



Flexible but Not Free: A Self-Determination Theory Framework of Need Satisfaction and Frustration in Algorithmically Managed Gig Work

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Abstract

Purpose. Platform work is promoted on the promise of flexibility, yet workers often report little sense of control over their work. This paper develops a self-determination theory (SDT) framework that explains how algorithmic management shapes the satisfaction and frustration of autonomy, competence and relatedness among gig workers, and how these needs translate into work engagement.

Design/methodology/approach. The paper is conceptual. It integrates research on basic psychological needs, motivational quality and work engagement with research on algorithmic management and platform labour. It draws on recent survey evidence from 404 platform workers in the Delhi National Capital Region (NCR) of India to ground and sharpen its arguments.

Findings. The framework advances eight propositions. First, algorithmic management separates scheduling freedom from execution autonomy, and only execution autonomy supports felt autonomy. Second, competence divides into felt capability and feedback adequacy, and platform ratings serve the first poorly and the second worse. Third, relatedness in platform work depends on the spatial organisation of the work more than on its task content. Fourth, autonomous motivation is the main channel through which need satisfaction reaches engagement, while need frustration feeds controlled motivation and amotivation. Occupational segment, income dependence and the regulatory setting act as boundary conditions.

Originality/value. The paper moves SDT research on gig work beyond the question of whether the theory applies, towards the question of how platform design reshapes the content of each need. It offers testable propositions, a measurement agenda and design levers for platforms and policymakers in emerging economies such as India.

Keywords: gig work, platform work, self-determination theory, algorithmic management, basic psychological needs, autonomous motivation, work engagement, India

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I. Introduction

Platform work has become a significant part of the labour market in many economies, and India is among the fastest growing cases. NITI Aayog (2022) estimated that 7.7 million people worked in the Indian gig and platform economy in 2020-21 and projected that the figure would reach 23.5 million by 2029-30. The policy response has followed. The Code on Social Security, 2020 was the first central legislation to define gig and platform workers and to provide for their inclusion in welfare schemes (Government of India, 2020).

The public case for platform work rests heavily on one idea: flexibility. Workers can log in when they choose, accept the tasks they want and leave when they wish. Research on the experience of platform work has repeatedly questioned this account. Once logged in, workers operate inside systems that allocate tasks, set prices, rate performance and decide continued access with little transparency (Kellogg et al., 2020; Rosenblat & Stark, 2016). Studies of couriers and drivers describe freedom over when to work combined with tight control over how the work is done (Shapiro, 2018; Veen et al., 2020). Studies of gig workers' wider lives describe powerlessness and isolation (Glavin et al., 2021).

Self-determination theory (SDT) offers a natural lens for these tensions. It holds that people have three basic psychological needs, for autonomy, competence and relatedness, and that the satisfaction of these needs supports high-quality, self-endorsed motivation and, through it, engagement and well-being (Deci et al., 2017; Ryan & Deci, 2000). A growing body of work has applied the theory to algorithmic management (Gagné, Parent-

Rocheleau, et al., 2022; Parent-Rocheleau & Parker, 2022) and to gig workers directly (Wu & Zhou, 2023). Most of this work, however, asks whether SDT holds in platform settings. It treats the three needs as fixed constructs, carried over from conventional employment, whose levels may simply be higher or lower among gig workers.

This paper argues that the more important question is how platform work changes what each need consists of. Brawley (2017) warned that constructs built for conventional employment cannot be assumed to mean the same thing in gig work. Recent evidence from India suggests that the warning applies to SDT's needs. In a survey of 404 platform workers in the Delhi NCR, felt autonomy was the least satisfied need, even though respondents almost universally endorsed their freedom to choose their hours (Tanwar, 2026). Competence was the best satisfied need, yet respondents who were confident in their own ability rated the feedback they received from platforms poorly. Relatedness behaved unlike the other two needs and was higher among delivery and ride-hailing workers than among remote professional freelancers, the reverse of the pattern for every other variable measured.

The paper builds a framework that accounts for these patterns. It makes three contributions. First, it specifies how algorithmic management reshapes the content of each need: it splits autonomy into scheduling and execution components, splits competence into felt capability and feedback adequacy, and ties relatedness to the spatial organisation of work. Second, it extends the motivational mechanism of SDT to platform work by distinguishing a need-satisfaction pathway to engagement through autonomous motivation from a need-frustration pathway to disengagement through controlled motivation and amotivation (Vansteenkiste & Ryan, 2013). Third, it identifies three boundary conditions that are particularly relevant in emerging economies: occupational segment, dependence on platform income and the regulatory setting. The framework is stated as eight propositions, followed by a research agenda and implications for platforms and policy.

