

# *An empirical study of gig workers' continuance intention*

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**Abstract:** As a digital labour management practice under the gig economy, whether algorithmic control can stimulate gig workers' continuance intention is the key to testing the success of algorithm management. However, few studies have focused on the mechanism of the influence of gig workers' perceived algorithmic control on their persistence willingness. Based on an organisational behavioural perspective, this study empirically examines the mechanism and boundary conditions through which algorithmic rule affects the continuance intention of gig workers. By analysing data from 309 samples, we found that algorithmic control had a significant positive effect on the continuance intention of gig workers by positively influencing work meaning; algorithmic transparency positively moderated the relationship between algorithmic control and work telling. The results of this study highlight the importance of algorithmic control in promoting long-term organisational benefits.

## 1. Introduction

Standard work arrangements, which promise guaranteed full-time work with the benefit of a minimum living wage, are a normative ideal [1]. However, its limitation of work to a fixed workplace and specific working hours prevents breakthroughs in efficiency and lacks precision. The drawbacks of traditional orderly organisation are gradually revealed in the face of a variable and disorderly market environment. The gig economy — where people use apps (also known as platforms) to sell their labour — is rapidly changing how work is organised, creating a work environment with little human intervention by connecting workers and customers through digital platforms to complete specific tasks [2]. Algorithm control refers to a method in which the platform innovates a series of work processes and standardizes the labor process of temporary workers through the virtualization of artificial intelligence algorithms to ensure that the work efficiency and service quality of temporary workers are significantly improved. The gig economy, characterised by short-term contracts and a labour market that coordinates work through algorithms, has wholly reshaped organisations, employment relationships, and workers' lives and behaviours.

Gig workers experience flexibility and autonomy that traditional organisations do not have under the management of platforms and algorithmic technologies[3]. However, flexibility brings serious insecurities related to subsequent work (such as variable working hours, which mean that employees do not receive a fixed salary) and increased employee stress, which affects their physical and mental health. Platforms have the right to supervise, punish, and fire workers; employees are under immense pressure to supervise and take on more risks associated with employment instability[4]. Due to the

mobile Internet, employees are more flexible and autonomous in the gig economy market, where demand is fragmented. However, at the same time, gig workers face fluctuations in service demand, take responsibility for operational costs and risks, and give up employee protection. The resulting risk of uncertainty also creates vulnerability and precariousness at work. Platform-based gig companies such as Uber increasingly struggle to cope with low employee retention rates[5].

Research on the gig economy has shown that sustainability is an essential factor in the success of this virtual market. The survival and development of the gig economy market depend mainly on workers' broad and sustained participation. Employee continuance willingness has become a concern for many gig companies due to high turnover rates and the expense of recruiting new employees. Suppose the continuous willingness of workers is low. In that case, the number of active workers in the gig market will decrease, and customer service quality cannot be guaranteed. Customers may reduce the number of tasks posted, and reducing tasks in the market will further reduce workers' participation, ultimately leading to inefficiency in the whole market[7].

Allies or Adversaries? Algorithmic control has constraints and guidance for employees. Employees' attitudes toward algorithms vary widely; even the same employee may have completely different attitudes toward algorithms at different stages. Gig workers who see algorithmic control as friendly find work motivating, enriching and active; they can find and maintain positive meaning from their work and keep working. Gig workers who view algorithmic control as hostile see themselves as trapped in an exploitative relationship and focus their efforts on being as efficient as possible on every task, getting the task done quickly and at the highest possible rate of pay, to minimise any out-of-role behaviours to manage customers, and thus finding meaning in their work. Whether viewing algorithmic control as an ally or an adversary, gig workers pursue the meaning of their work in ways that promote engagement through relational games or efficiency games. When employees realise they are doing meaningful work, not just subsistence work, their engagement and commitment to the organisation increases [8], ultimately creating a more vital willingness to continue.

In addition, we identified and tested algorithmic transparency as a potential moderator of the effect of algorithmic control on gig workers' work meaning. Algorithmic transparency, which refers to the degree to which it explains why and how an algorithmic system is used[9], reflects the interpretability of how particular functions of the algorithmic system and the algorithmic decision-making process work and is expected to enhance the effectiveness of the algorithmic control in influencing the perceived meaning of the work of gig workers.

