

A humanistic approach to algorithmic performance management: a model for enhancing app workers' motivation and optimal functioning

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Dimitris Giamos and Antoine Bujold

*Department of Organization and Human Resources,
École des Sciences de la Gestion, Université du Québec à Montréal,
Montréal, Canada, and*

Olivier Doucet and Xavier Parent-Rocheleau

Department of Human Resource Management, HEC Montréal, Montréal, Canada

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Abstract

Purpose – As the algorithmic management of app workers' performance becomes increasingly prevalent in the contemporary world of fluid work and considering its well-documented drawbacks on app workers' outcomes, we introduce a humanistic approach to algorithmic performance management to improve app workers' experiences and optimal functioning.

Design/methodology/approach – Drawing on humanistic management, self-determination theory, and research on algorithmic performance management, we develop an original model containing specific propositions to showcase how humanistic algorithmic performance management can lead to positive outcomes for app workers.

Findings – We advocate for a humanistic algorithmic performance management system that prioritizes the satisfaction of app workers' basic psychological needs and promotes their self-determined motivation and optimal functioning. We explain how humanistic algorithmic performance management can yield positive outcomes for app workers.

Practical implications – The study provides valuable insights and guidance for app-based platforms to enhance app workers' positive outcomes in a constantly changing world of work.

Originality/value – The proposed model offers a novel and alternative framework to the economist perspective of algorithmic performance management. Our model underscores the importance of app workers' flourishing, helping app-based platforms reduce the harms of algorithmic performance management. Our work also opens opportunities for theorizing and proposition testing for future research.

Keywords Algorithmic management, Performance management, Algorithmic performance management, Motivation, Self-determination theory, Optimal functioning

Paper type Conceptual paper

Introduction

Among the technologically induced transformations in the world, app work represents a significant and disruptive change. This type of work is characterized by workers providing services to customers within a defined geographic area and time frame (Duggan *et al.*, 2020). App work is facilitated through various smartphone applications such as Uber, Lyft, and Deliveroo. A particularity of app work is that workers are managed through algorithmic management (AM), which involves “the use of software algorithms that operate based on

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digital data to augment HR-related decisions and/or to automate HRM activities” (Meijerink *et al.*, 2021, p. 2547). AM can automate various HRM functions (e.g. scheduling, training and development, compensation and benefits) (Meijerink and Keegan, 2019), but more specifically, some research explains that it can play an important role in the performance management (PM) of app workers (Keegan and Meijerink, 2025). Several authors point to the idea that the main end of AM is to drive the performance of app workers, and as such, their performance is carefully managed through a variety of algorithmic performance management (APM) practices, which can include setting goals/tasks, providing feedback, issuing performance ratings, and administering consequences based on app workers’ performance (e.g. rewards, penalties, or deactivation) (Kadolkar *et al.*, 2024; Zhang *et al.*, 2025b).

While app-based platforms often present APM as a structured and efficient way to optimize workers’ performance, researchers explain that APM also creates several well-documented harms for workers. For instance, APM systems can fragment app workers’ assigned goals/tasks into repetitive units and impose high work demands (Duggan *et al.*, 2020, 2023; Kadolkar *et al.*, 2024). The continuous surveillance that workers undergo can also be stressful, and the feedback they receive is often insufficient and/or ineffective (Benlian *et al.*, 2022; Duggan *et al.*, 2020). Additionally, the performance ratings provided are often opaque, and app workers have little to no recourse if they perform poorly (Duggan *et al.*, 2020). This is problematic because low performance ratings can lead to workers losing out on future gigs or having their accounts automatically deactivated (Rosenblat, 2018). Despite potential flexibility and pay benefits, APM systems may devalue app workers’ labor and leave them feeling dehumanized (Chi *et al.*, 2025; Cui *et al.*, 2024; Lamers *et al.*, 2022; Mohlmann *et al.*, 2021). APM systems often treat app workers as cogs in a system (Zhang *et al.*, 2025a), frustrate their basic psychological needs (Gagné *et al.*, 2022b; Parent-Rochelleau *et al.*, 2024a), and neglect their overall well-being (Kadolkar *et al.*, 2024).

The issues surrounding the management of app workers’ performance are drawing increasing attention from academics and have also triggered responses from other stakeholders, including app-based platforms and lawmakers. For example, in China, food delivery platforms like Meituan and Ele.me added a “willing to wait longer” option for clients, allowing workers to complete tasks at a safer pace, signaling recognition that previous practices on goal-setting/task assignment were inadequate (Zhang and Minghe, 2020). Legal and regulatory actors have also sought to curb some of the adverse effects of APM. In Italy, for instance, lawmakers struck down Deliveroo’s rating system as discriminatory as it penalized workers who chose not to remain constantly active (De Angelis *et al.*, 2023; Keane, 2021). Similarly, in Canada, lawmakers recently enacted the *Ontario Digital Platform Workers’ Rights Act* (2022), which mandates that app-based platforms be more transparent about APM evaluation systems, protect workers from unjust deactivation, and provide other safeguards (Government of Ontario, 2022). These stakeholders’ actions reflect a growing recognition that app-based platforms can and should design APM systems that are more mindful of app workers.

Considering the numerous challenges around app workers’ PM, Lamers *et al.* (2024) have suggested that scholars develop new ways of conceptualizing APM. They encourage authors to move away from the dominant economist perspective, which focuses on labor control and efficiency. Instead, these scholars point to the value of drawing on humanistic management (HM) to reimagine how such systems can be more supportive of app workers (Lamers *et al.*, 2024). Building on recent calls to integrate HM into AM research (Lamers *et al.*, 2024), this study aims to illustrate how APM can be reframed through this perspective by drawing on self-determination theory (SDT). More specifically, we develop a model that explains how and why humanistic APM practices can lead to app workers’ optimal functioning by arguing that they can help mitigate some of the key concerns and harms associated with these systems (e.g. basic psychological need frustration) (Parent-Rochelleau *et al.*, 2024a). In doing so, these practices can better satisfy app workers’ basic psychological needs, foster their self-determined motivation, and support their optimal functioning. Overall, this humanistic

reframing of APM offers an ethically grounded model that can help assuage stakeholder concerns by promoting positive work experiences for app workers.