The remainder of the paper is organised as follows. Section 2 reviews SDT and the research on algorithmic management. Section 3 develops propositions on each of the three needs. Section 4 sets out the motivational mechanism linking needs to engagement. Section 5 discusses boundary conditions. Sections 6 and 7 present implications and a research agenda, and Section 8 concludes.

II. Theoretical background

2.1 Self-determination theory and work

SDT is a broad theory of human motivation developed by Deci and Ryan and applied extensively to work organisations (Deci et al., 2017; Gagné & Deci, 2005; Ryan & Deci, 2000). Two of its components are central here. Basic psychological needs theory proposes that autonomy, competence and relatedness are universal needs. Autonomy is the experience of acting with volition and self-endorsement. Competence is the experience of being effective in dealing with one's environment. Relatedness is the experience of being connected to and cared for by others (Ryan & Deci, 2000; Van den Broeck et al., 2016). Work contexts that support these needs are associated with better motivation, engagement and well-being than contexts that do not (Van den Broeck et al., 2016).

The second component concerns the quality of motivation. SDT places forms of regulation on a continuum. Autonomous motivation covers intrinsic motivation and the identified and integrated forms of extrinsic motivation, where people act from interest or from values they endorse. Controlled motivation covers external and introjected regulation, where people act to obtain rewards, avoid punishment or relieve internal pressure. Amotivation denotes the absence of intention to act (Gagné & Deci, 2005; Gagné et al., 2015). Need satisfaction is theorised to promote the internalisation of motivation towards its autonomous forms, and longitudinal evidence supports the direction from need satisfaction to autonomous motivation (Olafsen et al., 2018).

Two refinements of the theory matter for platform work. The first is the distinction between need satisfaction and need frustration. Low satisfaction means a need is not being met. Frustration means the environment actively thwarts it, through control, rejection or belittlement. The two are not opposite ends of one scale, and frustration has been more closely tied to controlled motivation, ill-being and maladaptive outcomes than low satisfaction alone (Bartholomew et al., 2011; Vansteenkiste & Ryan, 2013). The second refinement is that the balance among needs matters, not only their total. People whose three needs are evenly satisfied report better well-being than people with the same total but an uneven profile (Sheldon & Niemiec, 2006).

2.2 Work engagement

Work engagement is defined here as a positive, fulfilling, work-related state characterised by vigour, dedication and absorption (Schaufeli et al., 2002). Kahn (1990) earlier described engagement as the investment of the full self in a work role. Engagement has been linked to performance and to the intention to stay (Christian et al., 2011; Halbesleben & Wheeler, 2008). Within the job demands-resources tradition, job and personal resources are the main drivers of engagement (Bakker & Demerouti, 2017), and need satisfaction has been proposed as one mechanism through which resources do their work (Van den Broeck et al., 2008). This paper

treats engagement as the outcome of interest, because it captures the quality of a worker's involvement in the tasks and because platforms have a commercial stake in it, as well as a duty of care.

2.3 Gig work and algorithmic management

Gig work is heterogeneous. Location-based work, such as ride-hailing, food delivery and home services, is performed in physical space, while remote work, such as design, writing, software or tutoring, is delivered online (Kuhn & Maleki, 2017; Watson et al., 2021). The two segments share one defining feature: work is coordinated by algorithms rather than by managers. Algorithmic management uses data and automated rules to direct, evaluate and discipline workers (Jarrahi et al., 2021; Kellogg et al., 2020). In practice it allocates tasks, sets or suggests prices, monitors location and pace, aggregates customer ratings and can restrict or end a worker's access to the platform (Griesbach et al., 2019; Newlands, 2021; Rosenblat & Stark, 2016).

Parent-Rocheleau and Parker (2022) argue that algorithms act as work designers. They shape the same job characteristics that work design research has long tied to motivation, including autonomy, feedback, task variety and social contact (Hackman & Oldham, 1976; Parker & Grote, 2022). Gagné, Parent-Rocheleau, et al. (2022) map the functions of algorithmic management, such as monitoring, goal setting, scheduling, performance management, compensation and termination, onto SDT's needs. They show that each function can support or thwart the needs depending on how it is designed. Empirical studies of gig workers point mostly to the thwarting side. Workers describe opaque allocation and pricing (Möhlmann & Zalmanson, 2017; Rosenblat & Stark, 2016), ratings that decide access but explain little (Curchod et al., 2020), and isolation from other workers (Glavin et al., 2021; Yao et al., 2021).

