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ARTICLE

Digital transformation and workplace wellbeing: the psychosocial impact of algorithm adoption at work

Transformação digital e bem-estar laboral: o impacto psicossocial da adoção de algoritmos no trabalho

Transformación digital y bienestar laboral: el impacto psicosocial de la adopción de algoritmos en el trabajo

Jose Roberto Campanele

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ABSTRACT

This article examines the psychosocial consequences of adopting algorithmic systems in team management. Digital transformation in organizations is not limited to the incorporation of new software tools: it fundamentally reshapes the relationship between employers and employees, redistributes power within firms, and alters how people experience autonomy, recognition, and meaning in their daily work. Drawing on an integrative review of the literature on the sociology of work, organizational psychology, and human resource management, the article analyzes how algorithmic supervision affects worker wellbeing and which organizational capabilities help mitigate its most harmful effects. It draws on established theoretical frameworks, including self-determination theory, the job demands-resources model, and platform capitalism studies, to show that the operational efficiency promised by management automation is often achieved at the cost of autonomy, mental health, and team cohesion. The article concludes that the sustainability of digital transformation depends on organizations developing

algorithmic transparency mechanisms, effective channels for worker participation, and leadership styles capable of mediating between system metrics and the concrete needs of people.

Keywords: workplace wellbeing, algorithmic management, psychosocial risks, digital transformation, organizational leadership.

RESUMO

Este artigo examina as consequências psicossociais da adoção de sistemas algorítmicos na gestão de equipes de trabalho. A transformação digital das organizações não se limita à incorporação de novas ferramentas informáticas: modifica de raiz a relação entre empregadores e empregados, redistribui o poder dentro da empresa e altera a maneira como as pessoas experimentam a autonomia, o reconhecimento e o sentido de sua tarefa diária. A partir de uma revisão integrativa da literatura sobre sociologia do trabalho, psicologia organizacional e gestão de recursos humanos, o trabalho analisa como a supervisão algorítmica afeta o bem-estar dos trabalhadores e quais capacidades organizacionais permitem atenuar seus efeitos mais nocivos. Recorre-se a marcos teóricos consolidados, entre eles a teoria da autodeterminação, o modelo de demandas e recursos laborais e os estudos sobre capitalismo de plataformas, para mostrar que a eficiência operacional prometida pela automação da gestão costuma ser obtida à custa da autonomia, da saúde mental e da coesão das equipes. O artigo conclui que a sustentabilidade da transformação digital depende de as organizações desenvolverem mecanismos de transparência algorítmica, canais efetivos de participação dos trabalhadores e estilos de liderança capazes de mediar entre as métricas do sistema e as necessidades concretas das pessoas.

Palavras-chave: bem-estar laboral, gestão algorítmica, riscos psicossociais, transformação digital, liderança organizacional.

RESUMEN

Este artículo examina las consecuencias psicosociales de la adopción de sistemas algorítmicos en la gestión de equipos de trabajo. La transformación digital de las organizaciones no se limita a la incorporación de nuevas herramientas informáticas: modifica de raíz la relación entre empleadores y empleados, redistribuye el poder dentro de la empresa y altera la manera en que las personas experimentan la autonomía, el reconocimiento y el sentido de su tarea diaria. A partir de una revisión integrativa de la literatura sobre

sociología del trabajo, psicología organizacional y gestión de recursos humanos, el trabajo analiza cómo la supervisión algorítmica afecta el bienestar de los trabajadores y qué capacidades organizacionales permiten atenuar sus efectos más nocivos. Se recurre a marcos teóricos consolidados, entre ellos la teoría de la autodeterminación, el modelo de demandas y recursos laborales y los estudios sobre capitalismo de plataformas, para mostrar que la eficiencia operativa que promete la automatización de la gestión suele obtenerse a costa de la autonomía, la salud mental y la cohesión de los equipos. El artículo concluye que la sostenibilidad de la transformación digital depende de que las organizaciones desarrollen mecanismos de transparencia algorítmica, canales efectivos de participación de los trabajadores y estilos de liderazgo capaces de mediar entre las métricas del sistema y las necesidades concretas de las personas.

Palabras clave: bienestar laboral, gestión algorítmica, riesgos psicosociales, transformación digital, liderazgo organizacional.

INTRODUCTION

In just over a decade, algorithmic management has ceased to be a curiosity associated with delivery and transportation platforms and has become a routine practice in sectors as diverse as logistics, call centers, banking, retail, and, increasingly, remote office work. Software for automatic task assignment, real-time performance scoring systems, screen-activity monitoring tools, and shift-scheduling algorithms now coexist with more traditional forms of human supervision, and in not a few cases are replacing them. This article addresses a question that, despite the abundant literature on digital transformation published in recent years, has not yet been resolved satisfactorily: what happens to people's psychological wellbeing when the party deciding their work pace, their performance, and, at times, the continuity of their employment relationship ceases to be a human supervisor and becomes, wholly or partly, an automated system.

