From Taylorism to Algorithmic Management: A multi-sector analysis of technology, control and worker experiences

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Abstract

The term "algorithmic management", coined by Lee et al. (2015), refers to the use of software algorithms to automate managerial functions, particularly in the context of digital labour platforms, where workers are geographically dispersed. While the term has gained widespread popularity and is often presented as a innovation in regular workplaces, a historical assessment of technology and management literature reveals that many of the technologies that many of the algorithmic management tools represent a continuation of long-standing workplace surveillance trends originating with Scientific Management and accelerated by information and communication technologies (ICT) and the internet, particularly in sectors like automotive manufacturing and call centres.
This article examines the evolution of algorithmic management from earlier forms of workplace surveillance, highlighting key differences from traditional methods of workplace surveillance. It analyses how contemporary AM practices, powered by big data and cloud computing, differ from previous monitoring methods. The article argues for a broader conceptual approach to analyse algorithmic management practices considering the use of both specific-purpose and general-purpose digital technologies.

The article draws from sector-specific literature and original case studies on the use of algorithmic management practices across six sectors (automobile manufacturing, banking, electronics manufacturing, health care, logistics, and retail) and seven countries (Argentina, Chile, France, India, Italy, Malaysia, and South Africa) to demonstrate how recent technological advancements, such as big data and cloud computing, distinguish contemporary algorithmic management technologies from its predecessors. These technologies ennable firms to collect unprecedented amount of data on work processes and individual workers, intensifying surveillance and potentially impacting workers' well-being, privacy and dignity at work. These impacts are mediated by sociotechnical factors, such as managerial decisions that determine the functions and features embedded in the technology, resulting in widely varying outcomes for seemingly similar technologies across different workplaces. The findings indicate that strong institutions, such as data protection regulations and collective bargaining (common in European contexts), can effectively rebalance power dynamics to prevent exploitative uses of algorithmic management. This article finally suggests that alongside exploring new regulations, examining the applicability of existing regulations to these situations is crucial.

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