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To cite this article: Vijay Pereira, Abhishek Behl, Nirma Jayawardena, Benjamin Laker, Yogesh K Dwivedi & Shikha Bhardwaj (2022): The art of gamifying digital gig workers: a theoretical assessment of evaluating engagement and motivation, Production Planning & Control, DOI: 10.1080/09537287.2022.2083524

To link to this article: <https://doi.org/10.1080/09537287.2022.2083524>



Published online: 06 Jun 2022.



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The art of gamifying digital gig workers: a theoretical assessment of evaluating engagement and motivation

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ABSTRACT

The COVID-19 global pandemic has transformed work and employment patterns within organizations. Two key emerging trends visible at the organization level are as follows. First, employees being asked to leave (which has mostly been seen within the aviation, hospitality, and travel industries) and second, employees asking to work part-time or on a contractual basis (e.g. within the education and healthcare sectors). This so-called 'new normal' has also given rise to an unprecedented increase and diffusion of digital workforces being engaged either full or part time within organizations. Thus, through our study, we aimed to contribute from a theoretical standpoint by exploring this phenomenon through the lenses of swift trust theory (STT) and psychological contract theory (PCT). Our goal was to understand how firms use gamification to engage their digital gig workforce. We collected our data from organizations that used some form of gamification in the process of engaging their employees and extended our inquiry to understand whether they did the same in engaging their gig workforces. We restricted our data to only those firms that had engaged white-collar gig workers. Overall, our study contributes to the literature by extending the theoretical debate pertaining to the use of STT and PCT theory to understand the phenomenon of digital gig workforce engagement and productivity.

ARTICLE HISTORY

Received 28 December 2021
Accepted 22 May 2022

KEYWORDS

Digital workforce; gig workers; productivity; gamification; engagement; motivation

1. Introduction

Technology is bringing about dramatic global changes, affecting people's daily lives and employment opportunities (Cascio and Montealegre 2016). The emergence of gig workers is just an example of the radical changes affecting the labour market (Behl and Pereira 2021; Cascio and Montealegre 2016). We define a gig economy as the practice of hiring workers in response to a specific project or need (Behl et al. 2022; Behl and Pereira 2021; Cascio and Montealegre 2016). As organizations rapidly adapt to this new work culture, they increasingly rely on the employment of gig workers as the driving force behind such economy. Organizations are increasingly outsourcing short-term tasks in order to avoid hiring full-time employees (Huotari and Hamari 2017; Jayawardena et al. 2021). The rapid evolution of technology has motivated employers to recruit gig workers depending on the skills required by a project. Gig workers are explicitly classified as short-term employees with strict work schedules and are paid based on the tasks they complete (Behl, Sampat, et al. 2021; Huotari and Hamari 2017). There is a great deal of confusion surrounding what constitutes work in the growing gig economy, ranging from

independent contracting to other forms of contingent work (Behl, Sampat, et al. 2021). Meijerink and Keegan (2019) attributed the exponential growth of gig workers by investigating conceptually the concept of HRM in the gig economy, where platform firms that design and implement HRM activities attempt to avoid establishing employment relationships with gig workers. Unlike their contract counterparts, gig workers have no permanent connection to an organisation, and are recruited by way of crowdsourcing platforms (Behl et al. 2022). Furthermore, the employment of gig workers is gaining popularity due to the low labour costs, lack of job obligation, and the freedom to hire workers on an ad-hoc basis (Behl et al. 2022; Jabagi et al. 2019).

The idea underpinning crowdsourcing platforms involves the participation of multiple individuals in order to achieve a common objective (Bakici 2020; Behl et al. 2022; Behl and Pereira 2021; Li et al. 2021; Ribeiro-Navarrete et al. 2021). Technological advances have enabled people to connect virtually across geographical boundaries through the Internet (Bacigalupe and Lambe 2011). Concisely, crowdsourcing platforms act as intermediaries, connecting freelancers with those who need their services (Carvalho, Francisco, and Relvas 2015; Jayawardena 2021). Crowdsourcing platforms

enable gig workers to better identify, approach, and apply for any work assignments posted by employers, which provides them with fragmented micro-jobs (Valenduc and Vendramin 2017).

Our aim was to understand how firms use gamification to engage their digital gig workforce, exploring this phenomenon through the lenses of swift trust theory (STT) and psychological contract theory (PCT). To do so, we collected data from organizations that used gamification in their processes to energize their employees and we analysed them to understand whether it was also being used to engage gig workers. To achieve our study's aim, we thus endeavoured to answer the following research question.

How do firms use gamification to engage their digital gig workforces and enhance their productivity?

Many people come together to achieve a common goal (Asún, Rdz-Navarro, and Alvarado 2016; Ballinger, Schwartz, and Andrews 2017; Barsness, Diekmann, and Seidel 2005), and the Internet has undoubtedly extended the reach and scale of digital gamification platforms (Banik and Padalkar 2021; Cascio and Montealegre 2016; Ghosh, Sreejesh, and Dwivedi 2021; Sreejesh, Ghosh, and Dwivedi 2021; Xu et al. 2022). The applicability of STT and PCT will be further justified in next section.

1.1. The role played by digital gig workers in evaluating engagement and motivation

Gamification has been trending in many fields of research, especially in e-learning, online shopping, and human resources (Jabagi et al. 2019; Jayawardena 2021; Owens et al. 2016; Rich, Lepine, and Crawford 2010). Gamification failures can lead to worker demotivation (Behl et al. 2022), and a significant challenge in formulating gamification schemes is that participation in the gig economy ecosystem relies on workers' continuity, with workers failing to live up to expectations causing customer dissatisfaction (Behl et al. 2022). Moreover, business continuity can be found lacking and, to improve business performance, gig economy operators need to actively consider gamification (Cardador, Northcraft, and Whicker 2017; Cascio and Montealegre 2016; Jayawardena et al. 2021). Although motivation is a relatively mature field of study, new issues need to be considered when analysing the evolution of traditional employment relationships in relation to platform-mediated ones (Cardador, Northcraft, and Whicker 2017; Cascio and Montealegre 2016; Jayawardena et al. 2021). Individuals engaging in activities characterized by self-determined behavioural control are motivated by their inherent interest, enjoyment, and satisfaction; their behaviour is thus governed by intrinsic interest, volition, and choice. Deci, Olafsen, and Ryan (2017) noted that employees can be internally motivated for at least some of the aspects of their jobs, if not all. The basic psychological needs of individuals are satisfied when they are autonomously and intrinsically motivated, and psychologically healthy (Deci, Olafsen, and Ryan 2017). The links between need satisfaction and intrinsic motivation are among the best established in

research related to self-determination theory (Olafsen, Deci, and Halvari 2018).

To encourage the engagement, loyalty, and effectiveness of digital gig workers, many companies use game features in non-gaming contexts (De Troyer et al. 2020; Eppmann, Bekk, and Klein 2018; Högberg, Hamari, and Wästlund 2019; Wunderlich et al. 2020). Online marketing (Noorbehhahani and Salehi 2021) is one of the domains that has invested a lot in gamification. Persuasion, motivation, and the manipulation of clients' attitudes are all part of marketing, which makes gamification a very promising strategy (Kuo and Chuang 2016; Wang et al. 2017).