The current study contributes to the literature in three ways. First, by integrating the literature on APM, HM, and SDT, we develop a model of humanistic APM. Our model builds on and extends emerging studies that have mainly focused on the promotion of HM in APM (Lamers *et al.*, 2024; Ogunyemi, 2024) and on its implementation in organizations (Cui *et al.*, 2024). Our study does so by identifying humanistic APM practices and explaining how and why these practices can yield positive outcomes for app workers, thereby providing a basis for future theorizing. Second, our work challenges the dominant economist perspective that is prevalent in the APM literature (Lamers *et al.*, 2024). By conceptualizing APM as a socio-technical system, we argue that its purpose should extend beyond driving efficiency. Instead, we suggest that it can and should serve a broader purpose, balancing app workers' performance and well-being. Additionally, our model emphasizes app workers' intrinsic motivation over algorithmic control to activate app workers' performance. By doing so, our study also addresses some of the harmful outcomes associated with conventional forms of APM. Third, we extend the application of SDT to app work by highlighting how APM can satisfy app workers' basic psychological needs rather than frustrate them, as prior literature claimed (Gagné *et al.*, 2022b; Parent-Rocheleau *et al.*, 2024a). Moreover, we examine optimal functioning as an important outcome, which has been underexplored in digitally mediated work contexts. Thus, our work underscores SDT's relevance in app work and responds to calls for more humanistic theoretical perspectives on digitally mediated work (Lamers *et al.*, 2024; Ogunyemi, 2024). From a practical standpoint, this study provides actionable guidelines for organizations seeking to adopt humanistic APM practices.

Literature review

We first briefly review the literature on the dominant economist perspective on APM. We do so because the humanistic approach emerges in response to the economist perspective. We then discuss the humanistic approach that guides our model, its philosophical and ethical foundations, potential benefits and drawbacks, and its close ties to self-determination theory.

Algorithmic performance management and the economist perspective

Current approaches to APM are predominantly shaped by the economist perspective (Lamers *et al.*, 2024). Rooted in utilitarian logic, this perspective treats APM practices and even workers themselves as economic instruments for profit maximization (Lamers *et al.*, 2024; Pirson, 2019; Pirson and Dierksmeier, 2014). This perspective reflects conventional forms of management, which prioritize efficiency and profit over human concerns (Stark and Vanden Broeck, 2024). App-based platforms have not abandoned this orientation but have extended it by applying APM practices to activate workers' labor effort in pursuit of profit maximization (Kellogg *et al.*, 2020; Veen *et al.*, 2020), sometimes at the expense of workers' dignity (Lamers *et al.*, 2024). Uber has become a prominent example of this approach, its business model and APM practices have been so effective that they have inspired other labor platforms to adopt similar practices and have made Uber drivers a frequent subject of academic research (Rosenblat, 2018; Rosenblat and Stark, 2016). Much of this research has focused on the constraining effects of algorithmic control, but scholars have also highlighted worker benefits, such as autonomy and added value (Keegan and Meijerink, 2025; Meijerink and Bondarouk, 2023). Research grounded in the economist perspective tends to frame benefits in relation to wealth creation, thereby reproducing rather than moving beyond the economist perspective (Lamers *et al.*, 2024; Pirson, 2019). This entrenchment underscores the need for alternative approaches, such as HM, which may better account for the ethical and human dimensions of app work (Lamers *et al.*, 2024). This can also open possibilities for reimagining APM to support app workers' dignity, needs, and flourishing while ensuring the economic success of app-based platforms.

Humanistic management and its foundations

Building on critiques of the economist perspective, scholars have increasingly turned to HM as an alternative framework in the context of app work (and the gig economy more broadly) (see [Cui et al., 2024](#); [Lamers et al., 2024](#); [Ogunyemi, 2024](#)). HM can be defined as “obtaining results through people, but also, and above all, toward people themselves, caring for their flourishing and well-being” ([Melé, 2016](#), p. 33). Among the various principles of HM, the core principles of human dignity and people’s well-being are not only ethically important but also essential to business success ([Melé, 2016](#); [Pirson, 2019](#)). Human dignity refers to recognizing the inherent worth of every person, a worth that makes each individual deserving of treatment that enables them to fulfill their potential, it represents the personal experience that corresponds to the objective value of being human ([Kuçuradi, 2019](#)). Moreover, HM scholars argue that dignity is an essential condition for the second principle of well-being ([Kabadayi et al., 2019](#)), which refers to the conditions that support growth, fulfillment, self-determination, and flourishing ([Arnaud and Wasieleski, 2014](#); [Matheson et al., 2021](#); [Melé, 2016](#); [Pirson, 2019](#)).

HM scholars would argue that dignity and well-being provide the normative basis for HM, guiding APM practices toward care, respect, and development as foundations of human flourishing. In practice, these principles are reflected in APM systems that balance oversight with care. For example, on some food delivery platforms, humanistic APM practices include allowing workers time for themselves without penalty and employing human “algorithmic auditors” to review their performance ratings before making deactivation decisions ([Cui et al., 2024](#)). Such practices not only align APM with HM through balancing performance with care but also address stakeholder concerns by demonstrating respect for workers’ dignity and well-being ([Lamers et al., 2024](#); [Stark and Vanden Broeck, 2024](#)).

Beyond its emphasis on dignity and well-being, HM is grounded in several ethical traditions that affirm the moral status of people. Scholars have linked it to virtue ethics, which frames human action as oriented toward eudaimonia, or the flourishing that arises from the development of human potential ([Bright et al., 2014](#)). Others highlight its grounding in Kantian ethics, particularly the principle that people should be treated as ends in themselves rather than merely as means ([Dierksmeier, 2011](#)). More recently, connections have been made to personalist philosophy, which emphasizes the relational and communal nature of the human person and the pursuit of the common good ([Frémeaux and Michelson, 2017](#)). Although HM has roots in these philosophical traditions, HM differs from adjacent frameworks in ethics and technology. For instance, digital ethics focuses on guiding behavior in digital technology design and implementation ([Hanna and Kazim, 2021](#)), while responsible AI emphasizes deploying AI with good intentions and ensuring fair outcomes for employees, customers, and society ([Eitel-Porter, 2021](#)). HM overlaps with these concepts, but places greater emphasis on individual dignity and organizations’ responsibility to promote human flourishing ([Pirson, 2019](#)).

The potential benefits and drawbacks of humanistic management

Even though HM offers an interesting perspective, it can be challenging to implement ([Pirson, 2019](#)). This suggests that applying a humanistic lens to APM presents both opportunities and challenges.