The question is not trivial, since it touches a sensitive nerve of contemporary organizational life. For much of the twentieth century, the relationship between bosses and subordinates, with all its tensions and imperfections, rested on face-to-face interactions that made it possible to negotiate, explain, appeal, and, in the best cases, understand the criteria by which each person's work was evaluated. The emergence of data-based management systems introduces a third actor into this relationship, one that processes information at a scale and speed no human supervisor could

match, but that also lacks the capacity to read context, nuance a judgment, or hold a difficult conversation with empathy. This combination of computational power and contextual blindness is, as will be argued throughout this article, one of the factors that explain why the digitalization of people management, far from being a neutral process, produces psychosocial effects that deserve systematic attention.

It is worth clarifying from the outset what is meant here by algorithmic management. Following Kellogg, Valentine, and Christin (2020), the term refers to the use of data-collection and data-processing algorithms to direct, evaluate, and discipline human labor, replacing or complementing functions previously performed by managers and supervisors. This definition is useful because it does not equate algorithmic management with any particular technology, but rather with an organizational function that can be carried out through different tools: delivery applications that assign orders according to the courier's location, human resources systems that screen résumés using predictive models, remote-work platforms that measure keyboard and mouse activity, or dashboards that score call-center operators according to average handling time. What these tools have in common is that they transfer to an automated system decisions that previously required the judgment of a person with hierarchical authority, and that transfer is not merely technical: it entails a redefinition of to whom account is rendered, and how.

The literature on the future of work tends to present the automation of management as an almost inevitable consequence of global competition and firms' need to cut costs and increase productivity. However, a growing body of empirical research shows that the benefits of algorithmic management are not distributed evenly between employers and workers. Wood, Graham, Lehdonvirta, and Hjorth (2019), in a study of digital-platform workers in South Asia, South Africa, and other regions, documented that the possibility of choosing one's hours coexists, in practice, with intense algorithmic pressure to maintain high task-acceptance rates and with the constant threat of being disconnected from the system if performance falls below certain thresholds. Rosenblat and Stark (2016) reached similar conclusions in their study of Uber drivers in New York: the information asymmetry between the platform and workers, who do not know the exact criteria used to calculate fares and assignments, generates a type of control that workers themselves describe as more invasive than that of a traditional boss, precisely because they cannot discuss or negotiate it.

This article contends that the findings produced in the context of on-demand digital labor platforms, although they emerged in a specific niche of the economy, anticipate trends that are now also observed in conventional organizations that have incorporated algorithmic management tools into their day-to-day operations. Banks that evaluate their salespeople through automatic dashboards tracking goal attainment, logistics companies that assign routes and measure delivery times with optimization algorithms, and technology companies that use productivity-monitoring software for remote staff are examples of a phenomenon that extends well beyond the platform sector and that raises common questions about autonomy, mental health, and the meaning of work.

The purpose of this article is twofold. On the one hand, it seeks to systematize the psychosocial mechanisms through which algorithmic management affects worker wellbeing, drawing on established theoretical frameworks from organizational psychology and the sociology of work. On the other, it aims to identify which organizational capabilities allow companies to benefit from the efficiency gains that digitalization offers without sacrificing the mental health of their teams or the quality of working relationships. The question guiding the analysis can be formulated as follows: how does the adoption of algorithmic management systems affect workers' psychosocial wellbeing, and what organizational conditions moderate that relationship?

To answer this question, the article is organized into seven sections. After this introduction, the second section develops the theoretical framework, which draws together the sociology of digital work, self-determination theory, the job demands-resources model, and studies on surveillance and platform capitalism. The third section explains the integrative methodology used to review and synthesize the literature. The fourth section presents the results of the analysis, organized around three central psychosocial tensions: evaluative opacity, the intensification of work pace, and the erosion of the human bond in management. The fifth section discusses the implications of these findings for managerial practice and examines the role of empathetic leadership as a counterweight to the purely metric logic of algorithmic systems. The sixth section further develops the organizational capabilities that make it possible to institutionalize this counterweight, with particular attention to the specificities of the Latin American context. The seventh section presents the concluding remarks and points to lines for future research.

THEORETICAL FRAMEWORK: ALGORITHMIC WORK AND PSYCHOSOCIAL WELLBEING

From hierarchical supervision to data-driven control

The sociology of work has historically described the evolution of labor control systems as a succession of arrangements between authority and autonomy. Taylorism, in its classic early-twentieth-century formulation, relied on direct observation and the decomposition of tasks into elementary movements timed by a supervisor. This model, with all its limitations, maintained a relationship of physical proximity between controller and controlled. Fordism added to this logic the discipline of the assembly line, but retained the in-person character of supervision. What distinguishes algorithmic management from these earlier forms of control is not so much its intensity, which in some cases may be comparable, but rather its distributed, continuous, and, to a large extent, invisible nature for those who experience it.

Srnicek (2017) describes this process as part of the emergence of platform capitalism, a business model in which the extraction and processing of data become the principal source of value. Although his analysis focuses on large technology companies, the argument extends to any organization that adopts data-based management systems: the ability to collect granular information about workers' behavior, minute by minute, becomes a strategic asset that redefines power relations within the firm. Unlike the traditional supervisor, who can only observe a limited portion of subordinates' work, an algorithmic system can simultaneously record the performance of thousands of people, compare their results, and adjust in real time the conditions under which they work.