2. Literature review: Gig sector/gig economy

The gig economy phenomenon emerged as an outcome of the 2008 financial crisis, when most unemployed professionals started taking on short-term jobs to sustain their livelihoods (Banik and Padalkar 2021). The gig economy involves non-traditional work arrangements characterized by an open market, demand-specific jobs, and task-based labour (Behl and Pereira 2021; Behl, Sampat, et al. 2021). Such arrangements have not only challenged the traditional work/worker dynamics, but have also redefined them in three ways by means of new forms of working, new work settings, and anew workers status (Tan 2017). With the drastic scale and scope global expansion of the gig economy, it is essential to estimate and observe the changing work patterns. According to a World Bank report (2015), the gig economy fundamentally runs on (i) microwork, (ii) freelancing, and (iii) business process outsourcing. The gig economy has motivated large numbers of students, highly skilled workers, and job-seeking professionals to exploit the available work options and join the gig workforce (Banik and Padalkar 2021), resulting in a rapid increase in small independent pieces of work performed to complete 'whole' jobs through short-term contractual labour.

In the music industry, the term 'gig' has long been used to denote the performance of an artist on a specific occasion (Longley 2020). Likewise, the gig economy represents a payment-by-task system wherein a workforce performs a specific task for a company or a customer in exchange for payment. In other words, the gig economy facilitates the matching of service providers and customer needs. Although it is difficult to measure the size of the global gig workforce—which is defined and structured differently in different countries—it has been reported to be generally on the increase in the 2021 WHO and ILO annual reports. Interestingly, the relationship between the gig economy and gig workers differs greatly from pre-existing forms of short-term contractual work in the following ways: (a) it has a greater scope and scale across all industries and workers (Behl, Sheorey, et al. 2021), (b) it has grown largely via digital technologies such as mobile, app-based digital platforms (Gandini 2019), and c) it is characterized by greater autonomy and flexibility due to the shorter duration (micro-tasks) of the work engagements (Tan 2017).

2.1. The digital engagement of gig workers

The changes in the nature of work brought about by the spread of digitalization has helped phenomenal rise of gig work and gig workers (Banik and Padalkar 2021). Scully-Russ and Torracco (2020) suggested a few influential factors that have been instrumental in the growth of the gig work culture. First, technological advancements—and mobile-based apps in particular—which have enabled a more efficient use of services and an increase in workforce productivity. Second, changes in consumer preferences regarding buying goods online and paying in instalments i.e. in part payments, instead of making a full payment. Third, changing choices of career and work among employees, which have shifted from traditional jobs to more flexible project-based assignments. Last, an institutional shift in the labour market, which has standardized working norms for gig workers across different countries.

The extant literature provides various definitions of gig workers, highlighting different key qualifying attributes for them (Rosenblat and Stark 2016). Studies vary in their conceptualization of gig workers, with differences in their purposes leading to divergent views. A rigorous review of the existing literature has yielded four broad themes suited to classify gig workers—key attributes, type of work, non-standardization, and gig worker profile—as shown in Table 1. Interestingly, most gig workers are digitally engaged, either directly or indirectly, which reveals that, in the gig economy, activities are generated through ‘digital labour platforms’ (Heeks 2017; Tan 2017; Wood, Lehdonvirta, and Graham 2018).

The gig economy is facilitated by approximately 70 million workers registered online (Wood et al. 2019) whether transacting or delivering via platforms. Digital engagement, which has thus emerged as a core function of its existence, helps in economic growth as well as in promoting gig worker offerings via platforms such as Fiverr, Upwork, freelancer.com, etc. (Wood et al. 2019). In the UK, around 4.4% of adults worked in the gig economy in 2018 (Wood, Lehdonvirta, and Graham 2018). In the US, around 25% of the workforce participates in the gig economy, while, in Europe, its gross revenue has doubled due to collaborative work, and, in the UK, more than 9.6% of the adult workforce is engaged in platform work (Tan 2017). Notably, an online labour index (OLI) shows online labour platforms growing by 25% yearly (Lehdonvirta et al. 2019). Therefore, digital engagement accelerates gig work and most gig workers are actively engaged in digital technologies.

2.2. Swift trust theory

As many organizations are moving away from formal hierarchical structures and towards temporary project-based groupings, swift trust theory is an appropriate research lens, being based on temporary and flexible organizational structures (Meyerson, Weick, and Kramer 1996). Swift trust has two components: cognitive and normative. The cognitive component explains early trusting beliefs and the normative

the later reinforcement of trust (Costa 2003). Arguably, rapidly converging groups have challenged the traditional theory of trust and practice ‘swift trust’. In traditional trust, long-term relationships are developed over time, while swift trust is formed for short-term tasks or events, facilitating rapid team formation or launch (Meyerson, Weick, and Kramer 1996). Subsequently, high levels of trust engender positive attitudes towards work, increased commitment, and team satisfaction (Longley 2020). Paradoxically, temporary work arrangements and groups often lack the traditional sources of trust and exhibit behaviours that presuppose trust (Creed et al. 1996). As a result, swift trust resolves the paradox found in groups that are short-lived, lacking any prior experience of trust building within them and still able to benefit from mutual trust (Creed et al. 1996). It is a unique form of collective perception suited to manage vulnerability, uncertainty, risk, and expectations. Due to time limitations, temporary teams—like gig service or goods providers, etc.—start off by assuming trust and then verify it later, adjusting trust beliefs accordingly (Meyerson, Weick, and Kramer 1996). Although swift trust can take on strong manifestations among gig workers, it is conditional and needs to be reinforced through collaborative actions. In our study we were interested in establishing whether swift trust theory could be an enabler in the calibration of gig work.

2.3. Psychological contract theory

Psychological contract theory is based on individual-level cognitive interpretations of exchange relationships (Rousseau 1989). PCT, which is rooted in psychology, is broadly positioned in the social exchange and social information processing concepts (Rousseau 1989). Although PCT emerged in the early 1900s, various aspects of it have been redefined by several researchers. Earlier studies explained the psychological contract (PC) as an implicit relationship between employees and their motivation (Argyris 1960a); then, it was identified as the human need to maintain positive well-being (Odendaal 2000). Later, it was highlighted as an employment arrangement. Rousseau (1989, 35) reconceptualised the PC as ‘an individual’s belief regarding the terms and conditions of a reciprocal exchange agreement between that focal person and another party’. The PC is promissory in nature, whereby two parties become involved in the exchange of tangible or intangible promises that affects the development and maintenance of their relationship. Unlike legal employment contracts, PCs are subjective in nature and depict an implicit relationship among individuals and organizations (Liu, He, et al. 2020).

PCT encompasses two forms of contract—transactional and relational. Transactional PCs refer to reciprocal economic exchanges among parties, whereas relational ones refer to long-term socio-emotional exchanges (Meyerson, Weick, and Kramer 1996; Mullins and Sabherwal 2020). Both forms of contract are widely used, depending upon the duration of the employment contract, role specificity, and the exchange of resources (Wang et al. 2017). Our study was aimed at examining the relational PC as an antecedent to task

Table 1. Classification of gig workers.