2.4 Where the existing account falls short

The SDT literature on algorithmic management has mostly treated each need as a single quantity that platform design pushes up or down. Parent-Rocheleau et al. (2024), for example, set out algorithmic management practices that would better satisfy workers' needs, and Peng et al. (2025) show that different functions of algorithmic management raise or lower need satisfaction. These contributions ask how much of each need is satisfied rather than what each need consists of in platform work. This assumption sits uneasily with the gig work literature, which repeatedly describes autonomy as multidimensional (Pichault & McKeown, 2019; Shapiro, 2018) and relatedness as something workers build outside the platform, in places, routines and communities (Petriglieri et al., 2019; Yao et al., 2021). It also sits uneasily with recent Indian evidence, in which items written to measure a single need split apart and the needs related to one another in unexpected ways (Tanwar, 2026). The framework developed below takes these splits as substantive. It asks what each need consists of under algorithmic management, and what that implies for motivation and engagement.

III. How algorithmic management reshapes the three needs

3.1 Autonomy: flexible but not free

Platforms advertise one kind of autonomy and control another. Workers usually decide when to log in and for how long. Once logged in, the platform decides which tasks they see, often what they are paid, the route or method they should use and how quickly they must respond. Declining offers or falling below acceptance or rating thresholds can reduce future allocation or end access (Griesbach et al., 2019; Rosenblat & Stark, 2016). Shapiro (2018) describes couriers who have real discretion at the margins but work within a tight algorithmic envelope. Pichault and McKeown (2019) show that, even for independent professionals, autonomy has several distinct dimensions that need not move together.

SDT defines autonomy as volition, the sense that one's actions are self-endorsed, rather than as the mere absence of external scheduling (Ryan & Deci, 2000). Choosing a start time does not provide this sense if every subsequent action is directed, monitored and sanctioned. We therefore distinguish scheduling autonomy, the discretion over whether and when to work, from execution autonomy, the discretion over how the work is carried out, on what terms and with what consequences for refusing. The distinction is not new to work design research, which has long separated autonomy over scheduling from autonomy over work methods and decision criteria (Breugh, 1985; Morgeson & Humphrey, 2006). What is distinctive in platform work is how far the two can come apart: algorithmic management typically leaves the first intact and constrains the second.

The Indian evidence fits this distinction closely. Among 404 Delhi NCR platform workers, the item asking whether workers could choose when to start and stop work was endorsed almost universally (mean 4.58 on a five-point scale), yet it was unrelated to the other autonomy items (corrected item-total correlation of -.04) and had to be dropped from the scale. The remaining items, which concerned control over the conduct of the work, produced a mean of 2.50, significantly below the scale midpoint (Tanwar, 2026). Respondents were not contradicting themselves. They were reporting two different things, and only one of them corresponded to the autonomy SDT describes.

The distinction also predicts that algorithmic control can actively frustrate autonomy rather than simply fail to support it. When access to future work depends on compliance with opaque rules, behaviour is driven by contingencies a worker neither sets nor fully understands (Möhlmann & Zalmanson, 2017). This is the condition SDT associates with need frustration (Vansteenkiste & Ryan, 2013). Workers' efforts to make sense of and work around algorithms (Möhlmann et al., 2023) can be read as attempts to recover execution autonomy within this envelope. The evidence on this point is not uniform, however. In a two-wave study of drivers and delivery workers, Peng et al. (2025) found that algorithmic evaluation and discipline undermined need satisfaction whereas algorithmic direction supported it, and Zhu and Shao (2026) found that tracking and evaluation were associated with lower, not higher, autonomy frustration. The source of frustration therefore appears to lie in opacity and sanctions rather than in algorithmic guidance as such.

Proposition 1a. Under algorithmic management, scheduling autonomy and execution autonomy are distinct experiences, and felt autonomy satisfaction depends mainly on execution autonomy.

Proposition 1b. Opaque, sanction-backed algorithmic control (contingent allocation, penalties for refusal, rating-based deactivation) frustrates the need for autonomy, so that high scheduling autonomy can coexist with low felt autonomy. Clear algorithmic guidance without such sanctions need not frustrate autonomy.