## **2. Theoretical Basis and Research Hypotheses**

### **2.1 Algorithmic control and work meaning**

Control is broadly defined as any attempt to align an individual's behaviour with organisational goals, described as "the most fundamental issue of management" is the foundation of all organisations [10]. In recent years, with the rise of the "gig economy", in which more and more workers are finding work on digital platforms, algorithmic systems are set to tighten the iron cage by providing more comprehensive and intrusive methods of control. Algorithmic control is central to the operation of online labour platforms. Duggan et al. (2020) propose that algorithmic control is a set of control systems in which self-learning algorithms make and execute decisions that affect the workforce, thus limiting human participation and supervision of the labour process [2]. Intelligent algorithms allow organisations to optimally supervise many workers on a large scale to ensure that employee behaviour is aligned with organisational goals. Algorithmic control, including artificial intelligence systems, is expected to improve productivity by utilising computers and data to accomplish tasks. Algorithmic control is a management practice that mixes high control and high performance.

Algorithms are perceived as objective and mathematically correct; people are willing to trust and

abide by them, even though employees may not fully know the principles involved. In the gig economy, algorithms match customers or requesters with workers, provide more precise services, monitor and guide employee behaviour during the work process, evaluate worker performance on the platform[11], and improve productivity. However, at the same time, such algorithmic control, and disciplinary norms with the characteristics of Taylor's system place work tasks in the context of fine-grained numerical measurements and statistical analyses of individual worker's work performance, which increases the work intensity of employees virtually and leads to colossal supervision pressure on gig workers. In the tight algorithmic work environment, gig workers increasingly value the meaning of their work. Meaning construction theory points out that cues in the work environment can affect employees' perceptions and attitudes and play an essential role in meaning construction. Algorithmic control, as the most typical and most exposed technological tool in the work process of gig workers, will be regarded as cue information by gig workers, which will significantly impact the analysis of work meaning.

Algorithmic control builds work-for-yourself, flexible and autonomous, gamified work environments for gig workers and provides technical support and instant information feedback based on algorithms. The importance of gig workers putting in extra effort to create a harmonious work atmosphere is further emphasised in workplaces where there is little human intervention under algorithmic control. Employees who believe algorithmic control is beneficial tend to focus more on work activities and construct meaning by building positive customer relationships and providing customers with memorable, personalised service experiences. For example, Uber drivers personalise their interactions with customers by extending physical and emotional support and using in-vehicle objects to build connections. The "2020 Ele. me Blue Knight Research Report" shows that more than 60% of the riders have taken the initiative to provide users with personalised life service behaviours such as throwing garbage and helping to buy water[12].

Algorithmic technologies tend to provide employees with a high degree of flexibility, autonomy, diversity, and complexity of tasks. However, these control mechanisms can also lead to low wages, social isolation, unsocial work and irregular working hours, overwork, exhaustion, sleep deprivation, and supervisory stress. When gig workers perceive that they are being monitored and tracked by algorithms in real-time and will be asked by the algorithms to intervene in their behaviour or perform task-based evaluations, rewards, or punishments according to the platform's service specifications[3], the employees will complete each task as quickly as possible with the least possible amount of emotional and physical work, focusing their energy and by working as much as possible on each task efficiency in an attempt to gain meaning from their work. Under the sturdy digital cage, employees' resort to various forms of resistance in reaction to the technology they are confronted with. This pattern of confrontation does not necessarily lead to withdrawal from the workplace. However, it is often associated with employees crafting and attempting to do their work more efficiently, allowing them to find meaning in their work in the context of completing it efficiently.

