards, and respect for human rights in implementing algorithmic control.

Theme 5 focuses on the complex interdependencies between the individual elements of the algorithmic management implementation process. How an organisation motivates change affects the perception of challenges, and the extent to which strategic advantages are achieved depends on its ability to balance the effects on the workforce and ensure compliance with ethical principles.

At the same time as the main conclusions, it is appropriate to consider the study's limitations. This study is qualitative, built on multiple case studies and 12 semi-structured interviews in four organisations from the logistics, finance, IT services, and manufacturing sectors, conducted in a Bulgarian context, which limits generalisability and increases sensitivity to subjective assessments and socially desirable responses, including due to partially online interviews and possible interpretive bias in the analysis, despite the triangulation used and verification of the respondents' summaries.

To reduce these limitations, future studies can apply mixed methods and a broader and more probabilistic sample, include more industries (including the public sector and SMEs) and levels of participation (employees, unions, customers, regulators), use building-up objective data (operational KPIs, logs, algorithm audits) along with self-assessments, as well as track the processes longitudinally, given the rapid evolution of algorithmic management.

The practical conclusions from the analysis highlight the importance of purposeful planning, preparation, and ethical management when implementing algorithmic systems. All this shows that with the development of the platform economy, the importance of algorithmic management will inevitably grow.

Algorithmic management should be approached much more thoroughly – as an overall profound and inevitable organisational change in the era of digitalisation, which changes the overall appearance and relationships along the management-employee-client line. From this point of view, we could conclude that this is also a change in the culture of the organisation, which in turn requires a complete rethinking of the management perspective.

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