Woodcock (2017), in his research on call-center workers and, later, on platform-economy couriers, documented how this capacity for continuous surveillance modifies the subjective experience of work. The workers Woodcock interviewed described a persistent sense of being watched, even when there was no concrete evidence that a supervisor was reviewing their activity at that specific moment. This internalization of surveillance, which recalls the concept of the panopticon developed by Foucault from Bentham's prison design, has a well-documented psychological correlate in the occupational stress literature: the perception of being under constant control, regardless of its actual intensity, raises levels of physiological activation and hinders psychological recovery during and after the workday.

Self-determination theory and basic psychological needs

One of the most useful frameworks for understanding why algorithmic management can be particularly harmful to wellbeing is self-determination theory, developed by Deci and Ryan (2000) and expanded in numerous subsequent studies on motivation at work. This theory holds that psychological wellbeing depends on the satisfaction of three basic needs: autonomy, understood as the perception of acting of one's own volition; competence, that is, the sense of being effective in the tasks performed; and relatedness, which refers to feeling connected to and valued by others.

Algorithmic management systems bear directly on these three needs, and not always in a positive way. As for autonomy, when an algorithm unilaterally determines the order of tasks, the permitted break times, or the route a worker must follow, the margin of discretionary decision-making that could previously be negotiated with a human supervisor is reduced. This does not mean that all automation eliminates autonomy: some studies, such as that of Möhlmann and Zalmanson (2017) on Uber drivers, show that certain workers positively value the schedule flexibility that platforms offer, even while living with strong algorithmic control over other aspects of their performance. What emerges from this literature is a more nuanced picture than that of uniformly oppressive automation: perceived autonomy depends on which concrete dimensions of the work fall under algorithmic control and which remain under the worker's decision.

As for competence, the relationship with algorithmic management is ambivalent. On the one hand, the immediate feedback that some systems provide can help workers identify errors and improve their performance more quickly than in annual or semiannual evaluation schemes. On the other hand, when the metrics used do not adequately capture the complexity of the task, or when they are based on constant comparisons with coworkers, the sense of competence can be undermined by the perception of always falling short of a standard that is difficult to attain. This second effect is especially relevant when systems calibrate their performance expectations based on the fastest or most efficient workers, a pattern the literature on delivery platforms has frequently documented and that is revisited in the results section of this article.

As for the need for relatedness, the effect of algorithmic management tends to be more consistently negative. The replacement of human interactions with automatic notifications, numerical ratings, and performance alerts reduces the opportunities for interpersonal contact that the relationship

with a supervisor traditionally offered, and which could function as a source of social support in the face of work demands. Several studies on workplace loneliness have pointed out that the absence of meaningful bonds with superiors and colleagues constitutes a risk factor for mental health that adds to, and at times amplifies, the stress generated by workload.

The job demands-resources model

A second central framework for this article is the job demands-resources model, originally formulated by Karasek and Theorell (1990) and further developed by Bakker and Demerouti (2017) in the Journal of Occupational Health Psychology. According to this model, workers' wellbeing and health depend on the balance between job demands, that is, the aspects of work that require sustained physical or psychological effort, and the resources available to meet them, understood as the elements of work that help achieve goals, reduce demands, or stimulate personal growth.

When demands sustainedly exceed available resources, the most frequent result is professional exhaustion or burnout, characterized by emotional exhaustion, depersonalization, and a diminished sense of personal accomplishment. Algorithmic management, as it has been implemented in many workplaces, tends to intensify quantifiable demands, such as task volume or execution speed, without offering in return equivalent resources in terms of autonomy, social support, or participation in decisions. Karasek and Theorell (1990) had already pointed out, before these technologies became widespread, that the combination of high demands with low control over one's own work constitutes one of the most robust predictors of cardiovascular disease and disorders related to chronic stress. Algorithmic management, by maximizing the measurement of demands while reducing perceived control, reproduces with new tools a risk pattern that occupational epidemiology has known for decades.

Bakker and Demerouti (2017) add an important nuance: job resources not only cushion the impact of demands, but can also stimulate intrinsic motivation and engagement with work when present in sufficient quantity. This suggests that the key to assessing the impact of an algorithmic management system lies not only in how much it demands, but in what resources it offers in return: meaningful feedback, real development opportunities, participation in designing the metrics used to evaluate the worker, and spaces of social support that offset the reduction in direct human contact with a supervisor.

Surveillance capitalism and information asymmetries

Zuboff (2019) introduced the concept of surveillance capitalism to describe an accumulation model in which human experience is converted into raw material for generating data that are then used to predict, and in many cases modify, people's behavior. Although her analysis focuses mainly on consumption and large digital platforms, her ideas are relevant for understanding algorithmic management within organizations. When a company collects detailed data on its employees' activity, whether through screen-monitoring software, warehouse sensors, or task-assignment applications, this information can be used not only to assess past performance but also to anticipate and steer workers' future behavior, sometimes without their full knowledge of how their data is used.