Based on this, we propose the following hypothesis:

**H1:** Algorithmic control is positively correlated with work meaning.

## 2.2 Work meaning and continuance intention

Work has different meanings for different people, and meaning can be constructed through individual perceptions, societal norms, or shared perceptions [13]. The meaning of work refers to the value judgments that individuals make about work goals or work objectives based on personal ideals or standards. Neck and Milliman stated that the essence of meaning is "connectedness" and is associated with positive outcomes for both individuals and organisations, including improved organisational performance, retention of critical employees, effective change management, and more

outstanding organisational commitment and employee engagement. In the context of the gig economy, the extent to which gig workers intend to continue using a given platform is of direct importance. The continuance intention of employees is defined as their behavioural intention to continue to be part of the platform ecosystem and to provide services on that platform[14]. Prior research has also established a range of benefits derived from the meaning of work experienced by gig workers. More specifically, from an ongoing perspective, employees who feel meaningful in their work can more clearly predict the long-term benefits of staying with an organisation. Previous studies have found a positive relationship between work meaning and organisational commitment and a negative relationship between work meaning and turnover. The construction of work meaning helps to build trust and commitment and ultimately leads to voluntary ongoing cooperation.

From the perspective of motivation, external motivation is inefficient and limited, and it is essential to promote employee commitment and continued willingness to the organisation by improving internal motivation, such as work meaning. When employees' work is given meaning, they believe they contribute to their organisation, belong to it, and have a better chance of staying in it. Once employees perceive their work as meaningful, their work attitudes are positively affected, with a decrease in cynical behaviour or burnout and an increase in engagement[15]. When employees realise they are achieving personal goals and doing socially meaningful work rather than subsistence work, their engagement and commitment to the organisation increases, and their willingness to continue is more vital. Based on this, we propose the following hypothesis:

**H2:** Work meaning is positively correlated with continuance intention.

Studies have shown that algorithmic control technology tends to provide gig workers with a high degree of flexibility and autonomy and is considered to have higher procedural fairness[12]. It also provides guidance and supervision for gig workers, making their work more accurate and gig workers more intensely feel the meaning of their work. Whereas the perception of work meaning helps to create trust and commitment, building voluntary collaboration, gig workers will show higher loyalty, and thus, work meaning may translate into a higher willingness to stay and continue contributing to the platform and its ecosystem, gig workers' continuance intention is enhanced. In consideration of this, we posit the following hypothesis:

**H3:** Algorithmic control positively affects continuance intention through work meaning.

### 2.3 The moderating effect of algorithmic transparency

Algorithms are often considered black boxes, and people do not know the inner workings of algorithms because these information technologies are proprietary or too complex to understand. However, it may be desirable for gig workers to understand algorithms' inner workings. The more they trust that their data will be handled fairly, transparently, and responsibly, the more they will allow companies to collect it. The concept of algorithmic transparency, which represents comprehensibility and interpretability, has gradually become a hot issue[16]. Transparency lets users make informed choices about algorithmic decision-making systems and judge their potential consequences.

Algorithmic transparency has been identified as a critical mechanism for increasing trust. When tasks are assigned in a clearly explained and procedurally fair way, task assignments are more likely to be accepted, algorithms are more likely to be trusted, and gig workers are more likely to feel meaning in their work process. When people understand how the system works, they are more likely to use the system correctly, trust the designers and developers, and actively seek meaning in their work. Based on the above logic, this paper argues that the degree of algorithmic transparency positively moderates the relationship between algorithmic control and work meaning. Specifically, high algorithmic transparency can enhance the perceived usefulness of the algorithmic system for gig workers, and it has been demonstrated that explanations that help users understand how the

algorithmic system works are positively correlated with user satisfaction with the algorithmic system[17]. Thus, in algorithm-controlled work situations, high algorithmic transparency helps to increase gig workers understanding and trust in the algorithm, and gig workers identify with their work to a greater extent, are more likely to perceive their work more positively, and have a reinforcing effect on their pursuit of meaning in their work. On the contrary, low algorithm transparency weakens the ability of gig workers to understand and cope with the factors that determine their success. At this point, under tight algorithmic control, gig workers' job uncertainty and work pressure are enhanced, and they are more likely to develop negative emotions such as aversion and burnout, which seriously hampers gig workers' perception of the meaning of their work. Based on this, we propose the following hypothesis:

**H4:** Algorithmic transparency positively moderates the strength of the relationship between algorithmic control and work meaning; that is, the higher the algorithmic transparency, the stronger the positive relationship between algorithmic control and work meaning, and vice versa as shown in figure 1.