Classification of gig workers		
Category	Definitions	Examples
a. Based on key attributes		
Flexibility	Short-term contract-based workers (Connelly, Gallagher, and Gilley 2007) Work is temporary in nature (Watson et al. 2021)	Online faculty instructor
Autonomy	Conduct, schedule and pace their own work (Broughton et al. 2018) Specialist in freelancing space (Hasija, Padmanabhan, and Rampal 2020) Independent to take up or leave work (Allen et al. 2013)	Ola cab driver has full control over when to start ride
Project-based payment	Paid on project-to-project basis instead of fixed salary (Watson et al. 2021)	Airbnb is compensated based on number of days booked
b. Based on type of work		
Using technology 'platforms'	Use digital platform to connect worker to consumer (Gleim, Johnson, and Lawson 2019) Deliver goods on-demand online (Vallas and Schor 2020) Professionals from online platform work together (Frenken and Schor 2019) Act as intermediaries between company and customer using digital technologies (Tan 2017)	eBay, Ola, Uber etc use digital platform to fulfil customer needs
Crowd work	Digital work outsourced by a person (Schulte, Schlicher, and Maier 2020) Use third parties to fulfil specific demands (Song, Lowman, and Harms 2020) Crowd source works for online only or micro-tasks (Finkin 2016)	Airbnb brings customer and gig workers together to book a place Wikipedia engages in crowd sourcing to write content
Remote working	Individuals work from anywhere (Barsness, Diekmann, and Seidel 2005) On-demand sharing basis or peer-to-peer (Wood, Lehdonvirta, and Graham 2018)	MTurkers work remotely
c. Based on non-standardization		
Contingent worker	Workers does not have employment contract neither explicit nor implicit (Coyle-Shapiro and Kessler 2002) Temporary work with no long-term job assurance (Chen, Yeh, and Madsen 2019)	Photographers, translators, tutors etc
Self-employed workers	Two types of workers: sharing economy workers and platform workers (Codagnone, Abadie, and Biagi 2016) Facilitates matching demand and supply of service providers and customers (Calo and Rosenblat 2017) Specific skill-based professionals engaged in multiple short assignments with diversity (Lepanjuuri, Wishart, and Cornick 2018)	Airbnb, Uber etc all labour-platform work
d. Based on Gig workers profile		
Gig service provider	Technologically enabled network and crowdsourcing (Watson et al. 2021) Platform based service provider enabling consumers to find a service directly (Tan 2017)	Airbnb, Uber, Lyft etc
Gig goods providers	Technologically enabled network and provide goods to consumer (Watson et al. 2021) Need based, highly personalized, on-demand products (Watson et al. 2021)	Facebook marketplace, eBay, Etsy etc.
Gig data providers	Technologically enabled network and relies on crowdsourcing but works remotely (Watson et al. 2021) These are physically isolated work done through networks and digital platform to connect worker-to-requestor (Tan 2017)	Amazon's mechanical turk, Google survey, Wikipedia etc
Agency gig workers	Nature of work is agency-based and may not be dependent over technology (Watson et al. 2021) They receive high workplace social support from co-workers and supervisors (Watson et al. 2021)	Models working for an agency etc
Conventional gig workers	Service providers (Watson et al. 2021) They exercise more decision-making autonomy to complete task (Morgeson and Humphrey 2006)	Freelancers, babysitters, nurses, photographers, artist etc.

performance, as such contract is more linked to job stability and job security related aspects (Zagenczyk et al. 2011). In the context of gig employment, in which workers are employed on short-term temporary assignments, career stability and consistent sources of income are the most pressing issues that may influence task performance.

2.4. The inter-linkage between PCT and STT

The operationalization of gig workers in an organization is essentially an inter-linkage between swift trust and the PC. The extant studies highlight a positive relationship between them (Trussell 2015), which leads to high employee engagement. While it is observed that trust is at the heart of any employment relationship (Guest 2004), it is worth noting that any under-fulfilment of the PC may be detrimental to employee engagement (Mobarez 2018). Trust has generally been considered as a vital element of working in teams because of the interdependence among members in organizations (Caldwell and Jeffries 2001; Daley 1991). It is often assumed that trust development is a gradual process; however, surprisingly, recent studies suggest that individuals can exhibit high levels of trust even without a history of interaction (Meyerson, Weick, and Kramer 1996; Weber, Malhotra, and Murnighan 2004). Further, recent studies reflect how relationships among members may lead to greater engagement (Owens et al. 2016), which, in turn, results in better job performance (Rich, Lepine, and Crawford 2010). On the one hand, the relational PC establishes the foundation of employment relationship among gig workers and, on the other hand, swift trust works as a catalyst for gig worker performance. Our study was aimed at demonstrating the bricolage effect of PCT and STT in the gig space of business. We thus proposed a set of hypotheses, as discussed in the next section.

3. Hypotheses development

Firstly, psychological contracts are established based on individual-level implicit or explicit exchanges and agreements between workers and employers (Rosenblat and Stark 2016; Rousseau 1989). Gig work, on the other hand, is founded on alternative work arrangements, in which most workers are employed remotely with active use of technology and minimal human interaction (Chai and Scully 2019; Duggan et al. 2020). Conversely, gig work is established based on alternative work arrangements whereby most workers are employed remotely with an active use of technology and minimum human interaction (Argyris 1960a; Banik and Padalkar 2021; Behl, Sampat, et al. 2021; Chai and Scully 2019). This form of management involves remote surveillance and some degree of algorithm management for short term employment (Argyris 1960a; Banik and Padalkar 2021; Behl, Sampat, et al. 2021; Chai and Scully 2019). Under such circumstances, gig workers do not engage wholly, but rather on the basis of the degree to which they are involved in a project (Rousseau 1989).

Additionally, as opposed to above, gig workers may be involved in two or more projects simultaneously, with different PCs linking them with different organizations. Third, algorithm-based management lacks the human interaction, this may eventually reflect any perceived gaps in individual perceptions of the exchanges that take place in gig work (Guidotti et al. 2019). Therefore, it is essential to understand the impact of PCs on swift trust. As gig work demands the immediate effects of swift trust on team formation, it is important to examine the impact of PCs on swift trust. While considering gig work—where workers operate in an open-market, with skill based and on-demand work—there is a high likelihood of economic instability and career insecurity (Bhattacharya et al. 2017). Therefore, it is observed that gig workers often engage in socio-economic exchanges—rather than in purely economic ones—with their employers, which can be characterized as relational PCs (Liu, Vrontis, et al. 2020). The fulfilment of relational PCs promotes professional development, fair treatment, and job security (Zagenczyk et al. 2011).

Gig workers face high risks of individualization, as they work in isolation from each other and may be involved in multiple employment relationships at the same time (Gleim, Johnson, and Lawson 2019). Consequently, relational PCs engage gig workers and employers in more trust- and emotion-related exchanges that may support swift trust. Drawing on the above arguments, we examined the impact of relational PCs on the swift trust of gig workers, and we hypothesized:

H1. Psychological contracts have a positive impact on the swift trust of gig workers.

H2. Relational psychological contracts have a positive impact on the swift trust of gig workers.

Swift trust is a form presumptive trust within teams the members of which have not interacted socially to any great extent, but are required to work together, avoid uncertainties, and achieve any established goals (Germain 2011). In gig work situations, where individuals are at high risk and teams work remotely on short-term assignments, there is a possibility of lack of familiarity and confidence triggering conflicts of interest among members (Argyris 1960b). Individual defence actions may include the deliberate withholding of information (Zainuddin et al. 2020), the refusal to cooperate (Rousseau 1989), or any other action intended to undermine the actions of others. As a counter response, swift trust has a high likelihood to smooth over any differences by building rapid trust in temporary teams. As high trusting teams exhibit high task performance, swift trust may potentially act as an enabler of the task performance of gig workers (Ashleigh and Nandhakumar 2007). We therefore hypothesized:

H3. Swift trust has a positive impact on the task performance of gig workers

Extant studies claim a strong relationship between trust and engagement (Meijerink and Keegan 2019) in the gig economy. This notwithstanding, the level of engagement is