3.2 Competence: capable but uninformed

Competence is sustained by two kinds of experience: mastering challenges through one's own effort, and receiving information that helps one judge and improve one's performance. Classic work design research treats feedback as a core job characteristic (Hackman & Oldham, 1976), and SDT holds that informational feedback supports competence while controlling feedback undermines autonomy (Ryan & Deci, 2000).

Platform work separates these two sources. Repetitive task completion gives workers frequent experiences of getting the job done, and platforms report outputs continuously. The feedback that platforms provide, however, is mostly aggregated ratings and metrics, which tell workers whether they are acceptable but rarely why or how to improve (Curchod et al., 2020; Veen et al., 2020). Ratings also double as instruments of control, because they decide access to work (Kellogg et al., 2020). Feedback that is evaluative, thin and consequential is unlikely to satisfy competence in the informational sense SDT intends.

We therefore distinguish felt capability, a worker's self-referenced judgement of being able to do the work well, from feedback adequacy, the extent to which the information the platform provides is clear, useful and fair. The Delhi NCR data again illustrate the split. Two self-referenced capability items were endorsed almost universally (means 4.60 and 4.59), whereas four items on the clarity and usefulness of platform feedback averaged 3.19, and the two sets correlated at only .18 (Tanwar, 2026). Competence was the best satisfied of the three needs overall, but most of that satisfaction came from workers' confidence in themselves, not from what the platform told them.

Proposition 2. Under algorithmic management, competence comprises two facets, felt capability and feedback adequacy. Felt capability is sustained by repeated task mastery and is relatively insensitive to platform design, whereas feedback adequacy depends on the informational quality of platform feedback and is lowered by opaque, rating-based evaluation.

3.3 Relatedness: the importance of place

Relatedness is usually assumed to be the need most damaged by platform work. Workers have no colleagues, no shared workplace and no manager who knows them. Studies describe gig workers as isolated (Glavin et al., 2021) and as "together but alone", building peer support through online groups precisely because the platform offers none (Yao et al., 2021). Independent workers construct their own holding environments of places, routines, people and purpose (Petriglieri et al., 2019).

The Indian evidence complicates the assumption in an instructive way. Relatedness was below the scale midpoint overall, but it was significantly higher among location-based workers (delivery, ride-hailing, home services, e-commerce logistics) than among remote professional and tutoring workers (means of 2.96 and 2.24; $d = 0.93$). This difference held after controlling for age, gender, hours, income and education. It was the only one of seven constructs on which location-based workers scored higher; on autonomy, competence, autonomous motivation and engagement, remote workers scored higher by large margins (Tanwar, 2026). Relatedness was also negatively correlated with competence and autonomy in the sample.

We interpret this pattern through the spatial organisation of work. Much location-based gig work brings workers into repeated contact at restaurant pick-up points, delivery hubs and waiting areas. A video study of food delivery work in India shows riders at such spots guiding newcomers, sharing tips on using the app and forming brief alliances to solve problems at restaurants (Shaikh et al., 2024). These places act as informal break rooms that no employer designed. Remote freelance work removes such encounters; professional autonomy and better feedback come with solitary work at home. On this account, relatedness in platform work depends less on task characteristics than on whether the work places people near one another, and it can move in the opposite direction

from autonomy and competence across occupations. The account also implies that location-based work is not uniformly relational. Glavin et al. (2021) found that Canadian rideshare drivers reported more powerlessness and isolation than online crowdworkers, a pattern consistent with work done alone in a car rather than at shared waiting points. What matters, on this view, is co-presence rather than physical work as such.

Proposition 3. Relatedness satisfaction in platform work depends primarily on the spatial organisation of the work, in particular repeated physical or virtual co-presence with other workers, rather than on task characteristics. As a result, relatedness can vary independently of, and even inversely with, autonomy and competence across segments of platform work.

IV. From needs to engagement: the motivational mechanism

4.1 The satisfaction pathway

SDT proposes that need satisfaction affects outcomes mainly by changing the quality of motivation. When the needs are met, people come to endorse the reasons for their work, and that self-endorsed motivation supports vigour, dedication and absorption (Gagné & Deci, 2005; Olafsen et al., 2018). In conventional employment, needs have been shown to carry the effect of job characteristics on engagement (Van den Broeck et al., 2008). Whether the same chain operates in platform work is not obvious. Gig workers may engage for purely instrumental reasons, or the absence of a managerial relationship may weaken the internalisation process the theory describes.