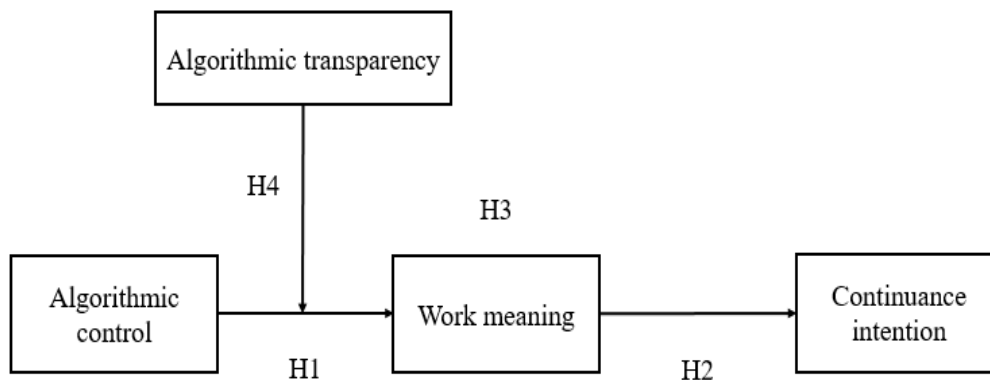


Figure 1: The hypothesised model

### 3. Research methodology

#### 3.1 Data collection and sample characteristics

The investigation work was conducted from May to June 2023. The questionnaire data for this study were collected mainly from Anhui, Jiangsu, and Zhejiang, and participants were recruited from different sources, including extended private and professional networks and social networks, with links for those interested in participating. The only prerequisite for participation was to work on an online labour platform or at least use digital media for professional activities at work. Participation was voluntary and unpaid, but in the end, we gave a small gift to the participants. In this survey, 352 questionnaires were collected; after removing the invalid questionnaires, a total of 309 questionnaires were obtained, with an effective recovery rate of 87.8%. Among the valid samples, 58.9% of the gig workers were male, 49.8% of the gig workers were younger than 25 years old, 12.3% of the gig workers had high school/secondary education or less, and 30.4% of the gig workers had less than one year of working experience.

#### 3.2 Measures

The measures used in this study were adapted from existing validated scales. All were rated on a

scale from 1 (strongly disagree) to 5 (strongly agree).

**Algorithmic control.** We assessed algorithmic control through the instrument developed by Wiener et al. (2021)[6]. It used ten items to assess algorithmic control. Representative items such as "The platform informs me about the tasks I need to perform" and "The platform evaluates my work activities".

**Work meaning.** We assessed work meaning through the instrument that May et al. (2004) developed, which used six items to assess work meaning. Representative items such as "What I do in this job is worth it" and "What I do in this job is meaningful to me"[18].

**Continuance intention.** Continuance intention was assessed using a three-item measure adopted from Goldbach et al.'s (2018) scale. Representative items such as "I hope this job will continue in the future"[14].

**Algorithmic transparency.** Algorithmic transparency was measured using three items from Durcikova Gray (2009), among which representative items such as "I can easily obtain information about how the platform algorithm works"[19].

**Control variables.** Previous studies have pointed out that individual characteristics and job characteristics will affect employees' continuous willingness. Based on this, we controlled for the effects of four variables, namely gender, age, education, and years of experience, on the main variables as shown in table 1.

Table 1: Variables and their definitions

Variable type	variable name	Variable Definition
Control variables	Gender	1=male,2=Female.
	Age	1 = under 25 years old, 2 = 25-35 years old, 3 = over 35 years old.
	Education	1=High School/Secondary and below, 2=College, 3=Bachelor's Degree, 4=Master's Degree and above.
	Years of experience	1 = less than 1 year, 2 = 1-3 years, 3 = 3-5 years, 4 = more than 5 years.
Independent variable	Algorithmic control	For example, "The platform will notify me of the tasks I must perform".
Mediating variable	Work meaning	For example, "The work I put into this job is worth it".
Moderator	Algorithmic transparency	For example, "I can easily see information about how the platform's algorithms work".
dependent variable	Continuance intention	For example, "I hope my job will continue in the future".