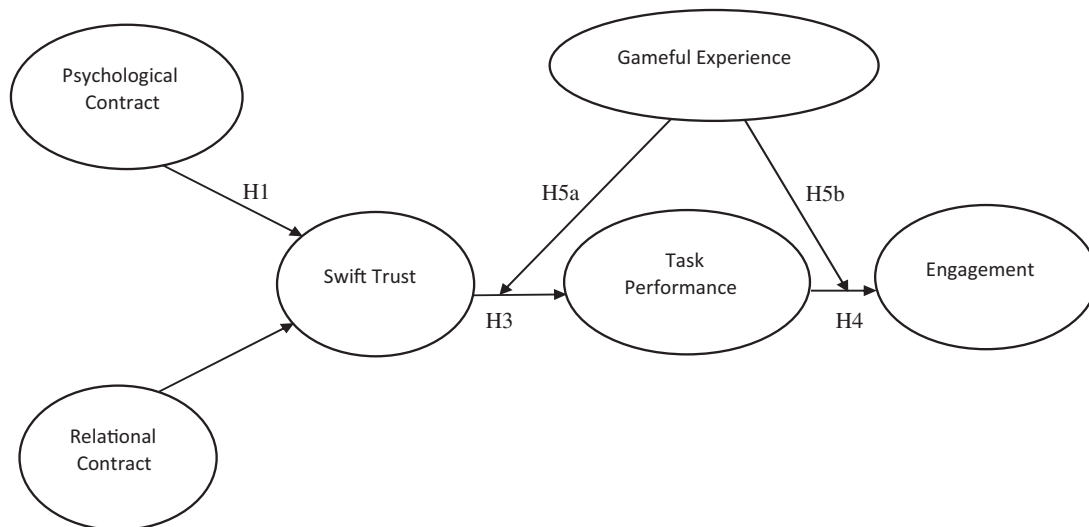


Figure 1. Conceptual framework of the study.
Source: Developed by authors

significantly associated with success, rapport, and trust (Hoy, Hoy, and Kurz 2008) in the workplace. Trusting relationships among gig workers often strengthen the 'sense of teamwork' and positive engagement (Karatepe 2013; Tschannen-Moran and Hoy 2001). Trust is a salient ground of gig work success and task performance (Bennett and Bierema 2010). Further, task performance is defined as the effective completion of an assigned role or job (Wang and Bird 2011). In gig work situations, where swift trust acts as ground for temporary assignment, it is essential to recognize the relationship between task performance and work engagement. Meijerink and Keegan (2019) interestingly found that, in swift trust situations, individuals tend to build trust based on the responsiveness of other workers, rather than on task performance, with greater engagement yielding better task performance (Rich, Lepine, and Crawford 2010; Bal, Kooij, and De Jong 2013; Behl and Dutta 2020). Further, some studies show that high performance builds high engagement, which leads to high organizational commitment (Bal, Kooij, and De Jong 2013; Behl and Dutta 2020). Therefore, task performance may mediate between swift trust and engagement in gig work. As gig workers establish swift trust, given their roles and the duration of their assignments, their engagement level is likely to affect task performance. We based our argument on the fact that even gig workers tend to engage with same team or organization due to swift trust and task performance. This suggests that task performance mediates swift trust and engagement in gig work, and we hypothesized:

H4. Task performance mediates the relationship between swift trust and the engagement of gig workers.

It can be observed that the application of game elements in work-related tasks enables the development of strong relationships among gig employers and employees (Hasija, Padmanabhan, and Rampal 2020; Högberg, Hamari, and Wästlund 2019). A gameful experience differs from gamification in that, while gamification explicates any extrinsic motivation by using game elements—like points, badges, leader boards, etc.—to enhance worker performance (De Troyer

et al. 2020; Dubal 2017), a gameful experience focuses on intrinsic motivations such as positive emotions, relationships, meanings, and accomplishment by implementing gameful designs (Jayawardena 2021; Lapanjuuri, Wishart, and Cornick 2018). A gameful experience comprises a series of activities embedded in work through digital and computer interfaces, but in a non-game context (Banik and Padalkar 2021). Based on the phenomenon of engagement, a gameful experience reinforces a new way of thinking built on feedback, autonomy, and emotions (Deci, Olafsen, and Ryan 2017).

A gameful experience is conceptualized as a means of engagement through learning systems in a particular context (Dichev et al. 2015). In gig work situations, while, on the one hand, a gameful experience reinforces the intrinsic motivations that drive task performance, on the other hand, it leads to the desired worker behaviours (Cardador, Northcraft, and Whicker 2017). Therefore, we argued that, while assessing the relationship between swift trust and the task performance of gig workers, a gameful experience acts as a moderator. Several studies demonstrate that the use of a gameful experience at work increases motivation (both intrinsic and extrinsic), engagement, and performance (Langer and Landers 2021). In other words, a gameful experience may influence performance in gig work situations due to the player-centric active use of digital technologies to exchange informative and affective content (Cardador, Northcraft, and Whicker 2017). At the same time, the degree of engagement is high due to the intrinsic motivation and relatedness among workers (Behl, Sampat, et al. 2021). Therefore, while assessing the relationship between task performance and engagement, we postulated:

H5a: A gameful experience has a moderating effect on the relationship between swift trust and the task performance of gig workers.

H5b: A gameful experience has a moderating effect on the relationship between the task performance and engagement of gig workers.

The hypotheses are summarized in Figure 1.

4. Research instrument development and finalization

In our study, we took a cross-sectional approach to collect the data needed to test our hypotheses. Our sample was made up of Indian firms that had used gig workers to complete their tasks over the previous three years. The Indian gig sector has grown significantly with respect to those of other nations (Bal, Kooij, and De Jong 2013; Behl and Dutta 2020; Behl et al. 2022) and the transition had been more prevalent during the COVID-19 pandemic, which further pushed firms to adopt a work-from-home culture and even fire some employees. While critical resources were retained, most ancillary work was offered to gig workers. The rate whereby firms opted to use a gig workforce thus increased, encompassing firms across all sectors. For our study, we used established constructs like the PC; the relational contract (RC) (Bal et al., 2010; Wu and Chen, 2015; Turnley et al., 2003); swift trust (ST); task performance (TP); engagement (ENG) (Behl et al. 2022), and gameful experience (GE) (Eppmann, Bekk, and Klein 2018). The existing scales were modified to suit our study's context.

The scales were pre-tested with experts for reliability and validity. All corresponding items were measured using 5-point scales where 5 denoted strong agreement and 1 denoted strong disagreement, as suggested by Asún, Rdz-Navarro, and Alvarado (2016). Each construct was designed carefully and validated to avoid ambiguity. The experts also checked for completeness and flow. The final version of the questionnaire was divided in two parts. The first pertained to the demographic profiles of the respondents, with questions aimed at inquiring about their socio-economic and cultural backgrounds. This section also sought responses aimed at understanding the patterns, reasons, and frequency of the responses made by the participants. The second section involved questions (items) suited to measure the constructs. The final questionnaire was shared with 22 experts divided equally among practitioners and academicians. The experts had a rich experience in designing gamified crowdfunding solutions for disaster relief operations. We included academic experts who had published consistently on the gig economy, the engagement of employees, and gamification. These experts had at least six years of experience in their respective fields of expertise. They reviewed the questionnaire in regard to various aspects like readability, relatedness, completeness, and structure, and suggested improvements. The authors revised the questionnaire based on the suggestions made by the experts. The final questionnaire was then distributed for the data collection.