Recent research explains how a humanistic approach to APM can lead to positive outcomes for workers and app-based platforms ([Ogunyemi, 2024](#)). Specifically, when APM practices are designed in line with HM principles, they may foster more positive perceptions among app workers of their work and the app-based platforms they engage with ([Ogunyemi, 2024](#)). For example, when APM practices reflect worker autonomy, dignity, and care, app workers may experience more meaningful work ([Szostak, 2024](#)). In such a context, humanistic APM systems can strengthen workers’ commitment to their tasks, enhance their job satisfaction, and foster a more profound sense of loyalty to their app-based platform ([Li et al., 2023](#); [Szostak,](#)

2024). For organizations, these worker-level outcomes can lead to improved service quality, increased customer satisfaction, and an enhanced platform reputation (Szostak, 2024). Additionally, such outcomes can drive the financial performance of app-based platforms (Spitzack, 2011; Szostak, 2024).

HM presents meaningful potential for positive change, but its implementation involves practical challenges, trade-offs, and unintended outcomes. HM may not always align with the operational constraints of app-based platforms or the expectations of profit-focused investors, for whom short-term returns are important (McGuire *et al.*, 2005). As such, adopting humanistic APM practices could increase costs and place pressure on profit margins, which may prompt app-based platforms to seek higher levels of productivity from workers. Additionally, HM could be perceived by workers as a managerial tool that reinforces existing hierarchies, especially in app-based models where power asymmetries are structurally embedded (Griep *et al.*, 2025; Sherman *et al.*, 2025). Lastly, implementing humanistic APM practices could prompt app-based platforms to treat app workers less as independent contractors and more as employees (Collier *et al.*, 2017), thereby introducing legal risks.

Humanistic APM and self-determination theory

While implementing HM in practice can present challenges, SDT offers a valuable lens for understanding how humanistic APM can promote positive outcomes. According to some authors, one of the best ways to demonstrate how and why humanistic APM can promote flourishing is through SDT (Arnaud and Wasieleski, 2014). This theory of human motivation posits that individuals have an inherent proclivity toward their growth and development, enabling them to self-determine (Deci and Ryan, 2000). Scholars explain that this tendency is driven by the satisfaction of three basic psychological needs: autonomy, competence, and relatedness (Deci and Ryan, 2000).

Both SDT scholars and HM researchers recognize the importance of acknowledging and supporting basic psychological needs (Arnaud and Wasieleski, 2014). These needs are part of everyday human life, and their satisfaction/frustration helps people recognize when they are being treated with dignity (or not) (Vanhove-Meriaux *et al.*, 2020). When basic psychological needs are satisfied, people will become intrinsically motivated to engage in actions that foster their growth and development (Deci and Ryan, 2000). SDT considers this type of self-regulation of behaviors as autonomous forms of motivation and can lead to positive attitudinal, behavioral, and psychological health outcomes (Van den Broeck *et al.*, 2021). Moreover, SDT acknowledges the importance of this form of motivation as it can lead people to experience optimal functioning at work, which refers to “the manifestation of intra- and interpersonal growth and development in terms of employee well-being (e.g. positive emotions and vitality), attitudes (e.g. positive attitudes toward others and the organization), and behaviors (e.g. performance, proactivity, and collaborative behaviors)” (Van den Broeck *et al.*, 2019, p. 22).

SDT theorists consider optimal functioning at work as a multidimensional, individual-level construct that captures not only job performance but also broader dimensions of workers' experiences, including their attitudes and well-being (Van den Broeck *et al.*, 2019). Within SDT, optimal functioning is an important outcome because it encourages researchers to move beyond the narrow focus on individual performance (Van den Broeck *et al.*, 2019). This view of performance aligns closely with the principles of HM and the concept of flourishing, which also considers people's dignity and well-being (Matheson *et al.*, 2021; Melé, 2016; Pirson, 2019). Thus, HM offers a normative foundation for acknowledging app workers' needs and well-being, and SDT helps explain how app-based platforms can better support app workers' basic psychological needs, fostering their self-determined motivation and optimal functioning. Together, HM and SDT complement one another to help design more responsible, human-centered APM systems that enable people's flourishing. Such systems could address some of the potential harms typically associated with APM, offering mutual gains for both app workers and app-based platforms.

In the current work, we adopt SDT (Deci and Ryan, 2000) because it provides a robust and empirically grounded account of how organizational practices can influence basic psychological need satisfaction and high-quality motivation. SDT links people’s basic psychological needs to observable behaviors and shows how motivation can shape optimal functioning (Van den Broeck et al., 2019). Compared to content-, context-, or process-based theories of motivation, which are narrower in scope or limited in explaining optimal functioning (Kanfer et al., 2017), SDT uniquely integrates these perspectives into a universal framework that applies across traditional and fluid work contexts such as app work, and it tightly aligns with HM, thus making it our theory of choice for the current study (Gagné et al., 2022a; Howard et al., 2017; Van den Broeck et al., 2021).

Moving towards a model of humanistic APM

In our work, we target four types of APM practices that take us through an APM cycle: (1) goal-setting, (2) performance feedback, (3) performance ratings, and (4) rewards (see Figure 1). Together, they mirror the key stages of a conventional PM cycle (Kinicki et al., 2013), but with the particularity that they are executed through APM systems in app-based platforms.