## 4. Data analysis and results

### 4.1 Descriptive Statistics and Correlations

The means, standard deviations, and correlation coefficients of the variables in this study are shown in Table 2. The data show that algorithmic control is significantly positively correlated with continuance intention ( $r=0.562$ ,  $P<0.01$ ), significantly positively correlated with work meaning ( $r=0.490$ ,  $P<0.01$ ), and work meaning is significantly positively correlated with continuance intention ( $r=0.648$ ,  $P<0.01$ ). The results of the above correlation analysis are consistent with theoretical expectations and provide preliminary support for subsequent hypothesis testing.

Table 2: Descriptive statistics and inter-correlations

Variable	M	SD	1	2	3	4	5	6	7	8
1. Gender	1.411	0.493	1							
2. Age	1.618	0.686	-0.379**	1						
3. Education	2.447	0.807	0.329**	-0.278**	1					
4. Years of experience	2.230	1.055	-0.513**	0.705**	-0.636**	1				
5. Algorithmic control	4.006	0.267	-0.339**	0.335**	-0.112*	0.286**	1			
6. Work meaning	4.359	0.299	-0.256**	0.270**	-0.077	0.255**	0.490**	1		
7. Algorithmic transparency	4.219	0.415	-0.177**	0.184**	-0.028	0.124*	0.400**	0.448**	1	
8. Continuance intention	4.412	0.436	-0.327**	0.278**	-0.134*	0.271**	0.562**	0.648**	0.488**	1

Notes: \*  $p < 0.05$ . \*\*  $p < 0.01$ ;  $N = 309$ .

#### 4.2 Reliability and Standard Method Bias test

All the scales in this study were adopted from established scales with high content validity. KMO and Bartlett sphere tests were conducted for the items in the selected scales. The results showed that the value of KMO was 0.860, which was greater than 0.7, and the result of the Bartlett sphere test was significant (sig.=0.00), and the factor analysis effect was perfect. Through the reliability analysis test, the internal consistency reliability coefficients were all greater than 0.810, indicating that the reliability of each variable is good.

To deal with the problem of standard method bias, we used Harman's single-factor test to examine the measurement results. The results showed that the variance interpretation level of the first factor without rotation was 26.276%, which was lower than the critical value of 40%, indicating that the problem of common method bias in this study was not serious.

#### 4.3 Testing of Hypotheses

Primary effect test: This paper used the software SPSS26.0 for statistical analysis. In order to test the relationship among algorithmic control, work meaning, algorithmic transparency, and continuance intention, we used the hierarchical regression method to analyse, and the test results are shown in Table 3. As displayed in Model 2, algorithmic control positively affects work meaning ( $\beta=0.432$ ,  $P<0.001$ ). Therefore, Hypothesis 1 was verified. As shown in Model 7, work meaning had a direct, positive relationship with continuance intention ( $\beta=0.596$ ,  $P<0.001$ ). Therefore, Hypothesis 2 was supported.

The mediating effect test: According to the mediation effect test method proposed by Baron and Kenny (1986), we constructed regression analysis models of independent variable to dependent variable, independent variable to mediator variable, mediator variable to dependent variable, independent variable and mediator variable to dependent variable in turn, as shown in Table 3. As shown in Model 2, algorithmic control significantly positively affected work meaning ( $\beta=0.432$ ,  $P<0.001$ ). As displayed in Model 7, work meaning significantly positively affected continuance intention ( $\beta=0.596$ ,  $P<0.001$ ). In addition, as can be seen from Models 6 and Models 8, the regression coefficient between algorithmic control and continuance intention decreased from 0.497 to 0.290 after adding work meaning, but still significant ( $\beta=0.290$ ,  $P<0.01$ ), indicating that work meaning partially mediated the relationship between algorithmic control and continuance intention, thus supporting Hypothesis 3 as show in table 3.

The moderating effect test: Hypothesis 4 proposed that algorithmic transparency positively moderates the relationship between algorithmic control and work meaning. To reduce the interference of multicollinearity, this paper first centralised the independent and moderating variables and calculated the interaction term. Second, regression analyses of the dependent variable on the

independent variable, the moderator variable, the dependent variable on the independent variable, the moderator variable and the interaction term are performed sequentially. The results of Model 4 showed that algorithmic transparency enhanced the relationship between algorithmic control and work meaning for gig workers ( $\beta=0.138$ ,  $p<0.05$ ), thus supporting Hypothesis 4.