4.1. Data Collection

We collected our data in two waves between September 2021 and November 2021, with a gap of four weeks in between. We reached out to the human resource department of our prospective sample firms and targeted managers involved in the recruitment of gig workers. We approached firms across all sectors, and tried to achieve a

balanced sample of firms from each. We sourced our firms from the HR database of a head-hunting market research firm and sent emails to their respective HR managers to seek their advice in contacting the right teams and managers handling gig workforces. We sent out a total of 3,548 copies of the questionnaire and received 753 responses. We cross-verified the responses by following up with the respondents to check their backgrounds and their portfolios in regard to their past handling of gig worker. We thus finalized a total of 523 responses for our study. The data were collected in two waves with a gap of four weeks. This approach helped us improve the overall response rate using Dillman's (2011) total design test guidelines. The demographic distribution of the respondents is presented in Table 1.

The majority of our participants were between 40 and 45 years old, followed by those aged 35 to 40. A maximum of three years of work experience was seen among most participants. A balanced industry engagement was quite evident in our study, as the participants were from different sectors, including retail (31); manufacturing (47); education (96); information technology (142); entertainment (101); and telecommunications (94), with other sectors being represented by 59 respondents. Most participants were male (299).

We also performed a non-response bias test following the guidelines laid down by Armstrong and Overton (1977). We compared the mean scores of demographic categories using a t-test. We found the significance value to be greater than 0.05, thereby confirming the absence of any significant difference between the two groups regarding data collection. The t-test results confirmed that the data did not suffer from non-response bias, and thus proceeded to perform the data analysis, as discussed in the next section.

5. Data analysis and results

5.1. Measurement Validation

Before processing the data and testing our hypotheses, we checked for reliability and validity. Additionally, we checked for the goodness of fit of the model. We referred to the guidelines laid down by Kock, Josiassen, and Assaf (2019) to test for nomological validity using the PLS-SEM software. We adopted Warp PLS 7.0, which uses a partial least square structural equation modelling. Hair et al. (1998) discussed the rationale for using PLS-SEM over covariance-based SEM and listed multiple criteria. Following those criteria, we were able to confirm that the research was an extension of existing structural models. We thus decided to use PLS-SEM over CB-SEM. We further referred to the arguments and recommendations to choose between CB-SEM and PLS-SEM made by Hair et al. (1998). These confirmed that PLS-SEM was best suited for our study.

We used Cronbach's alpha as an acceptable measure to test for reliability. The overall value of Cronbach's alpha was found to be higher than 0.7. We further examined the reliability of each item and calculated the value of Cronbach's alpha by dropping some items. The results confirmed that by dropping certain items, the revised value of the Cronbach alpha did not change significantly. Thus, the final

Table 2. Demographic profile of respondents.

Demographic variables	Classification	No. of respondents
Age (in years)	25–30	62
	30–35	119
	35–40	134
	40–45	148
	45–50	39
	More than 50	21
Years of Experience	0–6 months	35
	6–12 months	145
	12–24 months	138
	24–36 months	178
	36–60 months	22
	More than 60 months	5
Sector	Retail	31
	Manufacturing	47
	Education	96
	Information Technology	142
	Art, Craft and Music	101
	Telecom	94
Gender	Others	59
	Male	299
	Female	224

Table 3. Convergent validity measures.

Items	Factor Loadings	Variance	Error	SCR	AVE
PC1	0.78	0.6084	0.3916	0.967	0.60
PC2	0.82	0.6724	0.3276		
PC3	0.73	0.5329	0.4671		
PC4	0.77	0.5929	0.4071		
RC1	0.72	0.5184	0.4816	0.968	0.59
RC2	0.69	0.4761	0.5239		
RC3	0.79	0.6241	0.3759		
RC4	0.79	0.6241	0.3759		
RC5	0.84	0.7056	0.2944		
ST1	0.68	0.4624	0.5376	0.537	0.50
ST2	0.72	0.5184	0.4816		
ST3	0.77	0.5929	0.4071		
ST4	0.66	0.4356	0.5644		
TP1	0.68	0.4624	0.5376	0.899	0.53
TP2	0.79	0.6241	0.3759		
TP3	0.72	0.5184	0.4816		
ENG1	0.77	0.5929	0.4071	0.92	0.52
ENG2	0.73	0.5329	0.4671		
ENG3	0.67	0.4489	0.5511		
ENG4	0.77	0.5929	0.4071		
ENG5	0.72	0.5184	0.4816		
GE1	0.67	0.4489	0.5511	0.887	0.49
GE2	0.7	0.49	0.51		
GE3	0.72	0.5184	0.4816		

questionnaire was validated for reliability. Next, we performed hypotheses testing and checked for the degree of association between the constructs. We assessed the psychometric properties of each of the constructs, followed by calculating scale composite reliability (SCR), discriminant validity and average variance extracted (AVE). The results, presented in Table 2 and 3, confirmed that the individual factor loadings were greater than the accepted threshold of 0.5.

Additionally, we found that the AVE was higher than 0.5 and the SCR higher than 0.7 (Table 2). The results confirmed that the data had convergent validity, as suggested by the guidelines of Fornell and Larcker (1981). We also tested for discriminant validity by checking whether the square root of the AVE was greater than or less than the individual correlation coefficients. The results confirmed that none of the inter-item correlations was greater than the AVE of each

Table 4. Model Fit and quality indices parameters.

Model fit and quality indices	Values (Threshold Values if any)
Average Path Coefficient (APC)	0.332 ($p < 0.001$)
Average R^2	0.691 ($p < 0.001$)
Average block VIF	4.25 (Acceptable if value ≤ 5)
Tenenhaus GoF	0.593 (Large if value ≥ 0.36)

construct. These tests confirmed construct validity and further validated our research instrument as indicative of the theoretical constructs used in the current study.

To test the goodness of fit and statistical fit of the model, we referred to the guidelines laid down by Sarstedt et al. (2014) and calculated the values of the average path coefficient (APC); average R-squared (ARS); average full collinearity VIF (AFVIF) and Tenenhaus Goodness of Fit (GoF). The results (Table 3) confirmed that all the above indicators satisfied the required threshold values. We found $APC = 0.332$ ($p < 0.001$); $ARS = 0.691$ ($p < 0.001$); $AFVIF = 4.25$ (acceptable if lower than 5; ideally less than 3.3) and $Tenenhaus\ GoF = 0.593$ (large if higher than 0.36; medium if higher than 0.25 and small if lower than 0.1).

5.2. Common Method Bias (CMB)

As we adopted a primary data collection approach, the cross-sectional nature of our data made it prone to face various issues, of which common method bias was the most common and a highly critical one (Ketokivi and Schroeder 2004). Following the guidelines laid down by Ketokivi and Schroeder (2004), we argued that providing our respondents with the background of our study and detailed instructions would help in achieving variation in the responses. In addition to this, social desirability could also trigger common method bias in our data and show variation in the responses given by the respondents. To control for CMB, we adopted multiple techniques, as mentioned. First, we looked at the conservative version of Harman's single factor test and found that it explained 41.15% of the total variation. This result confirmed that our data did not suffer from common method bias, as the percentage was under the acceptable maximum threshold (Podsakoff and Organ 1986). Empirical studies mostly use Harman's single factor test as a benchmark to test for CMB; however, the recent literature has also appreciated and supported the use of the correlation marker technique, a method to test for CMB using a correlation-based approach, to test the difference between unadjusted and adjusted correlations (Lindell and Whitney 2001). We thus also performed a correlation marker test, (Dubey et al. 2019) and found no significant change in the correlations between the two groups (first 20% and last 20%), thereby confirming the lack of CMB. Lastly, we tested for causality as a prerequisite for our hypotheses testing, as pointed out by Kock (2015). We adopted and tested for causation using a non-linear bivariate causality direction ratio (NLBCDR). We found that the value of the NLBCDR was greater than 0.7 (0.753), and thus fell above the minimum acceptable

Table 5. Causality assessment indices.