This information asymmetry between the organization and its employees has direct consequences for organizational trust. Rosenblat and Stark (2016) showed that many Uber drivers did not know the exact criteria the platform used to calculate fares, assign rides, or deactivate accounts, which generated a sense of arbitrariness and helplessness that eroded their trust in the company, even when the system functioned, in aggregate terms, in a reasonably consistent manner. Leicht-Deobald et al. (2019), in an analysis published in the Journal of Business Ethics on algorithm-based human resources decisions, warned that this opacity also poses a problem of personal integrity: when workers cannot understand or question the criteria by which they are evaluated, they are deprived of the ability to exercise moral judgment over decisions that affect them, which can produce a sense of dispossession of agency that transcends purely occupational discomfort.

Institutional legitimacy and technology adoption

From an institutionalist perspective, DiMaggio and Powell (1983) explain why organizations tend to adopt similar practices, even when the evidence of their effectiveness is limited. The authors identify three mechanisms of institutional isomorphism: coercive isomorphism, linked to regulatory pressures or powerful actors; mimetic isomorphism, which leads organizations to imitate others considered successful under conditions of uncertainty; and normative isomorphism, associated with the diffusion of professional standards. Applied to the phenomenon analyzed here, this framework helps explain why many companies adopt algorithmic management systems not necessarily because they have rigorously assessed their costs and benefits in terms of worker wellbeing, but because doing so has become a symbol of managerial modernity and a signal of legitimacy to investors, customers, and competitors.

This mimetic logic helps explain why the adoption of algorithmic management technologies advances, in many cases, faster than organizations' capacity to assess their effects on human teams. The pressure not to fall behind competitors can lead to a hasty implementation of these tools, without the impact-assessment processes that are usually required, for example, for changes to salary structures or contractual conditions.

Synthesis of the theoretical framework

The five theoretical bodies reviewed in this section, the sociology of digital work, self-determination theory, the job demands-resources model, studies on surveillance capitalism, and institutional theory, converge on a common diagnosis: algorithmic management is not a neutral technology that simply optimizes preexisting processes, but a device that redistributes power, information, and control within the organization. Its effects on worker wellbeing depend on design and implementation decisions that are, at least partly, under the control of those who manage the organization. This idea constitutes the throughline of the analysis developed in the following sections.

Sectoral differences in risk exposure

One aspect the reviewed literature allows us to qualify is that algorithmic management does not affect all types of work in the same way. Studies on delivery and transportation platforms document a particularly intense pattern of exposure, because in these cases the algorithm simultaneously controls task assignment, fare setting, performance evaluation, and, ultimately, access to work itself, concentrating in a single system functions that in other work settings tend to be distributed among different organizational bodies. In office work, including remote work managed by monitoring software, exposure tends to be more partial: the algorithm may measure screen activity or deadline compliance, but rarely determines the entirety of the work relationship, leaving more room for human mediation to cushion its effects.

This difference has practical implications for the design of organizational policies. The counterweight capabilities described in the sixth section of this article become more urgent the greater the concentration of control functions in a single algorithmic system, and can be prioritized differently depending on the sector. In platform work, where the relationship between the person and the company tends to be mediated almost exclusively by the app, transparency about task-assignment criteria and the existence of appeal channels are particularly critical. In office settings, by contrast,

training intermediate leaders to identify psychosocial risks can have a proportionally greater impact, precisely because in these settings there is still a human supervisory figure capable of qualifying what automatic productivity dashboards indicate.

The place of trust in the digitalized work relationship

A thread that runs through much of the literature reviewed in this section is the central role trust plays in the work relationship, and how the introduction of algorithmic systems can strengthen or weaken it depending on how they are implemented. Organizational trust does not depend only on whether decisions affecting workers are objectively correct, but on whether workers perceive coherence between what the organization claims to value and what it actually measures and rewards. When a company publicly declares its commitment to the wellbeing of its teams while simultaneously implementing evaluation systems that penalize any deviation from the expected pace without regard for context, this incoherence between discourse and practice tends to erode trust more deeply than if the organization had never made that declaration of values.

This point is especially relevant in the context of digital transformation, a process that in many organizations is communicated internally in a language of innovation, empowerment, and modernization, while in workers' daily experience it translates into greater surveillance and less margin for autonomous decision-making. The distance between this discourse and this experience constitutes, in itself, an additional source of discomfort that adds to the three psychosocial tensions identified in the results section of this article, and one that organizations should take into account when communicating their digitalization processes.

METHODOLOGY

This article adopts the format of an integrative literature review, a type of study that, according to Torraco (2016), makes it possible to synthesize bodies of knowledge produced in distinct disciplinary traditions to generate a more complete understanding of a complex phenomenon. Unlike a quantitative systematic review, whose objective is to synthesize comparable empirical results through standardized procedures, the integrative review seeks to articulate theories, qualitative and quantitative empirical findings, and conceptual reflections that, taken in isolation, offer only a partial view of the object of study.