Table 3: Hypothesis test results

Variable Type		Work meaning				Continuance intention			
		Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Control variable	Gender	-0.166**	-0.056	-0.040	-0.037	-0.252***	-0.125	-0.153**	-0.098*
	Age	0.137	0.034	0.009	0.004	0.157	0.039	0.076	0.022
	Education	0.105	0.083	0.078	0.078	0.020	-0.005	-0.042	-0.044
	Years of experience	0.140	0.132	0.149	0.153	0.044	0.035	-0.039	-0.028
Independent variable	Algorithmic control		0.432***	0.323***	0.335***		0.497***		0.290***
Mediating variable	Work meaning							0.596***	0.479***
Moderator	Algorithmic transparency			0.293***	0.300***				
Interactive item	Algorithmic control *Algorithmic transparency				0.138*				
F		9.109***	21.555***	25.258***	26.196***	11.881***	31.339***	49.998***	52.385***
R <sup>2</sup>		0.107	0.262	0.334	0.344	0.135	0.341	0.452	0.510
$\Delta R^2$		0.107	0.155	0.072	0.010	0.135	0.206	0.317	0.169

Notes: \*  $p < 0.05$ . \*\*  $p < 0.01$ . \*\*\*  $p < 0.001$ ; N = 309.

## 5. Discussion and implications

Given the prevalent use of algorithmic management in the workplace, algorithmic control has become one of the hot topics explored in the gig economy and OBHRM field in recent years. This study takes gig workers relying on online labour platforms as the research object. It adopts the method of questionnaire survey to explore the influence mechanism of algorithmic control on the continuance intention of gig workers. The results show that algorithmic rule positively affects gig workers' continuance intention; work meaning partially mediates between them. Algorithmic transparency positively moderates the relationship between algorithmic control and work meaning. Specifically, the higher the algorithmic transparency, the stronger the positive relationship between algorithmic management and work meaning, and vice versa, the weaker it is.

### 5.1 Theoretical implications

First, this study presents a different perspective in response to the prevailing negative discourse on using algorithmic control systems in platform-based gig work. We are suggesting that algorithmic control has its positive aspects. While algorithmic control can exacerbate negative experiences such as job stress and uncertainty. However, algorithmic control can likewise increase the meaningful experience of employees in performing work tasks. The platform uses algorithms to gamify work tasks, presenting a sense of the game situation that involves fighting monsters and upgrading and completing levels. Algorithmic control helps employees improve their work's accuracy while also carrying a sense of fun, and the employees will adjust according to their feelings and work situations. And then construct efficiency and relationship work to realise personal value pursuit. In addition, this



study also suggests that the negative emotions brought by algorithmic control on gig workers may produce positive work results, such as gig workers tend to concentrate on achieving high work efficiency under the supervision pressure of algorithmic control. In conclusion, the results of this study support the positive impact of algorithmic control in the workplace.

Second, our study responds to the call for research into how algorithmic control may produce positive outcomes regarding gig workers' commitment, willingness to sustain engagement, and so on (LD). Platform ecosystems could not exist or thrive without the contributions of gig workers willing and able to consistently provide high-quality services to the platforms and their marketplace. Algorithmic systems are refined and humanised in task design, helping to motivate gig workers to actively build work meaning in their environment and making gig workers more likely to follow the algorithm and remain engaged in their work. Under tight algorithmic control, workers either enhance social interaction and emotional support, compress work activities, or pursue efficiency. They craft content through alliance or adversarial models, pursue work meaning, and increase their willingness to sustain engagement. Thus, this study takes a step toward understanding the positive impact of algorithmic control on the continuance intention of gig workers by obtaining meaningful work experiences.