Causality assessment indices	Values (threshold values if any)
Simpson's Paradox Ratio (SPR)	0.818 (Acceptable if ≥ 0.7)
R ² contribution ratio	0.915 (Acceptable if ≥ 0.9)
Statistical Suppression Ratio (SSR)	0.769 (Acceptable if ≥ 0.7)
Non-linear bivariate causality direction ratio (NLBCDR)	0.794 (Acceptable if ≥ 0.7)

Table 6. Structural estimates.

Hypothesis	Effect of	Effect On	β	p -value	Results
H1	PC	ST	0.54	***	Supported
H2	RC	ST	0.52	***	Supported
H3	ST	TP	0.46	***	Supported
H4	TP	ENG	0.73	***	Supported
H5a	ST X GE	TP	0.03	*	Not Supported
H5b	TP X GE	ENG	0.62	***	Supported

***Significance level – 0.001; *Significance level – 0.1.

threshold (Kock 2015), thereby confirming that causality was established in our study (Refer Table 4).

5.3. Hypotheses testing results

Based on the results, we found supportive co-efficient values for H1, H2, H3, H4, and H5b (Refer Table 5). We found a strong positive relationship between task performance, swift trust, and the engagement of gig workers. The second highest co-efficient value we found was for H5b, which means that a gameful experience has a moderating effect on the relationship between task performance and the engagement of gig workers. No supporting evidence was found for H5a, which posited that a gameful experience would have a moderating effect on the relationship between swift trust and the task performance of gig workers. We identified a very low co-efficient value for H3 which posited that swift trust would have a positive impact on the task performance of gig workers. We found PC and RC to have a positive co-efficient value indicating a strong positive impact on the swift trust of gig workers. Finally, task performance was found to mediate the relationship between swift trust and the engagement of gig workers.

It was imperative to compute the explanatory power of the research model based on the explained variance (R²) of the endogenous constructs. We found the R² value for the ST to be 0.65, that for TP to be 0.74, and that for ENG to be 0.71. To examine each predictor's explanatory power, we calculated the effect sizes using Cohen's formula (Cohen 1992). These are shown in Table 6.

We found no significant change in the correlations between the two groups, thereby confirming the above hypotheses findings. The next section of the paper discusses the results obtained in the study along with its theoretical and managerial implications (Table 7).

6. Discussion of the results

The global COVID-19 pandemic has affected work the patterns found within organizations (Behl et al. 2022; Cardador, Northcraft, and Whicker 2017; Jabagi et al. 2019; Jayawardena 2021; Spais et al. 2021). Two key trends have

Table 7. R², prediction and effect size.

Construct	R ²	Q ²	F ² in relation to		
			ST	TP	ENG
PC	–	–	0.46		
RC	–	–	0.38		
ST	0.65	0.58		0.33	
TP	0.74	0.68			0.41
ENG	0.71	0.73			

emerged at the organization level: employees requesting to leave (primarily within the aviation, hospitality, and travel industries) and employees requesting to work part-time or on a contractual basis (e.g. within the education and healthcare sectors) (Cardador, Northcraft, and Whicker 2017; Jayawardena et al. 2021). In addition to this so-called 'new normal', we are witnessing a rapid growth in the number of digital workforces employed either full or part time by organizations (Behl, Sampat, et al. 2021; Mullins and Sabherwal 2020). Thus, theoretically, we aimed to contribute to the literature by exploring this phenomenon through the STT and PCT lenses in order to understand how firms use gamification to engage their digital gig workforces.

6.1. The psychological contract and swift trust of gig workers

Gig workers' perceptions of social support, engagement, and job satisfaction have been examined in previous studies (Behl et al. 2022; Behl, Sheorey, et al. 2021; Cascio and Montealegre 2016; Codagnone, Abadie, and Biagi 2016). These factors focussed on worker performance under conditions of traditional employment, in which PC fulfilment is identified as an essential performance predictor (Li, Wong, and Kim 2016). Recent studies have found that the PC has a positive impact on the swift trust of gig workers (Shams et al. 2020), as it increases employee trust in an organization, which, in turn, affects employee attitudes and behaviours, such as their task completion, commitment, and satisfaction (Eppmann, Bekk, and Klein 2018; Gandini 2019; Guidotti et al. 2019). In the sharing economy—participating in which presents some of the biggest challenges (Liu, He, et al. 2020)—workers face both economic and career instability. The main objectives of our study were to uncover the mechanisms underpinning worker performance from the perspective of PC fulfilment among white-collar workers and to investigate what other factors, besides work, affect employee's performance. We found that the main causes of stress for both blue- and white-collar workers are roles, relationships, and peer support. An occupation can cause unwarranted stress to an employee, whether blue- or white-collar

(Barsness, Diekmann, and Seidel 2005; Jabagi et al. 2019; Olafsen, Deci, and Halvari 2018). Further studies have demonstrated that the role played by an employee within an organization can be overloaded, causing stress (Barsness, Diekmann, and Seidel 2005; Behl and Dutta 2020). Relationships have been shown to contribute greatly to the development of unnecessary work-related stress (Ashford, Caza, and Reid 2018; Behl, Sampat, et al. 2021; Bennett and Bierema 2010). For example, the RC requires the organization to provide employees with job-related training, professional development, fair treatment, and job security (Högberg, Hamari, and Wästlund 2019; Karatepe 2013; Liu, He, et al. 2020).

However, researchers have focussed on exploring the mechanism underpinning worker performance from the PC fulfilment perspective, which has been regarded as a crucial predictor of task performance under traditional employment (Codagnone, Abadie, and Biagi 2016; Frenken and Schor 2019; Lehdonvirta et al. 2019). Employee performance is defined as their ability to accomplish their core job or role-based responsibilities (Coyle-Shapiro and Kessler 2002; Creed et al. 1996; Heeks 2017). When considering social exchange theory, which emphasizes reciprocity, it is possible to understand how employees respond to their perceptions of whether the PC is being upheld (Banik and Padalkar 2021; Tan 2017; Vallas and Schor 2020).

6.2. The effect of the relational contract on the swift trust of gig workers

The relationship between a client manager and a contractor is more fragile than that between an employee and a manager in an organization (Rahman and Valentine 2021). We found a strong RC based on the trust developed among gig workers (Duggan et al. 2020; Finkin 2016; Gleim, Johnson, and Lawson 2019; Huotari and Hamari 2017). Any senior level employee (such as a manager) attempts to control personal interactions with workers to avoid unnecessary conflicts within the organization (Duggan et al. 2020; Finkin 2016; Gleim, Johnson, and Lawson 2019; Huotari and Hamari 2017). Rousseau (1995) defined a PC as the sum of the unwritten obligations and expectations surrounding an employer-employee relationship in the workplace. A PC can also be visualized as the set of workplace commitments that are interpreted differently and respected sequentially by each party over time (Conway and Briner 2005). This is consistent with Ballinger, Schwartz, and Andrews (2017), who found that employment-related attitudes and behaviours depend upon the sequential fulfilment of such obligations. Gig workers may also have difficulties satisfying their social and related needs within the gig economy (Ballinger, Schwartz, and Andrews 2017; Behl, Sheorey, et al. 2021). Gig employers are able to achieve greater flexibility in staffing and reduce short-term human capital costs as a result of the on-demand nature of the workforce (Ballinger, Schwartz, and Andrews 2017; Behl, Sampat, et al. 2021). Thus, consumers gain access to services that they might not otherwise be able to afford (Ballinger, Schwartz, and Andrews 2017; Behl, Sampat, et al.

