New Technology, Work and Employment

Call for Papers for a Special Issue

The rise of algorithmic management and implications for work and organizations

Submission Deadline: 30 September 2023

Guest Editors

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Background

We are living in a digital age, where data-fuelled and machine-learning algorithms have become widespread and are increasingly permeating organizational life and activity, everywhere from decision making and operational optimization to marketing and service delivery (Burrell & Fourcade, 2021; Leonardi & Treem, 2020). Organizations are increasingly relying on data-mining algorithms to innovate business models, improve supply chain management, enable novel forms of work and organizing, and better surveil and manage remote forms of work (de Vaujany et al., 2021). Lee, Kusbit, Metsky, and Dabbish (2015) have defined such a trend where algorithms progressively assume more managerial functions in the workplace as 'algorithmic management.' According to Duggan et al. (2020, p.119), algorithmic management is "a system of control where self-learning algorithms are given the responsibility for making and executing decisions affecting labour, thereby limiting human involvement and oversight of the labour process."

The rise of algorithmic management has led to on-going debates about how it may transform work and organization. On the one hand, algorithmic management has been extolled for improving decision-making and coordination, optimizing resource allocation, reducing costs, enhancing efficiency, and facilitating organizational learning (Kellogg et al., 2020). On the other hand, it has been criticized for its 'black-box' nature (Jarrahi et al., 2021; Weiskopf & Hansen, 2022), a lack of

accountability (Bunzel & Boon 2021), and potential hidden biases (Cheng & Hackett, 2021). Related concerns also include the 'always-on' form of control (Duggan et al., 2020), limitless workplace surveillance (Ajunwa et al., 2017), the dominant efficiency-driven logic (Leicht-Deobald et al., 2019), and a general dehumanization of the workplace (Möhlmann & Zalmanson, 2017).

Indeed the rapid development of algorithms and the rise of algorithmic management is changing the way organizations operate and people work, generating benefits for both organizations and employees and creating new issues and challenges (Weiskopf & Hansen, 2022). This raises questions about how organizations can realize the benefits of algorithmic management while managing potential problems and minimizing harm to employees and other stakeholders (Bunzel & Boon, 2021; Hüllmann, 2020; Kellogg et al., 2020). Although the concept of algorithmic management has gained wide recognition since first coined by Lee and colleagues in 2015, accompanying research is largely in its infancy. The emerging literature has focused on the use of algorithms to allocate, direct, evaluate, monitor, and discipline workers in platform companies (e.g., Newlands, 2021), although algorithmic management is found in both gig economy companies and the conventional workplace, and across a wide range of industries from retail, manufacturing, to banking and hotels (Muller, 2020; Wood, 2021). Accordingly, some research defines algorithmic management narrowly, equating it with algorithm-enabled HRM activities (Meijerink & Bondarouk, 2021), whereas other studies have defined algorithmic management more broadly, involving partial or full automation of managerial decision-making across organizational functions achieved through machine-learning algorithms (Jarrahi et al., 2021). Due to limited extant research, many topics related to algorithmic management have not been well understood (Ahlstrom et al., 2020; Benlian et al., 2022; Cheng & Foley, 2019).

It is argued that algorithmic management may be a game-changing management approach that impacts workers, organizations, and societies on every level (ETUI, 2022). For example, Möhlmann and Zalmanson (2017) argue that algorithmic management represents a new management logic that is quite different from the traditional and technology-supported management and HR paradigm (Gong et al., 2014). In this view, AI-based algorithmic management enables organizations to manage a global workforce remotely through continuously collecting data, the surveillance of workers, and automated decision-making, changing the nature of work, employment relationship, organizing, and perhaps even the structure of the economy (Jarrahi et al., 2021). Understanding the nature of algorithmic management and its implications for organizations, employees, and society is crucial for organizations to benefit from this new trend and address potential issues in its application. Given that the rise of algorithmic management is a relatively new phenomenon, knowledge about algorithmic management in organizations is still limited and fragmented (Giermindl et al., 2022). It must also be understood that

algorithmic management is a high-risk application of artificial intelligence (ETUI, 2022). The increasing use of algorithmic management can represent a double-edged sword, in that it can lead to both tremendous potential organizational efficiency gains and positive impacts on employee well-being, and the problematic consequences of human replacement, deskilling, dehumanization, and demotivation, depending on how it will be designed and implemented (Benlian et al., 2022). Therefore, it is risky if organizations are rushing to adopt algorithmic management without truly understanding the potential long-term negative effects and unintended consequences (Lindebaum et al., 2019). Given that algorithmic management is playing an increasingly important role in organizations across industries, albeit to various degrees and in different forms, the time is ripe to generate a more in-depth understanding of this emerging but rapidly developing field through scholarly research from various management disciplines. We are particularly keen to further examine in-depth interactions between the approach to adopting algorithm management in different sectors and the involvement and reactions of different stakeholders, including the trade unions, in shaping the process and effects of such new management strategies and practices.