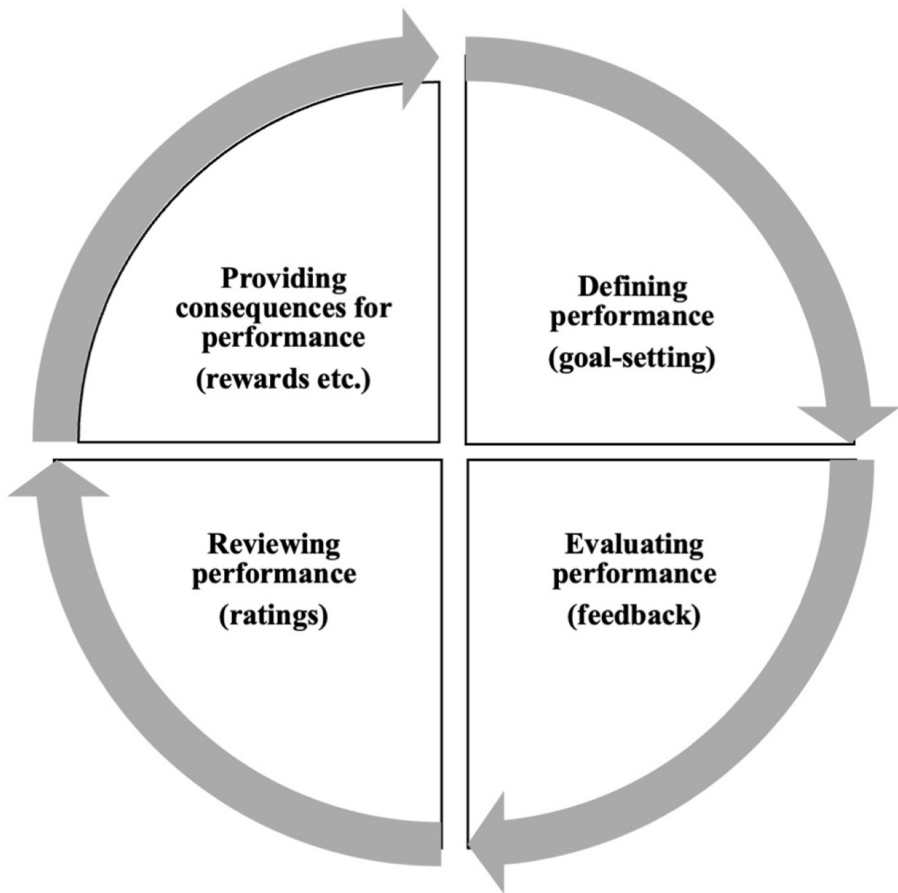


Figure 1. APM process model. **Note:** Based on Kinicki’s (2013) model of performance management

Goal-setting is understood as the “use of algorithmic systems to assign tasks, organize employees’ work, or set performance or productivity targets” (Parent-Rocheleau *et al.*, 2024b, p. 27). Performance feedback refers to qualitative input that helps individuals adjust their behavior, such as client comments received by app workers (Cameron, 2022; Chan, 2022; Daniels and Bailey, 2014). In contrast to performance feedback, performance ratings involve “the use of algorithmic systems to appraise, rate or rank workers’ performance or productivity, usually in real time, typically through the calculation of several metrics or quantified indicators” (Parent-Rocheleau *et al.*, 2024b, p. 27). Lastly, rewards are defined as “the use of algorithmic systems to calculate workers’ pay, typically based on algorithmically managed conditions and metrics, and according to various indicators such as the number of tasks carried out, individual performance, customer satisfaction, or other data associated with, directly or indirectly, productivity” (Parent-Rocheleau *et al.*, 2024a, b, p. 28).

As shown in our model, humanistic APM practices are linked to the satisfaction of app workers’ basic psychological needs (P1-P6). We explain that when these needs are met, app workers are more likely to experience self-determined motivation (P7), which, in turn, can foster their optimal functioning (P8) (see Figure 2).

Now that we have outlined the practices and proposed relationships in our model, we turn to its core assumptions and boundary conditions.

First, our framework departs from conventional APM, which has been criticized for prioritizing control and efficiency over human dignity and well-being (Kellogg *et al.*, 2020; Lamers *et al.*, 2024). Instead, our approach integrates the principles of HM and SDT to emphasize the role of human dignity and volition as invaluable aspects to promoting people’s optimal functioning (Arnaud and Wasieleski, 2014; Pirson, 2019).

Second, our model rejects both strict determinism, which assumes that technology unilaterally shapes outcomes and minimizes human agency (Kim *et al.*, 2021; Strohmeier, 2009), and strict voluntarism, which assumes that technology can be used freely to achieve any organizational end (Strohmeier, 2009). We contend that both ontologies offer a reductionist, optimistic, and/or simplistic view of technology that fails to account for the capabilities and constraints it entails. Instead, we adopt a moderate voluntarist stance, which assumes that organizations can influence technology in ways that serve their goals while accounting for different opportunities and limitations (Strohmeier, 2009). In this view, humanistic APM practices reflect organizational choices, and their influence depends on how they are designed, configured, and implemented by app-based platforms (Ren *et al.*, 2025). Although humanistic APM practices can provide opportunities for app workers’ need satisfaction, self-determined motivation, and optimal functioning, they may also involve constraints such as algorithmic control. This aligns our model with the proxy view of technology (Kim *et al.*, 2021).

Third, we treat technology as a socio-technical system whose design and consequences emerge from organizational agency, worker volition, and other contingencies. Thus, humanistic APM can be intentionally designed for purposes different from those associated with conventional APM systems, which have led to harmful outcomes for app workers.

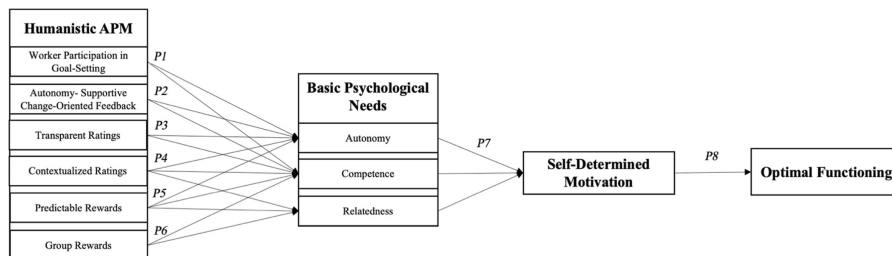


Figure 2. The humanistic APM framework

Fourth, we posit that humanistic APM practices are interdependent and that their collective use (rather than their isolated application) enables app workers to satisfy their basic psychological needs, supports their self-determined motivation, and promotes their optimal functioning. Consistent with HM principles and SDT, our framework highlights the combined psychological utility of humanistic APM practices. Nonetheless, not all humanistic APM practices are linked to every basic psychological need. More specifically, our propositions illustrate that different practices are more strongly associated with specific basic psychological needs than with all needs consistently (Kubiak, 2020; Van den Broeck *et al.*, 2016).

Finally, while SDT helps explain how humanistic APM practices can foster positive outcomes for app workers, our theoretical model has certain boundary conditions. Because SDT focuses on individuals' psychological reactions and outcomes to different practices, it may not fully account for certain contextual factors. For example, the adoption of humanistic APM practices may depend on the legal, cultural, institutional and regulatory context in which app-based platform organizations operate (Ogunyemi, 2024). Similarly, the implementation of humanistic practices can depend on organizations' strategic orientations and the types of app work they offer (Cui *et al.*, 2024). With the assumptions and boundary conditions outlined, we now present our model's propositions.