The available evidence suggests that the chain holds and is strong. In the Delhi NCR sample, each of the three needs predicted autonomous motivation and engagement, and autonomous motivation carried a significant indirect effect from each need to engagement. In the latent-variable model, the path from autonomous motivation to engagement was large (standardised beta = .77) and the model explained 78% of the variance in engagement (Tanwar, 2026). The pattern of mediation was informative. Relatedness reached engagement almost entirely through autonomous motivation. Autonomy did so too, although its remaining direct effect was close to significance and the verdict should be treated as tentative. Competence retained a direct association with engagement beyond its motivational route.

This last result connects with Proposition 2. The felt-capability facet of competence is fed by immediate, task-level experiences of effectiveness: a delivery completed, a ride finished, a project accepted. These experiences can sustain absorption and vigour in the moment, independently of whether the worker endorses the work more broadly. Feedback adequacy, by contrast, is more likely to act through the longer process of internalisation, because informational feedback helps workers see value and progress in what they do (Ryan & Deci, 2000).

Proposition 4a. In platform work, satisfaction of autonomy, competence and relatedness is associated with work engagement mainly through autonomous motivation.

Proposition 4b. Competence, through its felt-capability facet, is additionally associated with engagement directly, whereas the effects of relatedness and execution autonomy on engagement are more fully transmitted through autonomous motivation.

4.2 The frustration pathway

The satisfaction pathway is only half of the picture. If, as argued in Section 3, algorithmic management actively thwarts autonomy and degrades the informational value of feedback, the more relevant process for many workers may be need frustration. SDT predicts that frustration fosters controlled motivation and amotivation, which in turn relate to exhaustion, disengagement and counterproductive coping (Bartholomew et al., 2011; Vansteenkiste & Ryan, 2013). Empirical studies offer partial support. Zhu and Shao (2026) found that autonomy frustration was associated with burnout among platform workers, and Zhang et al. (2023) found that delivery riders who appraised algorithmic management as a hindrance reported more deviant behaviour, although those who appraised it as a challenge reported less.

The motivational profile of Indian platform workers is consistent with a strong controlled component. In the Delhi NCR sample, controlled motivation (mean 3.52) was higher than autonomous motivation (mean 3.35), and both controlled motivation and amotivation were strongly and negatively correlated with engagement ($r = -.65$ and $-.79$). The mean level of engagement sat almost exactly at the scale midpoint (Tanwar, 2026). These data measured need satisfaction rather than frustration, so they cannot test the frustration pathway directly. They do indicate that a model of platform work engagement that includes only the bright side of motivation is incomplete.

The two pathways are not mirror images. Raising need satisfaction, for example by organising peer contact, may raise autonomous motivation without removing the controlling features of the platform. Reducing frustration, for example by making allocation rules transparent or creating an appeal against deactivation, may lower controlled motivation without generating enthusiasm for the work. Separating the two pathways is therefore necessary both for theory and for design.

Proposition 5. In platform work, the frustration of autonomy and competence produced by opaque, sanction-backed algorithmic management is associated with controlled motivation and amotivation, which in turn

are associated with lower engagement. This frustration pathway operates alongside, and partly independently of, the satisfaction pathway in Proposition 4a.

V. Boundary conditions

5.1 Occupational segment

Gig workers differ widely in their work, skills and dependence on platforms (Keith et al., 2019; Kuhn & Maleki, 2017; Watson et al., 2021). The framework implies that location-based and remote platform work present opposite need profiles. Location-based work often combines strong algorithmic control and thin feedback with frequent co-presence, although work performed alone, such as ride-hailing, may offer less of it. Remote professional work combines greater execution autonomy and richer client feedback with solitary working conditions. The Delhi NCR comparison followed this profile: remote workers reported markedly higher autonomy and competence, location-based workers markedly higher relatedness (Tanwar, 2026).

These profiles raise a further question that the existing evidence cannot answer: whether the strength of the links between each need and autonomous motivation also differs by segment. Two opposing predictions are plausible. A compensation argument holds that where autonomy and competence are constrained, relatedness becomes a more important source of self-endorsed motivation, because peer contact is the main resource left for workers to draw on. A balance argument, following Sheldon and Niemiec (2006), holds that a lopsided profile limits the benefit of any single satisfied need. We state the compensation argument as the proposition, because it is the more specific and the more readily falsified of the two.

Proposition 6. Occupational segment moderates the needs-motivation link. In location-based platform work, where execution autonomy and feedback adequacy are constrained, relatedness is more strongly associated with autonomous motivation than in remote platform work.