2021; Cardador, Northcraft, and Whicker 2017). Research indicates that the firm specific trust in gig workers can be built based on several factors, including economic and career instability (Liu, He, et al. 2020). Platform providers can also benefit from effectively managing gig workers using platform technologies (Fisher and Cassady 2019).

6.3. The effect of swift trust on the task performance of gig workers

Our findings indicated a very low beta value for the relationship between swift trust and the task performance of gig workers. This implies that, even though digital gig workers engage with different online platforms to fulfil their tasks, employee trust levels are low. Despite some progress in the discussions regarding labour agency in the gig economy, communication and labour organization among gig workers are still primarily focussed on place-based work—e.g. delivery drivers and taxi drivers, who form communities near restaurants and traffic intersections (Anwar and Graham 2020). In this regard, the concept of labour agency generally refers to collective bargaining with no legal intervention for unethical terminations of gig workers. This generally leads to a lack of trust in the job among gig workers (Anwar and Graham 2020; Codagnone, Abadie, and Biagi 2016). The study of how practices of the gig economy are performed at different levels and in different places provides insights into how workers from low- and middle-income regions negotiate, challenge, and reject the gig economy (Anwar and Graham 2020). In our study, we advance the concept of the 'hidden transcripts' of the gig economy, which need to be considered in the spatiality of work to build better work-base relationships.

These findings are consistent with the previous studies as follows. Scholars have suggested that the platform tools, lack of shared bureaucratic and cultural context, and 'gig' employment structure, combined with an intermediary, create the potential for coercive control and outsized power in the client manager (Ballinger, Schwartz, and Andrews 2017; Banik and Padalkar 2021; Barsness, Diekmann, and Seidel 2005). Based on a platform business model, gig economy companies act as technological middlemen, connecting a ready pool of independent goods or service providers with a client base. By emphasising the flexible work arrangements Woodhouse (2021) stated that, these companies appeal to workers. Due to their role as intermediaries that assist—rather than employ—workers, websites such as TaskRabbit and Upwork appeal to workers through the powerful rhetoric of 'Be your own boss', 'Grow your business', and 'Work your way' (Woodhouse 2021). Based on these real-world examples, the effect of swift trust on the task performance of gig workers plays a major role in building proper work-base relationships among them (Scully-Russ and Torracco 2020; Vrontis and Thrassou 2007; Woodhouse 2021).

6.4. The effect of task performance on swift trust and the engagement of gig workers

We found a very high co-efficient value on task performance on swift trust and engagement of gig workers. The popularity of online websites which works with gig workers has enhanced the appeal for organizations to manage dispersed virtual teams (Al Ariss, Cascio, and Paauwe 2014) coupled with accessing talent on demand (Barley, Bechky, and Milliken 2017). Organizations and individuals alike benefit from these teams, which provide flexibility in work (Barley, Bechky, and Milliken 2017). Virtual teams face a variety of challenges linked to their geographic and cultural diversity, but also to the knowledge that their membership is only temporary (Abou-Shouk and Soliman 2021; Ashleigh and Nandhakumar 2007; Barley, Bechky, and Milliken 2017). Previous studies indicate that psychological contracts with swift trust and engagement of gig workers can contribute to gig worker task performance (Scully-Russ and Torraco 2020; Vrontis and Thrassou 2007; Woodhouse 2021). These findings on strong co-efficient value on firm based performance on swift trust and engagement of gig workers are consistent with previous studies in the field of organizational behaviour (Abou-Shouk and Soliman 2021; Ashleigh and Nandhakumar 2007; Barley, Bechky, and Milliken 2017).

6.4.1. The gameful experience between the task performance and engagement of gig workers

The gameful experience between the task performance and engagement of gig workers can also be improved in following ways. The gameful experience means the usage of gamification in improving the performance and engagement of gig workers within the firm (Behl et al. 2022). Global digitalization and automation are having a profound impact on both production and work organization. The changes associated with the gig economy are referred to as the 'fourth industrial revolution' (Behl et al. 2022), which appears to be marking the beginning of a new era in manufacturing in Europe (Behl et al. 2022). With the goal of promoting the digital single market, the European Union (EU) has undertaken a variety of initiatives, such as funding for research and infrastructure as part of a broader digital single market strategy (Behl et al. 2022).

The second highest co-efficient value was found to be from gameful experience between task performance and engagement of gig workers. This means that the firm-based gamification approaches have the ability to improve the performance and engagement levels of gig workers. In the gig economy, there are both unskilled and skilled workers. The former can be divided into three groups: drivers (Uber, Lyft, Ola), food delivery riders (Zomato, Postmates, etc.), and workers who perform basic tasks (TaskRabbit) (Behl et al. 2022). New opportunities and challenges have emerged in the gig economy (Behl et al. 2022; Bennett and Bierema 2010; Cascio and Montealegre 2016; Hayzlett 2018). Many platform companies have drawn the attention of academics, trade unionists, and current or former gig workers due to their business and labour practices. Some platforms have

been accused of encouraging 'sham contracting' by allowing companies to disguise employees as independent contractors and thus avoid paying employee benefits (Behl et al. 2022; Bennett and Bierema 2010; Cascio and Montealegre 2016; Hayzlett 2018).

Gig work is a catch-all term used to describe non-standard employment (Duggan et al. 2020). The gig economy shares many of the same characteristics as other forms of non-standard work, such as agency work; however, with the exception of the influence of technology and the lack of physical workspaces, gig work has its unique features (Duggan et al. 2020). As a result, the recent literature suggests the enhancement of the gameful experience between task performance and engagement of gig workers based on three major aspects.

As a result of the technological changes that are influencing standard working and employment practices, the restructuring of business models, and individuals seeking non-traditional career paths (Davis et al. 2018), gig work has become an increasingly popular method of employment. Approximately 36% of all U.S. workers are gig workers, and 29% of all workers are primarily engaged in alternative employment arrangements (Behl, Sheorey, et al. 2021). Researchers and practitioners have taken note of these trends and are exploring how gig workers cope with the complexities of these new arrangements as well as their motivation to engage in gig work (Behl, Sheorey, et al. 2021). Games improves motivation levels of workers for thousands of years across diverse cultures (Farhangi 2012). The mobile game Angry Birds has been downloaded more than one billion times, and more than 10 million subscribers have played the massively multiplayer online role-playing game World of Warcraft for more than 50 billion hours (Farhangi 2012). Teams can compete against each other to achieve a goal, or individuals can compete against time to achieve a goal, allowing multiple simultaneous winners (Behl et al. 2022; Connelly, Gallagher, and Gilley 2007).

In addition, the gameful experience can further motivate employees by providing a place where they can break away from their traditional work routines (Cindy 2021). Organising company outings, for example, may provide employees with opportunities to participate in team-building activities. In addition to helping individuals break away from their routines, outdoor activities can provide enjoyment even after the event which was conducted in the firm is finished (Cindy 2021). Team building activities build team spirit (Cindy 2021). When considering the applicability for gig economy, gamefic experience shares many of the same characteristics as other forms of non-standard work, such as agency work which contributes to the gig economy as a popular method of employment (Duggan et al. 2020).