APM goal-setting and basic psychological needs

In the context of app work, APM systems assign tasks and set performance targets, such as requiring workers to complete deliveries within a specific time frame (Parent-Rochelleau and Parker, 2022; Rosenblat, 2018). These systems are adaptable, which enables organizations to adjust goals in real time in response to customer demands and environmental conditions, using data such as geolocation, performance history, and deadlines (Veen *et al.*, 2020). APM goal-setting can lead workers to perceive their goals as constantly changing, being contradictory, and/or ambiguous (Veen *et al.*, 2020). Moreover, APM systems often exclude workers from the goal-setting process, which can frustrate their basic psychological needs for autonomy and competence, because app workers have little agency over the goals set for them and lack clarity about performance expectations (Duggan *et al.*, 2023; Gagné *et al.*, 2022a; Mohlmann *et al.*, 2023). To address these issues, we propose a more humanistic approach to APM goal-setting.

Worker participation in goal-setting. Some app-based platforms have been allowing app workers to set their own goals, affording them higher levels of autonomy (Min *et al.*, 2024). Research suggests that when app workers can participate in their goal-setting, they can demonstrate improved effort and performance (Min *et al.*, 2024). Given these benefits, we argue that app work would better support app workers by allowing them to participate in their goal-setting, while remaining compatible with platform needs. For example, without necessarily offering full flexibility, app-based platforms could allow app workers to set personalized long-term goals in the APM system (e.g. achieving X deliveries per month) or to express preferences for certain types of gigs. Additionally, allowing a worker to decline certain assignments when worker availability is high, without penalty, would foster a stronger sense of autonomy and competence without undermining the platform's efficiency. This approach would necessitate balancing worker input with the platform's operational needs, ensuring workers' basic psychological needs are considered and satisfied within the constraints of app work. Hence, we suggest that:

- P1. App workers who are provided with the capacity to participate in goal-setting are more likely to have their needs for autonomy and competence satisfied.

APM performance feedback and basic psychological needs

The feedback that app workers receive plays an important role in shaping their performance and service quality. Although it can be constructive, it is often controlling or negative, which undermines app workers' sense of autonomy and competence (Rosenblat, 2018; Zhang *et al.*,

2024). This perception is reinforced by the real-time surveillance and oversight typical of APM systems, which closely monitor workers' activities and emphasize compliance over development (Cameron, 2022; Duggan *et al.*, 2020, 2023). As a result, workers often feel constrained, with few opportunities to improve and constant pressure to conform, especially under the threat of deactivation (Muralidhar *et al.*, 2022). To counter these limitations, we propose a more humanistic approach to feedback within APM systems.

Autonomy-supportive change-oriented feedback. Autonomy-supportive change-oriented feedback can be defined as feedback that supports an individual's autonomy, self-determination, and personal growth (Carpentier and Mageau, 2013). It is characterized by providing individuals with a rationale, acknowledging their feelings, and offering choices, tips, and solutions to help them improve themselves (Carpentier and Mageau, 2013). Research has shown that this type of feedback helps satisfy people's basic psychological needs (Carpentier and Mageau, 2016).

A humanistic APM approach should therefore provide app workers with autonomy-supportive change-oriented feedback, giving them more opportunities to adjust their performance. For instance, if an app worker on a food-delivery platform did not meet performance expectations, they could be informed why they did not meet those expectations (e.g. rationale: "Timely delivery is important as customers expect their meals to be warm and fresh"). App workers' hard work should be acknowledged (e.g. acknowledging feelings: "We recognize that bad weather and restaurant delays can make this objective difficult to achieve, which are factors that are out of your control"). Moreover, app workers can be presented with all the different options they have to improve on this aspect (e.g. giving choices: "You can plan routes using the shortest delivery times, communicate with restaurants to reduce waiting times, and/or inform customers proactively if delays are unavoidable"). Lastly, they can receive advice on how they can concretely improve their performance based on their choices (e.g. tips and solutions: "Using features like delivery zone optimization in the app can help you significantly reduce your travel time and ensure that your clients are content"). The perception of having more options for performance improvement can foster a greater sense of autonomy (Carpentier and Mageau, 2013; Jabagi *et al.*, 2019). Moreover, when individuals receive such feedback, it can contribute to a heightened sense of mastery (Carpentier and Mageau, 2013, 2016). This is because autonomy-supportive change-oriented feedback enables them to identify concrete ways to enhance their performance. Keeping these arguments in mind, we make the following proposition:

- P2. App workers who receive autonomy-supportive change-oriented performance feedback are more likely to have their need for autonomy and competence satisfied.

APM performance ratings and basic psychological needs

In the context of app work, conventional APM systems often lack transparency in the rating process, leaving app workers vulnerable to the opaque decisions of the algorithms and customer ratings, which can lack context (Jarrahi *et al.*, 2021; Mohlmann *et al.*, 2023). We contend that this lack of transparency, together with uncontextualized ratings, frustrates app workers' basic psychological needs.

Transparent ratings. Conventional performance ratings pose two significant obstacles. First, they are perceived as opaque. App-based platforms do not openly communicate how their ratings are calculated and weighted (Kadolkar *et al.*, 2024; Mohlmann *et al.*, 2023). This lack of information can exacerbate workers' fear of potential consequences, as a single negative rating can lead to serious problems (e.g. less visibility on the platform, deactivation, expulsion, etc.) (Kadolkar *et al.*, 2024; Veen *et al.*, 2020). As such, individuals can grapple with a lack of autonomy, finding themselves unaware of how to positively influence their performance (Parent-Rocheleau and Parker, 2022). Second, the lack of transparency can

hinder app workers' competence by obscuring the specifics of what they are doing well and/or where they need improvement (Parent-Rocheleau and Parker, 2022).

Instead, humanistic APM systems should provide app workers with detailed information about the specific performance metrics used by the platform, as well as the rating sources (e.g. data, clients) and their relative weight in their overall performance assessment. This kind of transparency should instill greater autonomy, as app workers would have the knowledge required to improve their performance and positively influence their ratings. Furthermore, it can provide them with the sense of competence necessary to execute their tasks in a manner that aligns with performance expectations. Therefore, we suggest that:

- P3. App workers who receive transparent performance ratings are more likely to have their needs for autonomy and competence satisfied.