5.2 Dependence on platform income

Scheduling autonomy is only valuable if a worker can afford to use it. Schor et al. (2020) found that platform workers who depended on platform income for their livelihood had worse experiences, and less control, than those for whom it was supplementary. Keith et al. (2019) similarly found that online crowdworkers who relied on platform work as their primary income reported fewer intrinsic reasons for the work and lower life satisfaction. For a dependent worker, declining tasks or logging off carries an income cost that makes formal freedom nominal. In the Delhi NCR sample, 72% of respondents named platform work as their primary source of income and 72% worked more than 40 hours a week (Tanwar, 2026). Dependence is therefore not a marginal condition in the Indian context but the typical one.

Dependence should matter for both pathways. It should weaken the motivational value of scheduling autonomy, because choices over when to work are constrained by the need to earn. It should also strengthen the frustration produced by algorithmic sanctions, because the loss of access threatens livelihood rather than a supplementary income. Multi-platform working may partly offset dependence on any single platform, although it may also add to the workload and the number of algorithmic regimes a worker must manage.

Proposition 7. Dependence on platform income moderates both pathways. Where platform income is the primary livelihood, scheduling autonomy contributes less to felt autonomy, and algorithmic sanctions produce stronger frustration of autonomy and higher controlled motivation.

5.3 The regulatory setting

India's labour codes, including the Code on Social Security, 2020, came into force in November 2025, extending welfare provisions to gig and platform workers (Government of India, 2020). Comparable debates on the status and protection of platform workers are under way in Europe and elsewhere (Aloisi, 2022; Stewart & Stanford, 2017). Social protection addresses income security and access to benefits. It does not, in itself, regulate how tasks are allocated, how ratings are generated and used, or whether workers can contest algorithmic decisions.

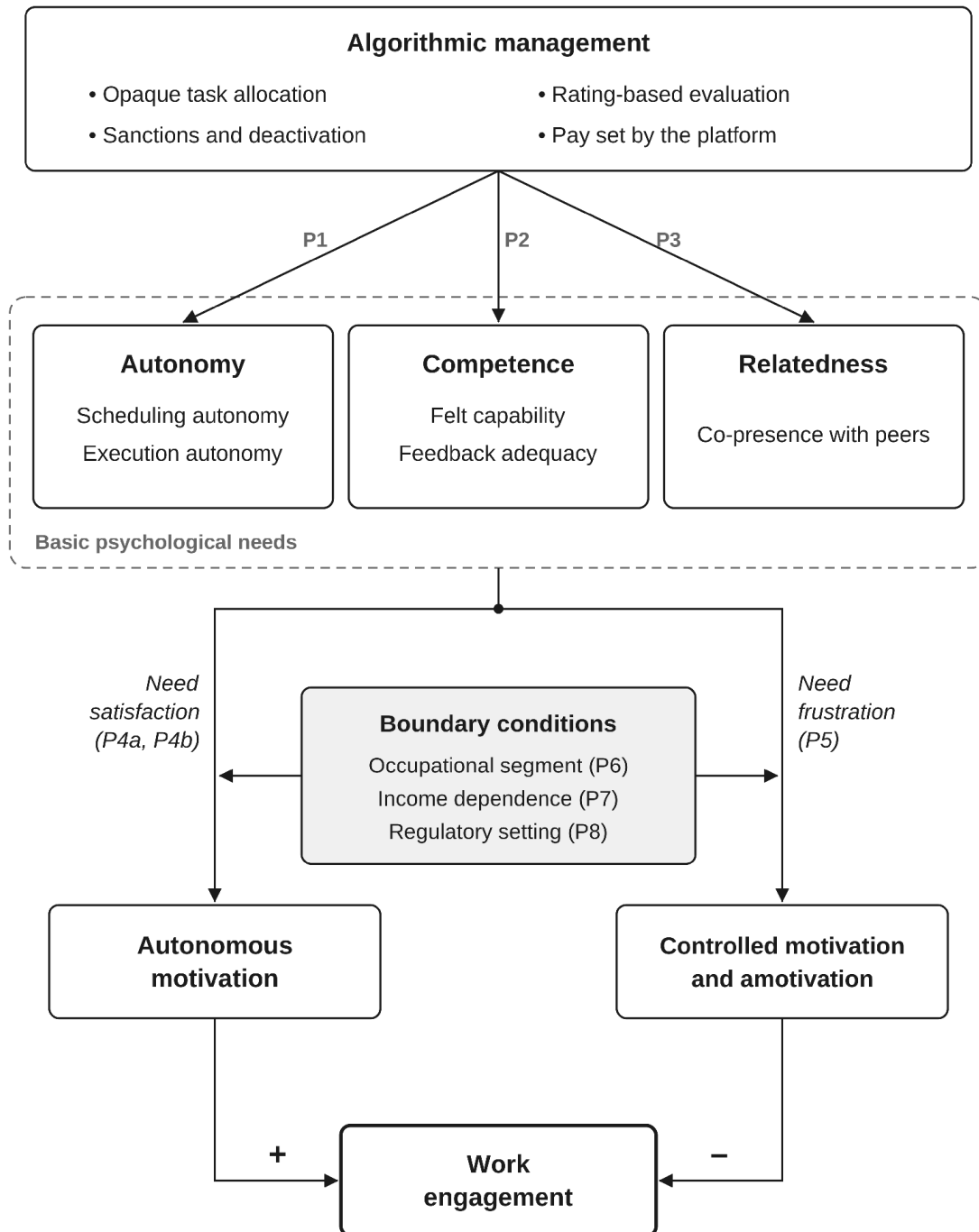
The framework suggests that regulation affects engagement through need satisfaction and frustration only to the extent that it changes the design of the work. Measures that reduce insecurity may ease the frustration produced by the threat of losing income. Measures that require transparency in allocation and pay, explanations for ratings, or a human review of deactivation would act directly on execution autonomy and feedback adequacy, and so should have larger effects on motivation and engagement.