7. Theoretical implications

Swift trust theory and psychological contract theory offer empirical insights into how companies engage their digital gig workforces through gamification. Our results support the underlying conclusions drawn from STT and PCT on aspects

of the PC, RC, swift trust on task performance and gamification experience among gig workers. Further, this indicates that, trust and task performance rate can be changed based on the firm-based gamification approaches. The literature on digital gig workers has hitherto paid little attention to non-standard and digital forms of work, leading to calls for a greater focus on aspects of work quality for non-standard workers (Bennett and Bierema 2010; Calo and Rosenblat 2017; Cindy 2021). There has been an increase in diversity in modern working arrangements and an increasing recognition that 'standard' (the working standards in the firms) does not necessarily mean good, and classification may no longer be needed. Further, this means that, workplaces and an increasing awareness that the working standards in the firms may no longer reflect best practice, and it may no longer be necessary to classify employees. The findings of a number of commonly investigated attitudes and perceptions have been inconsistent, and important moderators have been identified (Liu, He, et al. 2020; Longley 2020; Odendaal 2000; Rahman and Valentine 2021; Song, Lowman, and Harms 2020).

In contrast to previous research that examined gamification-based gig workers from a resource allocation perspective, our study examined the innovative processes employed by digital gig workers through the lens of social psychology (Behl et al. 2022; Behl and Pereira 2021). Furthermore, our study reveals that, regardless of the presence of objective characteristics of fair working conditions, worker experiences and perceptions of gig work are influenced by the individual characteristics of the workers themselves, such as their preferences, ingenuity, expectations, and personal circumstances (Chai and Scully 2019; Chen, Yeh, and Madsen 2019; Cindy 2021; Codagnone, Abadie, and Biagi 2016). The vulnerability of individuals to wage fluctuations and job insecurity is largely determined by their degree of reliance on gig work as a primary or supplementary source of income (Behl et al. 2022; Behl, Sheorey, et al. 2021; Broughton et al. 2018; Carvalho, Francisco, and Relvas 2015). Most of our participants did not consider participation for contractual full time employment as important as few wished to remain in gig working sector in the long run (Myhill, Richards, and Sang 2021). In many cases, gig workers merely supplement their income and partly serve their aspirations through gig work, and many are able to switch platforms if they run into difficulties (Myhill, Richards, and Sang 2021).

When considering its contribution to STT, this study is unique as it indicates that the three routes of gig economy, gamification and swift trust have been used simultaneously in corporate relationships. This finding has important implications for organizations engaging with digital gig workforces through gamification of firm-based relationships with complex inter-organizational partners. We argue so, as they may need to engage on different paths to achieving swift trust, based on the degree to which they know their co-competitors (Högberg, Hamari, and Wästlund 2019; Hoy, Hoy, and Kurz 2008; Huotari and Hamari 2017; Jabagi et al. 2019; Vrontis and Thrassou 2007). This study presents a comprehensive analysis of research pertaining to psychological contracts. When considering PCT, the temporal nature of

contingent work, which includes fixed-term and flexible part-time employment contracts, influences the manifestation of psychological contracts between employees and employers, simultaneously strengthening corporate relationships (Hayzlett 2018; Jayawardena 2021; Ketokivi and Schroeder 2004; Thrassou and Vrontis 2009). As reported by the International Labour Organization (ILO), approximately one quarter of waged workers in Indonesia, Pakistan, Sri Lanka, and Vietnam are in casual employment, which may be devoid any formal regulations and job security (Kutaula, Gillani, and Budhwar 2020). Moreover, short-term contracts lack the detailed promises associated with full-time employment (Chen, Yeh, and Madsen 2019; Codagnone, Abadie, and Biagi 2016; Costa 2003), which is a major contribution to PCT and work status in the Asian context.

8. Managerial implications

Despite the study noting some positive characteristics of gig work, most participants viewed it as a kind of 'dead-end' or unsustainable, with many expressing an intention to seek more stable employment (Myhill, Richards, and Sang 2021). This paper offers several recommendations for the HR managers of organization, with HRM practitioners and platform operators facing key challenges in mitigating the problems associated with short-termism, which lead to misbehaviour and turnover (Barsness, Diekmann, and Seidel 2005; Behl, Sheorey, et al. 2021; Leonidou et al. 2020; Myhill, Richards, and Sang 2021). As one example, in rapidly growing Asian economies such as China and India, increased globalization, urban migration, and contractual changes have given rise to diverse roles within organizations (Bennett and Bierema 2010; Cardador, Northcraft, and Whicker 2017; Cascio and Montealegre 2016).

Therefore, managers should adapt their policies and approaches in response to the changing organizational environment for workers in digital platforms (Behl et al. 2022; Behl, Sampat, et al. 2021). A socio-cultural perspective indicates that the religious and cultural ethics of Asian countries may vary, which implies that the structure and nature of the PC will not take on a standard expression, as it must be flexible to suit the multiple and varied expectations of each nation (Kutaula, Gillani, and Budhwar 2020; Liu, Vrontis, et al. 2020). Furthermore, contextual factors such as cultural value orientation play a crucial role in how employees view work, their attitudes, and their behaviours in the workplace (Schulte, Schlicher, and Maier 2020; Thrassou et al. 2020), as well as their responses to changing employment relationships, as team-based leadership is associated with collectivist values in many Asian cultures (Behl et al. 2022; Behl, Sampat, et al. 2021; Broughton et al. 2018).

9. Conclusion, limitations, and future research perspectives

The scope of this investigation was confined to exploring how firms use gamification to engage their digital gig workforces through the lenses of swift trust theory and

psychological contract theory. The major concepts identified through our analysis include the relationship between the psychological contract and swift trust of gig workers in the gig economy (Jabagi et al. 2019; Lehdonvirta et al. 2019; Lin et al. 2021; Myhill, Richards, and Sang 2021). In our study, we examined whether the drivers of crowdfunding success are common across platforms. The variation decomposition approach is commonly used in the strategy and management literatures (Myhill, Richards, and Sang 2021; Petriglieri, Ashford, and Wrzesniewski 2018; Rahman and Valentine 2021) and has recently been adopted by entrepreneurship scholars (Gleim, Johnson, and Lawson 2019; Shams et al. 2020; Wunderlich et al. 2020). The effect-class approach is used to estimate the proportion of variance in a dependent variable that can be explained by certain factors known as 'effect-classes' (Dushnitsky and Fitza 2018). This methodology is particularly useful for cross-platform analysis because (a) it addresses the problem of limited data availability across platforms and (b) it facilitates meaningful cross-platform comparisons (Dushnitsky and Fitza 2018). Through this why the results of this study can be generalized across different crowd work platforms.

Our findings are focussed on the positive characteristics of gig jobs that should be preserved and protected; particularly the level of flexibility, which is determined by the participants. Our study is limited in that it is based on a modest sample of gig workers employed in a limited number of industrial sectors and located in a particular geographical area of a country with a particular political climate. In addition, there is a lack of understanding of how gig work is experienced over time. To address this issue, future research could include longitudinal methods, larger samples, participants recruited from a variety of industries and geographic locations, and pay additional attention to individuals who rely on gig work for a living (Jabagi et al. 2019; Langer and Landers 2021; Lehdonvirta et al. 2019; Myhill, Richards, and Sang 2021). Regardless of its limitations, our study points at additional future research directions. Our proposed framework could be validated and generalized in other contexts. Future researchers could extend our model by investigating any other mediating and moderating factors that may influence the relationship between gig workers and the organizations operating in the gig economy. This could involve the incorporation in future research of digital gig-working platform-based employee motivational aspects and task performance factors (Finkin 2016; Jayawardena 2021). In addition, future analyses could be performed based on other employee demographic characteristics, including income, educational qualifications, and occupational levels. Thus, in closing, we envisage the possibility of achieving a deeper understanding of the phenomenon.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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