Contextualized ratings. In addition to transparency, performance ratings should be contextualized to reflect the realities of app work. APM can establish high-performance expectations by framing success in terms of meeting both clients' and app-based platforms' needs (Kadolkar *et al.*, 2024). This approach implies that if app workers fail to meet these demands and consequently receive low performance ratings, they risk termination (Duggan *et al.*, 2020). This is particularly important given that app workers may receive low ratings from clients due to circumstances beyond their control (DeVault *et al.*, 2019; Zhang *et al.*, 2024). For instance, a delivery person might be rated poorly by a client for a delayed delivery due to extreme weather conditions, even though the delivery was completed (DeVault *et al.*, 2019). This raises the possibility that customers, on the one hand, might be influenced by contextual factors like traffic conditions or speed regulations, leading to inaccurate assessments of app workers' performance (Bokányi and Hannák, 2020; Mäntymäki *et al.*, 2019; Rosenblat and Stark, 2016). On the other hand, app-based platforms may not systematically consider these contextual factors in their algorithms, thus failing to account for these barriers that can influence performance ratings.

Humanistic APM systems should integrate contextual data into performance ratings to improve evaluations. This involves algorithms that incorporate relevant information to provide a more comprehensive and objective assessment of app workers' performance. For example, some organizations have been using machine learning to identify and notify app workers and clients about potential service disruptions (Ribeiro, 2023), thereby facilitating more accurate performance assessments by both app-based platforms and clients. Furthermore, contextualized ratings would have the advantage of acknowledging the specific challenges app workers face in accomplishing their tasks, fostering a greater sense of relatedness because workers would feel better understood and supported, as well as treated with respect and consideration. Tailoring evaluations to their specific context could also promote app workers' autonomy, as they would see their actions considered within the broader framework of their roles. Moreover, the provision of context-specific ratings enables app workers to better comprehend the intricacies of their performance, thus fostering a sense of competence. Hence, we suggest that:

- P4. App workers who receive contextualized ratings are more likely to have their need for autonomy, competence, and relatedness satisfied.

APM rewards and basic psychological needs

For most app workers, conventional APM systems are a source of income uncertainty and instability (Goods *et al.*, 2019; Jarrahi *et al.*, 2021). This instability often qualifies app work as a precarious form of employment (Chan, 2022; Muralidhar *et al.*, 2022). Additionally, most app-based platforms focus on individual rewards, fostering a competitive atmosphere that can leave workers feeling isolated from one another (Kadolkar *et al.*, 2024; Veen *et al.*, 2020). We argue that these elements undermine basic psychological needs and that a more humanistic

approach to APM would offer both more predictable rewards and collective, team-based rewards for app workers.

Predictable rewards. One significant source of income in platform work is the dynamic, real-time adjustments to compensation rates made by the APM systems. These systems continuously adjust the prices of gigs charged to customers to match prices with customer demand. As a result, compensation for similar gigs can vary depending on demand (Bokányi and Hannák, 2020; Mäntymäki *et al.*, 2019). Workers must closely monitor price surges to optimize earnings, adding stress and unpredictability to their schedules (Kadolkar *et al.*, 2024; Meijerink and Bondarouk, 2023; Mohlmann *et al.*, 2021). This reliance reduces workers' autonomy, making them more dependent on the system's decisions and less free to act as they desire. Moreover, the opacity of an algorithmic system makes it difficult to understand, especially when it is AI-based, thereby increasing the perceived uncertainty of rewards (Kellogg *et al.*, 2020; Mohlmann *et al.*, 2023). Disclosing the process by helping workers anticipate and plan around compensation mechanisms (Lee *et al.*, 2015; Parent-Rocheleau and Parker, 2022; Robert *et al.*, 2020). For instance, a food delivery worker may earn \$5 for a delivery during off-peak hours but see compensation for that same gig rise to \$12 during a sudden lunch-hour surge. However, without clear guidance from the app-based platform, they must constantly monitor the app and guess when these spikes will occur, making financial planning and scheduling, draining and unpredictable.

Therefore, a more humanistic approach to APM would implement a predictable, comprehensive reward system that ensures similar gigs are compensated at similar rates over time (i.e. comparable time of day, location, distance, effort, and costs, such as fuel consumption). For example, app workers should receive similar earnings for doing two different gigs during lunchtime or dinnertime in the city center. Predictable rewards could promote workers' sense of freedom and control over their actions by reducing dependence on irregular pay fluctuations. In addition, a more predictable pay rate would lead to a greater sense of competence, with workers more regularly feeling that they have mastered their work environment, not just when pay surges. Moreover, more predictable rewards may foster a sense of relatedness among workers, as those who cannot work during peak hours will not feel left behind. Also, reducing uncertainty about the precariousness of their work (e.g. due to unstable income) is likely to enhance workers' sense of belonging and foster greater affiliation with their organization (Gagné *et al.*, 2022a). In sum, this leads to the following proposition:

- P5. App workers who receive more predictable rewards are more likely to have their need for autonomy, competence, and relatedness satisfied.

From single-player to more multi-player rewards. App work often revolves around individual rewards to increase competition (Kellogg *et al.*, 2020; Chan, 2022; Muralidhar *et al.*, 2022). This is often reinforced through gamified systems that encourage workers to compete for such rewards (Cameron, 2022; Vasudevan and Chan, 2022). This gamified environment can discourage worker-to-worker socialization and create barriers to building peer relationships. As individual players, app workers are less likely to socialize with their peers and to engage in sharing relationships, that is, to relate to each other (Kadolkar *et al.*, 2024). Moreover, app-based platforms rarely facilitate direct peer interaction (Cameron, 2022; Rosenblat, 2018), leading many app workers to seek alternative online communities to fulfill their need for relatedness (Watkins, 2022; Zhang *et al.*, 2024).

In more traditional work settings, group rewards have been associated with positive outcomes, such as increased cooperation and support (Nyberg *et al.*, 2018). We argue that such group rewards could also be beneficial in the context of app work. For instance, a ride-sharing platform might introduce regional group rewards based on the collective performance of drivers within a particular area or during a special event (e.g. a group bonus for completing X rides over New Year's Eve in a designated area). By incorporating group rewards into the APM cycle and introducing communication features, app-based platforms could foster a sense of relatedness among workers. Group rewards are strong incentives to foster collaboration

towards shared goals, increasing cooperation and mutual support (Nyberg *et al.*, 2018; Trener *et al.*, 2021). By incorporating group rewards, the feeling of relatedness with other workers will be reinforced as one achieves success with peers, rather than competing for individual wins. Moreover, group rewards will move away from a “winner takes all” APM, allowing more workers to share their achievements. Being on the “winning team” can foster a sense of effectiveness in one’s work, hence the need for competence. All in all, this leads us to the following proposition:

- P6. App workers who receive group rewards are more likely to have their need for relatedness and competence satisfied.