The review process was organized into four phases. In the first, the main theoretical bodies relevant to the study of algorithmic management and worker wellbeing were identified: the sociology of digital work, organizational psychology focused on motivation and occupational stress, studies on digital labor platforms, and the literature on the ethics of artificial intelligence applied to people management. The search was oriented toward publications in academic journals recognized in these fields, including the Journal of Occupational Health Psychology, New Technology, Work and Employment, Work, Employment and Society, Academy of Management Annals, Human Resource Management Journal, Organization Science, and Journal of Business Ethics, as well as technical reports produced by international bodies such as the International Labour Organization and the World Health Organization.

In the second phase, we examined how these different theoretical bodies address the relationship between autonomy, labor control, and mental health, identifying points of convergence and tension among the different traditions. In the third phase, the material collected was organized around the psychosocial tensions that emerge recurrently in the empirical literature on algorithmic management, which gave rise to the three analytical categories that structure the results section: evaluative opacity, the intensification of work pace, and the erosion of the managerial bond. In the fourth phase, the practical implications of this analysis for people management were synthesized, with the aim of proposing a set of organizational capabilities able to guide the implementation of algorithmic management technologies in a manner compatible with worker wellbeing.

It is important to point out the limitations of this approach. Being a conceptual article, it does not present primary data collected specifically for this study, but rather an argumentative synthesis of evidence produced in other research contexts, much of it concerning industrialized economies in North America and Europe. This limitation is particularly relevant for the Latin American case, a region characterized by high levels of labor informality, structural heterogeneity across sectors and firms, and regulatory frameworks for data protection and digital labor rights that are still under construction. Throughout the article, the particularities of this regional context are noted where relevant, although the production of empirical evidence specific to the experience of Latin American workers facing algorithmic management remains a task for future research.

RESULTS AND ANALYSIS: PSYCHOSOCIAL TENSIONS OF MANAGEMENT AUTOMATION

The analysis of the reviewed literature makes it possible to identify three psychosocial tensions that recur across different organizational and sectoral contexts, and which together explain much of the discomfort associated with algorithmic management. These tensions are not mutually exclusive; on the contrary, they tend to reinforce one another, and their intensity varies according to the concrete design of each system and the margin for collective negotiation available in each context.

Evaluative opacity

The first tension concerns the difficulty workers face in understanding the criteria by which an algorithmic system evaluates their performance. Under traditional supervision, despite its limitations, it was in principle possible to ask a boss for an explanation of why a task had been evaluated in a certain way, and in many cases to negotiate or appeal that evaluation. Algorithmic systems, by contrast, tend to operate as black boxes: they process multiple variables through statistical or machine-learning models whose internal logic is difficult to reconstruct even for those who design them, and nearly impossible to understand for the worker whose activity is being measured.

Duggan, Sherman, Carbery, and McDonnell (2020), in an article published in the Human Resource Management Journal on algorithmic management and platform work, note that this opacity is not simply a technical problem solvable through better communication, but a structural characteristic of many of these systems, which are frequently designed to prioritize the protection of the company's intellectual property over comprehensibility for the end user. This protection may have a legitimate commercial justification, especially when it comes to preventing workers from manipulating the system in their favor, but it has the side effect of leaving those being evaluated without tools to question decisions that directly affect their income, their internal reputation, or even the continuity of their employment relationship.

Evaluative opacity has a well-documented psychological correlate in the literature on organizational justice. Classic studies on procedural justice show that people tolerate unfavorable outcomes better when they perceive that the process leading to those outcomes was transparent and gave them voice. When that process is opaque, even objectively reasonable outcomes can be perceived as arbitrary, which erodes institutional trust and heightens the sense of vulnerability toward the organization. Griesbach, Reich, Elliott-Negri, and Milkman (2019), in their study of food-delivery workers in the United States published in the journal Socius, documented accounts from

couriers who described the sudden deactivation of their accounts without any explanation, a type of sanction that, in a traditional employment relationship, would be subject to formal disciplinary procedures, but that in the algorithmic context can be carried out automatically and without any effective possibility of immediate appeal.

The intensification of work pace

The second tension identified in the literature concerns the way algorithmic systems tend to calibrate their performance expectations based on the highest performances observed within the set of monitored workers. This phenomenon, which some authors describe as the conversion of productivity peaks into the everyday norm, has particularly harmful effects on wellbeing because it turns an exceptional performance, perhaps achieved under favorable conditions and on a one-off basis by a small group of workers, into the standard demanded of everyone else.

Cheng and Foley (2019), in their analysis of algorithmic management on hospitality platforms, describe a similar mechanism: recommendation and rating algorithms systematically reward those who manage to maintain shorter response times and higher acceptance rates, generating a competitive pressure that pushes most participants to intensify their pace of work so as not to fall below the average the system itself helps to raise. This pattern bears a direct relationship to what Karasek and Theorell (1990) described as the core of psychosocial risk at work: growing demands not accompanied by equivalent control over one's own task pace.