Proposition 8. The effect of platform regulation on gig workers' motivation and engagement depends on whether it alters work design. Regulation that requires transparency and contestability in algorithmic decisions reduces autonomy and competence frustration more than regulation confined to social security provision.

5.4 Summary of the framework

Figure 1 brings the propositions together. Features of algorithmic management (top) shape the facets of each need. The needs feed engagement through two motivational pathways, and the three boundary conditions alter these links.

Figure 1. Conceptual framework: algorithmic management, the facets of the three basic needs and two motivational pathways to work engagement



Note. Arrows from algorithmic management show its effects on each need (P1 to P3). The needs reach engagement through need satisfaction and autonomous motivation (P4a) and through need frustration, controlled motivation and amotivation (P5). The boundary conditions act on both pathways (P6 to P8). The additional direct link from felt capability to engagement (P4b) is not drawn separately.

VI. Implications

6.1 Implications for theory

The framework makes three contributions to SDT. First, it shows that the content of the basic needs can be reorganised by the work context. SDT treats the needs as universal, and nothing here disputes that. What changes under algorithmic management is which experiences supply each need, and which experiences people

may mistake for it. Scheduling freedom resembles autonomy without providing it. Self-assessed capability resembles a satisfied competence need while the informational side of competence goes unmet. Measures developed for conventional employment, such as the work-related basic need satisfaction scale (Van den Broeck et al., 2010), may therefore combine facets that platform work separates, a concern Brawley (2017) raised for gig research generally.

Second, the framework gives relatedness a structural explanation. Work design research has mostly explained need satisfaction through task characteristics. The spatial account in Proposition 3 adds the physical and social layout of the work as a separate source, and explains why relatedness can run against the other needs across occupations. This connects SDT with the sociological literature on how gig workers build networks and connections outside formal structures (Petriglieri et al., 2019; Wood et al., 2019; Yao et al., 2021).

Third, the framework places the satisfaction-frustration distinction at the centre of research on platform work. Much of what is distinctive about algorithmic management, its opacity, its contingent sanctions and its evaluative rather than informational feedback, is better described as active thwarting than as missing support. Models that measure only satisfaction are likely to underestimate the motivational costs of platform design.

6.2 Implications for platforms

The framework identifies design levers that follow directly from the propositions. For autonomy, the lever is execution discretion rather than further emphasis on flexible hours, which workers already have and already discount. Examples include showing the full terms of a task before acceptance, removing or softening penalties for declining tasks, and explaining allocation rules. For competence, the lever is informational feedback: telling workers why a rating changed, which behaviours customers value and how to improve, rather than reporting a score alone. For relatedness, the lever is place. Rest areas at pick-up points and hubs, peer mentoring for new workers and moderated worker communities can strengthen the connections that location-based work already makes possible, and online cohorts or communities of practice can supply some of what remote freelancers lack.

These changes need not be framed only as welfare costs. Engagement is linked to performance and retention in conventional work (Christian et al., 2011; Halbesleben & Wheeler, 2008). If the same holds in platform work, platforms that satisfy rather than thwart workers' needs may gain better service quality and lower churn.