Basic psychological needs, self-determined motivation, and optimal functioning

Building on our proposed humanistic APM practices, we now examine the mechanisms through which they can foster app workers’ self-determined motivation and optimal functioning. Meta-analyses demonstrate strong relationships between the satisfaction of people’s basic psychological needs and their self-determined motivation (Howard *et al.*, 2017; Van den Broeck *et al.*, 2016), which can be explained by various reasons. First, the satisfaction of the need for autonomy leads to self-determined motivation because people engage in activities for reasons that they choose (Howard *et al.*, 2017). In the context of app work, this is reflected in greater autonomy support for scheduling, feedback, and a say in how app workers deliver their services (Gagné *et al.*, 2022a; Jabagi *et al.*, 2019). Second, workers who perceive themselves as competent in their tasks derive greater intrinsic motivation (Gagné *et al.*, 2022a; Jabagi *et al.*, 2019). Finally, relatedness satisfaction promotes self-determined motivation as people seek to maintain supportive social connections (Howard *et al.*, 2017).

Howard *et al.* (2017) describe a continuum of motivation ranging from controlled forms to self-determined (or autonomous) forms. Self-determined motivation comprises identified regulation, integrated regulation, and intrinsic motivation. Identified regulation represents instances where individuals engage in behaviors because they are personally important to them (Ryan *et al.*, 2019). For example, participation in goal-setting (P1) enhances work meaningfulness by satisfying autonomy and competence needs. Similarly, collective rewards help workers value common goals (P6). Integrated motivation occurs when activities are consistent with their identity and values (Ryan *et al.*, 2019). Moreover, autonomy-supportive, change-oriented feedback clarifies how they fit with respect to identity and values (P2). Furthermore, intrinsic motivation is the most self-determined form, reflecting inherent satisfaction and enjoyment (Ryan *et al.*, 2019). This appears when workers self-regulate and engage in work voluntarily due to a strong feeling of autonomy, competence, and relatedness (Ryan *et al.*, 2019). We argue that the quality of goal-setting (P1), feedback (P2), ratings (P3 and P4), and rewards (P5 and P6) are essential to app workers’ ability to pursue their work for intrinsic reasons. Thus:

- P7. App workers who have their basic psychological needs (autonomy, competence, affiliation) satisfied due to humanistic APM practices are more likely to experience self-determined motivation.

Self-determined motivation tends to be positively associated with optimal functioning (Gagné *et al.*, 2022b; Ryan and Deci, 2000). As individuals experience self-determined motivation, they are more likely to experience positive attitudes such as a heightened sense of engagement in their work (Soyer *et al.*, 2022). Furthermore, people who are motivated in this way can demonstrate positive behaviors (i.e. organizational citizenship behaviors towards individuals and organizations) and improved performance at work (Soyer *et al.*, 2022). Within and beyond the workplace, self-determined motivation is intricately connected to people’s psychological health (Deci and Ryan, 2008; Gagné *et al.*, 2022b). A recent meta-analysis by Van den Broeck *et al.* (2021) showed that intrinsic motivation, which is the most self-determined form of

motivation, has the strongest influence on positive outcomes, explaining around 50% of the statistical variance of indicators of optimal functioning like burnout, work engagement, job satisfaction, affective commitment, turnover intention, proactivity, counter-productive behavior, and absenteeism. Hence, we suggest:

- P8. App workers who elicit self-determined motivation due to humanistic APM practices are more likely to experience optimal functioning at work.

Discussion

In this paper, we mobilized SDT to propose a humanistic approach to APM. The specific propositions we formulated suggest how and why humanistic APM practices can satisfy app workers' basic psychological needs and, in turn, foster self-determined motivation and optimal functioning. The propositions in this paper offer researchers a framework to re-examine the APM practices used by app-based platforms and to inspire the future development of APM practices that can support app workers' flourishing.

Theoretical contributions

The present work makes three key theoretical contributions. First, by bridging the APM, HM and SDT literature, we developed a model about humanistic APM practices and their impacts on app workers. Among the limited number of studies that have directly or indirectly studied humanistic APM, some studies discussed the importance of promoting the humanistic approach (Lamers *et al.*, 2024; Ogunyemi, 2024), while others have developed a process model about how organizations can transition toward and implement humanistic APM systems (Cui *et al.*, 2024). Our model builds on and extends these works by not only promoting humanistic APM as an approach but also narrowing in on the specific humanistic APM practices and the outcomes they could generate, should they be implemented on app-based platforms. In doing so, our model not only integrates and synthesizes different streams of literature into a coherent framework, but it also explains the psychological pathways that connect humanistic APM practices to app workers' positive outcomes. This effort not only advances the literature by providing researchers with a theorization of humanistic APM but also elucidates the mechanisms by which app workers can respond to these practices, thereby reducing the misinterpretation of APM phenomena (Cheng and Hackett, 2021).

Second, we proposed a model that helped reframe APM beyond the dominant economist perspective (Lamers *et al.*, 2024), which primarily assumes that APM systems are autonomous, opaque, and mechanistic "entities" designed solely to drive productivity. Moreover, this perspective tends to assume that app workers are mechanical actors embedded within a broader app-based platform ecosystem, operating as instruments to achieve organizational goals that require strict control. This narrow lens on APM has created several blind spots in the literature and growing stakeholder concerns, limiting scholars' ability to explore alternative, potentially valuable approaches to APM, including the humanistic perspective (Lamers *et al.*, 2024). Our model challenges this economist perspective by viewing APM as a socio-technical system that can be intentionally designed to go beyond "just" optimizing productivity. Rather than treating performance as the sole objective, we argued that APM systems can pursue a broader purpose by balancing app workers' performance and well-being (i.e. optimal functioning). Thus, our model can help reconcile the competing objectives of platforms (which seek productivity) and workers (who seek positive work experiences). Additionally, our work challenges the economist assumption that tightly controlling app workers promotes their performance (Kellogg *et al.*, 2020). While we acknowledge that algorithmic control is not entirely avoidable in the context of humanistic APM (Cui *et al.*, 2024), our model shifts the focus away from control and pushes the conversation towards app workers' intrinsic motivation as a significant lever for promoting

optimal functioning at work. These shifts expand the theoretical lens of APM research by illustrating that performance can also be achieved through other means.