The algorithmic intensification of work pace also has a particularity that distinguishes it from earlier forms of productive pressure: its dynamic and adaptive character. Whereas a production standard set by a factory's management tends to remain stable over relatively long periods, an algorithm can continuously adjust its parameters as it receives new data, which prevents workers from developing stable coping strategies. Mazmanian, Orlikowski, and Yates (2013), although their study focuses on the use of mobile devices by highly skilled professionals, identified a paradox pertinent here: the same tools that promised greater flexibility and autonomy ended up generating implicit norms of permanent availability that workers themselves helped reinforce, caught in what the authors call the autonomy paradox, whereby the growing use of the freedom technology offers ends up producing greater social control over behavior.

The erosion of the managerial bond and the weakening of social support

The third tension identified concerns the weakening of the interpersonal relationships that traditionally offered emotional and social support in the face of work demands. When performance feedback comes mainly from automatic notifications, numerical ratings, and system-generated alerts, the space for informal conversations with a supervisor, who, in addition to assessing results, could serve a function of emotional support, recognition, and guidance, is reduced.

This effect is aggravated by the individualization of performance metrics, a common practice in algorithmic management systems that, by constantly comparing each worker with peers through rankings or visible ratings, tends to foster internal competition to the detriment of cooperation. Gandini (2019), in an analysis of labor process theory applied to the gig economy published in Human Relations, points out that this individualization dissolves much of the informal networks of solidarity that historically allowed workers to share information, warn one another about risks, or simply provide each other emotional support during difficult shifts. The absence of shared workspaces, common in many platform-mediated jobs and increasingly frequent in remote work managed by monitoring software, reinforces this isolation.

The literature on workplace loneliness agrees that the quality of relationships with supervisors and colleagues constitutes one of the most important resources for coping with occupational stress. When this resource is reduced as a consequence of how management systems are designed, the effect is not limited to a loss of subjective wellbeing: it can also translate into worse organizational outcomes, including higher staff turnover, lower willingness to collaborate on tasks beyond each role's formal responsibilities, and greater difficulty transmitting tacit knowledge across generations of workers.

Combined effects on organizational climate

Taken together, these three tensions help explain a pattern that several case studies have documented in organizations that adopted intensive algorithmic management systems without accompanying them with complementary wellbeing-protection measures: initial productivity gains that, over time, are eroded by increased absenteeism, declining organizational commitment, and rising voluntary staff turnover. This pattern is especially costly in sectors where retaining qualified talent constitutes a hard-to-replicate competitive advantage, and it suggests that the evaluation of algorithmic management systems should not be limited to their immediate effects on productivity

indicators, but should also incorporate medium- and long-term organizational health indicators.

DISCUSSION: TOWARD LEADERSHIP CAPABLE OF MEDIATING BETWEEN THE ALGORITHM AND PEOPLE

The findings reviewed in the previous section pose a concrete challenge for managerial practice: how to capture the efficiency gains that algorithmic management systems offer without reproducing the psychosocial tensions this same literature documents. The response this article proposes does not consist of rejecting the digitalization of management, an unrealistic stance given the pace at which these technologies are being adopted across virtually all economic sectors, but rather of rethinking the role of intermediate leaders as active mediators between the metrics the system produces and the concrete needs of the people who work under their supervision.

This mediating role involves several specific tasks. The first consists of translating algorithmic results into meaningful conversations. A dashboard may signal that a worker's performance has fallen below a certain threshold, but only a human conversation can investigate whether that drop is due to a health problem, a transient personal difficulty, a system malfunction, or a genuine performance problem that requires follow-up. Without this mediation, algorithmic systems tend to treat all deviations from the expected standard in the same way, without distinguishing causes that require very different responses.

The second task consists of actively questioning metrics when they produce undesired effects. The literature on management by objectives has warned for decades of the risk that indicators become ends in themselves, a phenomenon some authors describe as Goodhart's law: when a measure becomes a target, it ceases to be a good measure. This risk is compounded in algorithmic systems because their capacity for automatic optimization can rapidly amplify the perverse effects of a poorly designed metric before any human authority is able to notice the problem. Managers occupying intermediate positions are in a privileged position to detect these distortions early, provided the organization grants them effective authority to flag problems and propose adjustments, and not merely the responsibility of meeting the objectives the system assigns them.

The third task, perhaps the most demanding, consists of sustaining spaces of recognition and support that automated systems cannot provide. The studies

reviewed in the previous section suggest that much of the discomfort associated with algorithmic management stems not only from the intensity of the demands, but from the absence of human recognition for the effort made. An automatic message confirming that a target has been met does not fulfill the same psychological function as explicit recognition from a superior who understands the particular context in which that achievement was reached. Leaders who manage to combine the use of digital tools with genuine moments of personal recognition tend to mitigate much of the sense of dehumanization that studies on algorithmic work describe.

It is important to stress that this type of leadership does not depend solely on the individual qualities of each manager, but on the organization creating conditions that make it possible. A supervisor with little decision-making latitude, in turn subject to rigid metrics imposed from higher levels, will hardly be able to exercise the mediating role described, however much goodwill they may have. This leads to the next section, which examines the organizational capabilities needed to sustain this kind of mediation systematically, rather than leaving it dependent exclusively on each leader's individual judgment.