Finally, this study reveals potential moderating mechanisms based on technology attributes. Regarding the characterisation of algorithmic control practices, existing research emphasises that algorithmic technology systems are generally associated with algorithmic transparency. Moreover, algorithmic transparency is essential in shaping the work attitudes of gig workers. This paper explores the moderating role of algorithmic transparency for gig workers, constructs a complete theoretical model, and deepens the understanding of the mechanism of action and boundary conditions of algorithmic control in online labour platforms. The moderating mechanism of algorithmic transparency on the influence effect of algorithmic control is usefully expanded, pointing the way for future research to continue exploring the boundary conditions of other technical attributes on the influence effect of algorithmic control.

## 5.2 Practical Implications

First, in the context of the rapid development of China's gig economy along with mass consumption upgrading and digital technology advancement, whether it can effectively stimulate the willingness of front-line gig workers to work continuously will directly affect the brand competitiveness of the platform. This study found that algorithmic control has positive attributes in that it creates a work environment where one is one's boss and is relatively flexible and autonomous. Algorithms also match customers with workers to provide more accurate services through gamified job design, technical guidance, and real-time information feedback, motivating workers to find fun and value in their work. Therefore, algorithmic control should be regarded as an effective management practice tool, and this study suggests that platforms should improve their algorithmic systems with full consideration of factors that can stimulate the willingness of gig workers to continue to participate. The algorithmic system should be designed with personalised care and implanted with game elements such as task unlocking and upgrading to fight monsters to enhance the immersive work experience of the gig workers and promote them to experience a higher level of work significance.

Second, the nature of the work of gig workers based on online labour platforms is inherently characterised by their isolation from society and its organisations. This group of workers' willingness and long-term commitment to participate has long been a concern of society. The algorithm has a "black box" attribute in the operation process, and employees may not be fully aware of its principles. Therefore, this study suggests that platforms should adequately explain the principles of specific

algorithms in the work process to gig workers to deepen their understanding of the algorithmic system so that gig workers will be willing to trust and comply with them from the bottom of their hearts and start their work with peace of mind. In addition, the platform needs to optimise its management style, both efficient management and relational management, focusing on the personalised development of gig workers while deeply integrating digital algorithmic technological innovations and executing human resource management activities to improve organisational efficiency, improving gig workers' perception of the meaning of their work in all aspects, and paying attention to the workers' continued willingness to do their jobs.

### 5.3 Limitations and Future Research

This study still has some limitations that can be further improved in future research. First, because the results were obtained based on cross-sectional data, although it can measure algorithmic control and continuance intention, it cannot reflect the dynamic relationship between variables. Future research should use longitudinal data to understand better the structural relationship between algorithmic control, work meaning, algorithmic transparency, and continuance intention. Second, this study used self-reported variables, and while they are a valid technique for drawing conclusions based on an individual's intrinsic perceptions of his or her resources, they carry a certain degree of subjectivity, which may increase bias. Other objective measures should be considered in future research, which could be refined through alternative measures (e.g., coworker or supervisor ratings, knowledge, or performance tests). Finally, only 309 valid questionnaires were obtained in this paper, which is a small sample size that may lead to increased sampling error and affect the reliability of the findings. In future studies, the minimum sample size can be calculated in advance, and an extensive sample survey with multiple sources and multiple time points can be carried out to optimise the research design.

## 6. Conclusion

Our primary goal in this study is to investigate how algorithmic control can improve gig workers' continuance intention. In the context of Industry 4.0, a broader environment where digital technologies have changed working conditions, job content and labour environment, the work experience and commitment of gig workers will directly affect the long-term benefits of the organisation as algorithmic management is widely used in the workplace. Therefore, analysing the behavioural variables affecting organisational outcomes is essential to determine the mechanisms that should be strengthened to obtain optimal results. Our study provides further insight into the attitudes and behaviours of gig workers under algorithmic control. Analysing relevant literature and a questionnaire survey conducted with 309 gig workers, we unravelled the chain of relationships between algorithmic control and continuance intention in gig work. Specifically, our experimental results show that algorithmic control stimulates autonomy motivation in gig workers, and gig workers take active actions to experience the meaning and value of their work through relationship games or efficiency games. Employees who believe work is meaningful are motivated, affecting their willingness to persist. With greater algorithmic interpretability and transparency, gig workers' perceptions of work meaning will be further strengthened. In summary, this study extends the literature on algorithmic control and its impact on continuance intention. We hope this study will spark future attempts to elaborate on our findings.

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