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Transparency in Algorithmic Management: A Psychological Ownership Perspective

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TREO Talk Paper

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Abstract

Decision-making and forecasting capabilities of algorithmic systems have helped organizations improve work productivity and business performance. Specifically, AI-enabled information systems (IS) are increasingly being used to track employee's work hours and automate their work shifts in retail and service industries including hospitality, leisure, and health services. For example, companies such Kronos, Zoho and Deputy specialize in workforce management software programs that utilize AI technologies to match employer's staffing needs for labor to at-the-moment customer demand. Software programs do not only fine-tune and optimize scheduling decisions but also send automatic updates to employees about their shift changes (Loggins, 2020). According to a report from the Reportlinker.com (2022), the global market of cloud-based work scheduling software is estimated to grow by over 4 billion dollars during the forecast period of 2022 to 2026. With the increasing relevance of algorithmic systems in workforce scheduling and management, it is critical to understand their impact on employees' work experiences and effectiveness. Specifically, past research has indicated that the use of algorithmic systems in the workplace can lead to several ramifications including discrimination, surveillance, manipulation, disempowerment of employees, precarity, and stress (e.g., Kellogg et al., 2020). Nevertheless, there remains an equivocal understanding of why employees would have those negative experiences with the deployment of algorithmic systems and what organizations could do to mitigate those negative experiences effectively.

In this research, we center on investigating the effects of employees' perceptions of transparency about work scheduling AI software on their job satisfaction and affective organizational commitment. According to a theory of psychological ownership in organizations (Pierce et al., 2001), individuals have an innate motive to be in control and to be efficient and effectant (Pierce et al., 2003). Based on this core premise, the present study suggests that when the inner workings of work management AI software are unclear to employees, the compliance to automated work schedules can negatively affect employees' perceptions of job autonomy and job-based psychological ownership, that could further decrease employees' job satisfaction and affective organizational commitment. In contrast, when employees are provided with an explanation about why and how work management AI software programs are deployed to manage their work shifts, they are likely to perceive such programs as more transparent and less opaque. As a result, employees are likely to experience freedom and flexibility in controlling their own work schedules with the use of those programs, and such work experiences can enhance job satisfaction and organizational commitment.

The present research is intended to extend prior research on AI-related work design. A close examination of algorithmic transparency from a psychological ownership lens can help to shed light onto both positive and negative effects of AI-related work management on employees' work outcomes and psychological experiences. Study results from this research can also help to inform HR managers, supervisors, and stakeholders at organizations of the importance of building and using work management AI software in ways that can facilitate transparency and ensure worker well-being and a committed workforce.

References

Pierce, J. L., Kostova, T., & Dirks, K. T. (2001). Toward a Theory of Psychological Ownership in Organizations. *The Academy of Management Review*, *26*(2), 298–310. https://doi.org/10.2307/259124