ORGANIZATIONAL COUNTERWEIGHT CAPABILITIES

Algorithmic explainability and internal transparency

The first capability organizations need to develop is the explainability of their own algorithmic management systems. This does not necessarily mean making the source code of every tool public, which in many cases would be unfeasible for intellectual property reasons, but ensuring that there is at least a comprehensible version of the general criteria used to evaluate performance, accessible both to affected workers and to those who must oversee the system's operation. Floridi et al. (2018), in an ethical framework for the development of artificial intelligence published in Minds and Machines, include explainability among the core principles that should guide the design of automated systems, alongside beneficence, non-maleficence, autonomy, and justice. Applied to the organizational context, this principle implies that no algorithmic evaluation system should be implemented without a clear mechanism allowing workers to understand, at least in general terms, which variables are considered and with what relative weight.

Effective channels for appeal and participation

The second capability concerns the existence of formal procedures through which workers can question algorithmic decisions they consider mistaken or unfair, without fear of reprisal. The literature on organizational justice is clear on this point: the possibility of appealing a decision, even when the appeal is not always successful, significantly increases the perceived fairness of the process as a whole. These channels must be accessible in practice, not merely in the formality of a procedures manual: they require reasonable response times, people trained to review cases, and, whenever possible, the participation of workers' own representatives in designing evaluation criteria from the earliest stages.

Training leaders in psychosocial risk management

The third capability consists of the continuous training of intermediate leaders in identifying and managing the psychosocial risks associated with the digitalization of work. The International Labour Organization (2016) pointed out in its reports on psychosocial risks that much of the effective prevention of occupational stress depends on direct supervisors' ability to recognize early signs of burnout in their teams and to intervene before they turn into more serious health problems. This capacity for early detection requires specific training, time devoted to direct observation of the team, and, again, sufficient organizational authority to act on what is detected, beyond what automatic performance dashboards indicate.

Ethical and social impact audits

The fourth capability concerns the incorporation of ethical and social impact audits before implementing new algorithmic management tools, analogous to the environmental impact assessments many industries already conduct before undertaking projects with significant environmental consequences. These audits should assess, among other aspects, what data will be collected and for what purpose, which decisions the system will automate and which will continue to require human intervention, and what appeal and adjustment mechanisms will be implemented once the system is operational. The World Health Organization (2022), in its policy brief on mental health at work, explicitly recommends that organizations assess the psychosocial impact of technological changes before their implementation, and not only after problems have already manifested.

Particularities of the Latin American context

These four capabilities take on particular relevance in the Latin American context, where factors converge that amplify the risks identified in the

international literature. Labor informality, which in several countries in the region exceeds forty percent of total employment, significantly reduces workers' ability to demand algorithmic transparency or to access formal appeal channels, since many of these protections depend on regulatory frameworks that presuppose a formalized employment relationship. The structural heterogeneity between large multinational companies, which tend to have specialized human resources and compliance departments, and small and medium-sized enterprises that adopt digital tools in a more improvised manner, produces very disparate experiences of algorithmic management depending on the organization's size and sector.

Add to this a regulatory framework for data protection and digital labor rights that, although it has advanced in recent years in several countries in the region, still presents important gaps specifically regarding the algorithmic management of work. The International Labour Organization (2021), in its report on the role of digital labor platforms, points out that the regulation of these practices in Latin America is at an incipient stage compared to more advanced regulatory developments in the European Union, where specific directives on algorithmic transparency in platform work already exist. This regulatory gap implies that, in the region, much of the responsibility for protecting worker wellbeing in the face of algorithmic management falls, at least in the short term, on organizations themselves, which reinforces the importance of their voluntarily developing the capabilities described in this section, rather than waiting exclusively for regulation to compel them to do so.

The role of workers' collective voice

None of the four capabilities described so far functions sustainably if it is designed exclusively by company management, without the participation of those subject to these evaluation systems. The literature on labor relations has insisted for decades that mechanisms of collective voice, whether through unions, works councils, or more informal instances of representation, fulfill a function that no individual appeal channel can replace: they make it possible to identify systematic patterns of injustice that an isolated worker would hardly be able to detect alone, and they offer a counterweight of power vis-à-vis the organization that makes its commitment to algorithmic transparency more credible.

In the case of algorithmic management, this function of collective voice takes on particular relevance because the effects of a poorly calibrated system generally do not manifest in an isolated case, but in a pattern that

affects many workers simultaneously. An adjustment to the parameters of a task-assignment algorithm can change the working conditions of hundreds of people from one day to the next, without any of them having been individually consulted. In this scenario, the existence of a collective body capable of negotiating with the company before such changes are implemented, or of demanding explanations once they have been, constitutes a safeguard that complements, and in many cases surpasses in effectiveness, the individual appeal channels described earlier.

In several European countries, this logic has already translated into concrete regulatory frameworks. In 2024 the European Union approved a specific directive on platform work that requires companies to inform workers' representatives of the general parameters used by their algorithmic systems before introducing significant changes, and that recognizes workers' right to request human review of automated decisions that significantly affect them. Although the implementation of this type of regulation in Latin America is still incipient, its existence in other regions offers a useful reference point for the regulatory debate the region will need to undertake in the coming years, and also a model organizations themselves could voluntarily anticipate before regulation compels them to do so.