Aims and Scope

The objective of this special issue is to extend the research and critical reflections on algorithmic management and advance our knowledge of how this phenomenon is impacting and shaping social relationships at work and organizations and the experience of those who have been exposed to this form of management. We seek to attract submissions that explore how organizations realize the benefits of algorithmic management, while addressing the challenges it may generates for firm stakeholders. We invite the submission of original manuscripts that advance empirical, theoretical, and conceptual understanding of algorithmic management. Manuscripts must have substantial implications for theory and practice, and we welcome both qualitative and quantitative analyses and the special issue embraces multiple perspectives from different disciplines such as management, information system, and sociology.

Please note also that *New Technology, Work and Employment* locates itself in the areas of employment relations, critical perspectives on management, social studies of technology, organisational and labour studies, and reflective scholarly traditions that highlight the social, economic and political contexts of new technology. In addition, the area of *NTWE* is explicit in not being a vehicle for prescriptive, managerial approaches. It welcomes research that draws on the practical implications of the study and is grounded in an approach that critiques and questions the relationship between technology, work and employment as opposed to generating advice, guidelines

or formulae for particular actors or groups. Controversy and debate are encouraged, but articles should also be intelligible to non-specialists as well as specialists.

In keeping with *NTWE*'s aims and scope, papers need to engage with the debates of interest to organizational scholars by building on or making a contribution to organizational theory. We are particularly interested in manuscripts that challenge taken-for-granted assumptions about algorithmic management and significantly advance our understanding of this area of inquiry. Purely computer science papers focusing on algorithms without a significant human component would not be within the scope of this special issue. Algorithmic management has been discussed so far mainly in the context of digital labour platforms. We are thus interested in how algorithmic management is being used across different applications and industries, and its potential diffusion between industries so as to obtain a more comprehensive picture and a broader understanding of this phenomenon and its impact on work and employment. The SI editors welcome contributions focused on, but not limited to, the following themes:

Theme 1. Toward a better understanding of algorithmic management

- What are the nature and characteristics of algorithmic management?
- What are the theoretical underpinnings and new theoretical perspectives of algorithmic management?
- How does algorithmic management influence existing theories of management?
- How can extant management theories be adapted for better understanding algorithmic management?
- What methodological tools can be used to better understand algorithmic management?
- How does the pursuit of algorithmic management vary across industrial sectors?
- What are the appropriate levels of algorithmic management in an organization?
- How algorithmic power can be regulated to address the potential "algorithmic hegemony" (Ferrari & Graham, 2021)?

Theme 2. Implications of algorithmic management for work and employment

- What does the rise of algorithmic management mean for work, employment, and management studies?
- What are the long-term societal, ethical, and ecological consequences of the increasing use of algorithmic management?
- How will algorithmic management shape workplace power dynamics and employment relations?

● What is the impact of the increasing use of algorithmic management on employee psychological needs and wellbeing?

● What are the dark (and bright) sides of algorithmic management?

● How can organizations leverage the strength of algorithmic management while addressing issues associated with its use and preventing its harm to employees and other stakeholders?

Theme 3. Building socially responsible algorithmic management

● How can worker deskilling and work degradation be avoided when adopting algorithmic management in the workplace?

● How can organizations upskill and reskill employees to work with AI-based algorithms effectively?

● How can algorithmic management be designed and implemented in a way that creates a win-win situation for all stakeholders?

● How can participatory algorithmic management be adopted which involves stakeholders in the first place when developing a new algorithmic management system?

● How can the potential of algorithmic management be mobilised to promote social, ethical, and ecological advancements?

●What are the key enabling and inhibiting factors in designing and implementing a socially responsible algorithmic management?

●What practices constitute socially responsible algorithmic management?

Submission Process and Deadlines

• Manuscripts should be prepared according to the *NTWE* author guidelines, and need to be submitted through the online submission system of *NTWE*: https://wiley.atyponrex.com/journal/NTWE.

• Submission deadline: 30 September 2023

• Submission window: 1-30 September 2023

• When submitting, it is important that you clearly state that your submission is intended for the special issue. Submissions should not have been previously published nor be currently under consideration for publication elsewhere.

• Papers will be reviewed according to the double-blind review process of *NTWE*.

• We welcome informal enquiries relating to the Special Issue, proposed topics and potential fit with the Special Issue objectives. Questions about expectations, requirements, and the appropriateness of a topic should be directed to the guest editors of the special issue. The Guest Editors are open to discussing initial ideas for papers, and can be contacted by email. Enquiries should be directed to: Mike Zhang at Monash University, email: mike.zhang@monash.edu

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Guest Editors

Mingqiong Mike Zhang (PhD, Monash University, Australia) is an Associate Professor at Monash Business School, Monash University, Australia. Mike comes from a multi-disciplinary background. After a career in industry and government, he obtained his PhD degrees in Sociology and International Business. His teaching and research areas encompass human resource management, managing organizational change, and corporate social responsibility and his publications appear in journals such as *Academy of Management Learning & Education, Human Resource Management, Journal of Business Ethics, and International Journal of Human Resource Management*, among others. Professor Zhang has been active in professional services, serving as an editorial board member or a guest co-editor of special issues (e.g., *IJHRM*). Since 2017, he served as Deputy Editor-in-chief of *Chinese Management Studies*.

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