Third, this study advances SDT by extending its application to app work, a unique context marked by algorithmic surveillance, monitoring, and control (Rosenblat and Stark, 2016; Rosenblat, 2018), making it a relevant setting for extending SDT. While prior research has largely focused on basic psychological needs frustration and its deleterious effects on self-determined motivation (e.g. Gagné *et al.*, 2022a; Edwards *et al.*, 2024; Parent-Rocheleau *et al.*, 2024a), our study goes beyond by elaborating on how humanistic APM practices can support need satisfaction and motivation in the context of app work. Moreover, to our knowledge, prior literature has not explored optimal functioning as a relevant outcome of APM systems. We extend prior literature by incorporating optimal functioning into our model, which allows us to move away from a unidimensional view of performance towards a multidimensional one that balances app workers' attitudes, behaviors, and well-being (Van den Broeck *et al.*, 2019). By doing so, we promote a more comprehensive understanding of app workers' experiences, focusing on how humanistic APM practices can contribute to app workers' flourishing.

Practical contributions

The propositions outlined in this study can serve as practical guidelines for app-based platforms, app-based developers, and app workers. For app-based platforms, implementing humanistic APM systems could reduce the risk of frustrating app workers' basic psychological needs. Moreover, app-based platforms that prioritize humanistic APM practices may become more attractive to potential recruits (Schmidt *et al.*, 2022; Williams *et al.*, 2023). Additionally, given that humanistic APM practices can foster app workers' motivation, this may increase retention on app-based platforms (Jabagi *et al.*, 2019) and lead to more consistent service quality. Moreover, humanistic APM practices may foster trust between app workers and app-based platforms, as app workers may perceive app-based platforms as enablers of work opportunities rather than exploitative, profit-driven entities. This can improve the image of app-based platforms as partners that help app workers secure meaningful, dignified work that meets their needs (Schmidt *et al.*, 2022). Lastly, by understanding the conditions under which humanistic APM practices are more or less likely to be effective, app-based platforms can implement these practices in ways that increase their likelihood of success.

For app-based developers, our model highlights their key role in embedding humanistic principles into algorithmic systems. By designing transparent, understandable, and need-supportive features such as informative feedback and clear explanations of algorithmic decisions, developers can foster app workers' autonomy, competence, and trust. In doing so, they contribute to the creation of algorithmic management systems that support both performance and workers' optimal functioning.

For app workers, the proposed model fosters more positive work experiences by supporting their basic psychological needs, enhancing motivation, and promoting optimal functioning. Humanistic APM practices can help app workers feel valued as individuals and obtain greater job satisfaction and reduced job precarity. Hence, they may perceive platform work to be more sustainable, which can enable their economic participation and growth in the long run.

Limitations and future research directions

Despite its contributions, our model has certain theoretical boundaries and limitations. First, our humanistic APM model represents an aspirational vision of APM practices that app-based platforms may choose to adopt. However, we do not propose it as a one-size-fits-all solution for every platform. While we believe that implementing the model's practices can benefit both app-based platforms and their workers, app-based platforms do not necessarily need to adopt every practice outlined in this paper. Instead, researchers and practitioners should focus on the complementarity and synergy of these practices, aiming to develop a coherent approach that aligns with each platform's unique strategy and operational context (Farndale and Paauwe,

2018). This context-sensitive approach can help foster APM systems that are both effective and aligned with humanistic values. Future research could investigate how various combinations of humanistic APM practices interact to impact app workers' outcomes, providing insights into the most effective configurations of these practices. To support this research, we recommend developing a validated humanistic APM practices scale that captures workers' perceptions of these practices. Furthermore, we encourage researchers to test the propositions outlined in this study through time-lagged or longitudinal research designs. These approaches would offer a stronger understanding of the relationships between humanistic APM practices and worker outcomes over time, as they better capture the evolving nature of these relationships (Ployhart and Vandenberg, 2010).

Second, while this paper provides valuable insights into humanistic APM, we did not include contextual factors that could influence the adoption and effectiveness of these practices, though we recognize their existence at multiple levels. At the individual level, characteristics such as age, cultural background, personality traits, needs strength, and financial dependence on the app-based platform may affect how humanistic APM practices are perceived and experienced (Chen *et al.*, 2015; Cropanzano *et al.*, 2023; Kadolkar *et al.*, 2024; Schor *et al.*, 2020; Van Assche *et al.*, 2018). At the work level, features such as gig type and work design could influence how practices are enacted and their outcomes (Gagné *et al.*, 2022b; Watson *et al.*, 2021). At the organizational level, contextual factors such as platform type, size, operational structure, strategy, HRM practice implementation, or organizational agency can shape the effectiveness of humanistic APM practices (Farndale and Paauwe, 2018; Marescaux *et al.*, 2012). To that end, we believe that qualitative approaches offer a powerful means of examining these contextual factors across multiple levels (Rowley, 2012; Busetto *et al.*, 2020). Researchers could uncover the underlying reasons why certain individual-, work-, and/or organizational-level factors can lead to positive, neutral, or negative reactions to humanistic APM practices, as well as pinpoint the success/derailing factors for their implementation (Busetto *et al.*, 2020; Rowley, 2012).

Third, in this study, our model aligned with the proxy view of technology, which emphasizes how individuals perceive and experience technology at work (Kim *et al.*, 2021). While this aligns well with SDT and allows us to focus on app workers' psychological experiences, it limits our ability to capture how humanistic APM practices co-evolve with organizational structures, strategies, and technological processes. Consequently, the model may not fully explain variability in outcomes across app-based platforms. Thus, we believe that researchers should consider adopting an ensemble view which views technology as part of a dynamic socio-technical system shaped by organizational actors, processes, and evolving interactions (Kim *et al.*, 2021). More specifically, future researchers can explore how organizational actors, platform strategies, and technological configurations interact to influence the design, adoption, and effectiveness of humanistic APM practices. For example, multi-site longitudinal case studies could examine how humanistic APM practices evolve within the socio-technical systems of different app-based platforms, and mixed-methods longitudinal surveys could track workers' experiences alongside platform-level changes to identify which practices are most effective across contexts.

Conclusion

To conclude, we provided a model of humanistic APM in this paper that outlines different practices and outcomes. We showcased how humanistic APM practices can help app workers experience basic psychological need satisfaction, self-determined motivation, and optimal functioning at work. By being more considerate of humanistic APM practices, app-based platforms can create systems that not only promote app workers' optimal functioning but also improve their working conditions, satisfaction, and sense of dignity in their work. As the gig economy becomes an increasingly large part of the workforce, it is imperative to make APM systems more humanistic, caring, and conducive to human flourishing.

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Corresponding author

Dimitris Giamos can be contacted at: giamos.dimitris@uqam.ca