6.3 Implications for policy

For policymakers, the main implication is that social security, while necessary, does not reach the conditions that shape motivation at work. Proposition 8 suggests that rules on algorithmic transparency, explanations for ratings and deactivation, and access to human review would complement the protections introduced under India's labour codes. Workers' associations and platform-worker communities, which already serve as sources of relatedness and information for many workers (Yao et al., 2021), could also be given a recognised role in consultations on platform design.

VII. Research agenda and limitations

7.1 Testing the propositions

The propositions lend themselves to a sequence of studies. Table 1 matches each proposition with a design that could test it.

Proposition	Core claim	Suggested design
P1a, P1b	Scheduling and execution autonomy are distinct; algorithmic direction frustrates autonomy	Develop and validate separate scales for scheduling and execution autonomy; confirmatory factor analysis; add an autonomy frustration measure (Bartholomew et al., 2011)
P2	Competence splits into felt capability and feedback adequacy	Two-facet measurement model; test whether feedback adequacy varies with platform-level feedback design
P3	Relatedness follows the spatial organisation of work	Compare workers with and without shared waiting points; ethnography at delivery hubs and taxi stands; social network measures
P4a, P4b	Needs reach engagement through autonomous motivation; competence also directly	Longitudinal panel with at least three waves to establish temporal order (Olafsen et al., 2018)
P5	Need frustration feeds controlled motivation and amotivation	Dual-pathway structural model including both satisfaction and frustration measures, with exhaustion and intention to quit as further outcomes
P6	Relatedness matters more for motivation in location-based work	Multi-group structural equation modelling across location-based and remote segments
P7	Income dependence weakens scheduling autonomy and strengthens frustration	Moderation by primary versus supplementary income and by single- versus multi-platform work

Proposition	Core claim	Suggested design
P8	Transparency rules affect motivation more than social security alone	Comparison across states or periods with different regulatory provisions; quasi-experimental designs where rules change

Three further directions deserve attention. First, the measurement of needs in platform work should be revisited. Instruments built for employees may need new items on algorithmic direction, rating feedback and peer contact, and versions in Indian languages, developed with translation and back-translation, would allow fuller coverage of location-based workers. Second, objective data held by platforms, such as acceptance rates, ratings and log-in patterns, could be combined with surveys to reduce reliance on self-report. Third, gender deserves dedicated study. Ghosh et al. (2022) show that women's experience of flexibility, autonomy and algorithmic control on Indian platforms differs by sector and platform model, and the spatial account of relatedness may apply differently when shared public spaces are less safe or less welcoming for women workers.

7.2 Limitations of the framework

The framework has several limitations. It draws its illustrative evidence mainly from a single cross-sectional survey in one Indian region. That evidence was used to sharpen the propositions, not to test them, and the causal ordering in the framework rests on SDT's theoretical logic rather than on demonstrated temporal sequence. The splits proposed for autonomy and competence were observed partly through item-level behaviour in an adapted scale, and they need to be confirmed with purpose-built measures. The spatial account of relatedness is an interpretation of an unexpected occupational difference; alternative explanations, such as differences in recruitment channels between segments or in workers' social backgrounds, have not been ruled out. Some recent studies also point in the opposite direction from Propositions 1b and 5 (Peng et al., 2025; Zhu & Shao, 2026), and the propositions should be tested against them directly. Finally, the framework focuses on psychological needs and motivation and gives limited attention to material conditions such as pay, safety and working hours, which interact with these processes and which job demands-resources research is better placed to address (Bakker & Demerouti, 2017).

VIII. Conclusion

The flexibility of platform work is real but narrow. Workers can choose when to work, yet the experience SDT calls autonomy depends on control over how the work is done, and algorithmic management takes much of that control away. Workers feel capable, yet the platform tells them little about their performance. Workers lack colleagues, yet those whose work brings them together in physical space find more connection than professionals working alone at home.

This paper has argued that these patterns are not anomalies to be explained away but evidence that platform work reshapes the content of the basic psychological needs. The resulting framework separates scheduling from execution autonomy, felt capability from feedback adequacy, and grounds relatedness in the spatial organisation of work. It traces two motivational pathways to engagement, one through need satisfaction and autonomous motivation and one through need frustration and controlled motivation, and it identifies occupational segment, income dependence and regulation as boundary conditions. The eight propositions offer a basis for empirical work in India and in other economies where platform work is expanding quickly, and they point platforms and policymakers towards design changes that address the conditions of the work itself.

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