Indicators for assessing wellbeing in algorithmic management contexts

A practical obstacle many organizations interested in applying the previous recommendations face is the absence of adequate indicators for monitoring the impact of their algorithmic management systems on team wellbeing. The dashboards accompanying these tools tend to be designed to measure productivity, goal attainment, and operational efficiency, but rarely incorporate systematic measures of perceived autonomy, mental workload, quality of social support, or institutional trust, which are precisely the dimensions the literature reviewed in this article identifies as most vulnerable to management automation.

Incorporating this type of indicator does not necessarily require developing entirely new instruments. There are validated scales in the organizational psychology literature, such as those habitually used to measure the dimensions of the job demands-resources model, that could be adapted and integrated periodically into organizational evaluation processes, complementing the productivity metrics already collected automatically. What matters is not so much the technical sophistication of these instruments, but the organizational willingness to treat psychosocial wellbeing as a variable that deserves the same level of systematic

monitoring usually given to financial and operational indicators, and to assign concrete executive responsibility for its evolution over time, rather than leaving it as a diffuse concern with no clear owner within the organizational structure.

Unresolved tensions and the limits of self-regulation

It is worth acknowledging, so as not to fall into a naïve reading, that the organizational capabilities described in this section have limits. A company's willingness to invest in algorithmic explainability, appeal channels, leadership training, or impact audits depends, to a large extent, on there being sufficient incentives to do so, and these incentives are not always aligned with workers' interests. In highly competitive markets, where reducing operational costs constitutes an inescapable strategic priority, the temptation to prioritize immediate efficiency over investment in organizational wellbeing can be difficult to counterbalance with managerial goodwill alone.

This observation does not invalidate the value of the proposed organizational capabilities, but suggests that their development will likely require, beyond companies' voluntary commitment, a regulatory framework that establishes minimum floors of protection and reduces the risk that organizations more committed to their workers' wellbeing find themselves at a competitive disadvantage relative to others that opt to forgo such investments. The combination of organizational self-regulation and public regulation, more than their opposition, appears to be the most realistic path for sustaining the practices described in this article over time.

CONCLUDING REMARKS

This article began with a concrete question: how does the adoption of algorithmic management systems affect workers' psychosocial wellbeing, and what organizational capabilities make it possible to mitigate their adverse effects. The review of the literature on the sociology of digital work, organizational psychology, and platform studies allows us to offer a nuanced answer. Algorithmic management does not automatically produce a deterioration of workplace wellbeing, but nor does it constitute, as the more optimistic discourse on digital transformation suggests, a costless path toward organizational efficiency. Its effects depend on concrete design and implementation decisions: which variables are measured and with what transparency, how much decision-making latitude the worker retains over

their own task pace, and whether the organization maintains spaces of human mediation between the system and people.

The three tensions identified in this article, evaluative opacity, the intensification of work pace, and the erosion of the managerial bond, are not inevitable consequences of digitalization, but the result of organizational decisions that in many cases could have been made differently. This has an important practical implication: companies wishing to incorporate algorithmic management tools without compromising their teams' wellbeing have available a repertoire of capabilities, reviewed in the sixth section of this article, that they can develop deliberately. The explainability of systems, the existence of effective appeal channels, the training of leaders in identifying psychosocial risks, and the conduct of impact audits before implementing new tools together constitute a reasonable practical framework for guiding this task.

The Latin American context adds an additional layer of complexity to this picture. Labor informality, heterogeneity among organizations, and still-incipient regulation of algorithmic work management mean that responsibility for protecting worker wellbeing falls, to a large extent, on companies themselves, at least until the region's regulatory frameworks reach a level of development comparable to that observed in other jurisdictions. This does not exempt states from their responsibility to make progress on this matter, but it underscores the urgency of organizations not waiting for regulation to compel them to adopt responsible practices.

This article has limitations that should be explicitly acknowledged. Being a conceptual integrative review, it does not incorporate primary empirical data on the experience of Latin American workers facing algorithmic management, a gap future research should address through case studies, sectoral surveys, or qualitative investigations that make it possible to contrast findings produced in other contexts with the particularities of the region. It would be especially valuable to examine how these effects vary according to economic sector, organization size, and level of employment formalization, as well as to study in detail the role unions and other forms of collective representation can play in negotiating algorithmic transparency, an actor the international literature reviewed in this article mentions with relative frequency but that deserves more thorough treatment in the Latin American context, where traditions of collective bargaining have their own distinctive characteristics.

In sum, the digital transformation of people management is not a fixed destination, but a process organizations still have room to steer. The evidence reviewed in this article suggests that companies capable of combining the efficiency gains automation offers with a genuine commitment to transparency, participation, and human oversight of their teams will be better positioned not only to protect their workers' mental health, but also to sustain over time the levels of commitment and trust that, ultimately, make any sustainable form of organizational performance possible.

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