THE FUTURE OF LOGISTICS HR: MANAGING GIG WORKERS WITH AI AND FAIR WORK SYSTEMS

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Abstract

This study examines the growing role of gig workers in the logistics sector and the challenges associated with managing them in a rapidly digitalizing environment. The expansion of global supply chains, the growth of e-commerce, and the increasing demand for on-demand delivery services have led logistics companies to rely heavily on flexible labour arrangements such as gig work. However, the use of gig workers raises important concerns regarding job security, fairness, income stability, and access to employment benefits. The study applies a qualitative analytical approach based on a review and synthesis of existing academic literature related to gig work, logistics management, and AI-based human resource practices. The findings indicate that while gig work improves operational flexibility and scalability for logistics companies, it also creates significant challenges for workers, including unstable income, limited social protection, and lack of transparency in algorithmic management. The research suggests that AI-integrated and fair work systems can enhance workforce management by improving task allocation, transparency, communication, and worker protection. The study concludes that combining technological innovation with fair employment practices is essential for achieving sustainable and ethical human resource management in the logistics industry.

Keywords: logistics, logistics HR, gig workers, AI, fair work system

Introduction

The logistics sector is experiencing a rapid change, with the advent of digitalisation continuing to transform how business processes, including the delivery of goods, are achieved globally, the growth of e-commerce, and the increasing desire to provide ondemand delivery services has all affected logistics management (Nezhad and Mohammadnazari, 2026). Additionally, in order to meet fluctuating operational demands, organizations are using more flexible labor arrangements, encompassing gig workers. Consequently, the management of human resources in logistics has become increasingly complicated; thus, companies have turned toward advanced technologies to assist them in their human resource functions (Li et al., 2023). The use of gig workers raises concerns about fairness, job security, and the ethical treatment of workers. As a result, logistics firms are finding it challenging to balance the increased efficiencies created by AI-based workforce management systems with the need to have fair work practices. While there is considerable research on how the gig economy and AI-based workforce management are evolving, there is little specific research on how HR within the logistics industry can effectively balance technological advancements with equitable employment practices.

To address this deficiency, this research study examines how assenting to technology evolution and AI-generated human resource practices will ultimately lead to sustainable HR management strategies for gig workers while continuing to support equal employment opportunity principles through maintaining fairness and transparency.

Research aim: to suggest solutions to manage gig workers in logistics with AI and fair work systems.

The following **objectives** have been set to achieve the aim:

1. To analyse the concept of gig workers in business logistics.
2. To identify the challenges of gig workers in logistics
3. To provide solutions for ai-integrated and fair work systems for gig workers in business logistics.

Research object and methods

Research object of the paper: managing gig workers with AI and fair work systems in logistics.

This study adopts a secondary research method to examine the management of gig workers in the logistics sector through AI and fair work systems. Relevant data were collected from academic databases, primarily Google Scholar, by using keyword searching techniques to identify suitable literature related to the research topic. The main keywords used in the search process included “gig workers in logistics,” “gig economy in supply chains,” “AI in human resource management,” “algorithmic management,” “digital labour platforms,” “fair work systems,” and “challenges of gig workers.” To ensure the relevance and quality of the sources, several filtering criteria were applied during the selection process. Only articles published after 2020, written in English, and peer-reviewed journal publications were included in the study. These criteria helped ensure that the research was based on recent and credible academic sources reflecting current developments in the logistics and gig economy sectors. The collected literature was systematically analysed using content analysis to identify key insights related to gig worker management, challenges faced by gig workers, and the role of AI-based systems in improving fairness and efficiency in logistics workforce management.

Research results and discussion

Overview gig workers in logistics

The logistics industry's transformation has played a key role in its evolution since 2014 due to several factors, including global supply chain growth, e-commerce growth, increasing demand for rapid and flexible delivery services (Lyu et al., 2025). A major component of this shift has been the increased reliance on gig workers to meet fluctuating customer demand, reduce operational cost, and provide service efficiency in a highly competitive market. As customer demand for faster delivery and real-time services continue to evolve, logistics companies have started utilizing gig-based labor as a strategy to create greater flexibility and scalability within their business model (Liu and Cai, 2025). With advances in digital technology, the concept of gig work has grown significantly. Companies have created platforms that enable them to connect with independent contractors through mobile apps and online services (Li et al., 2023). The logistics industry often uses gig workers to conduct a variety of activities, including parcel delivery, food delivery, courier services, and transport. By using a digital platform to assign work, companies can immediately assign work, track how well each worker performs their job, and find the best delivery route making their operations run smoother than previously. Gig work is changing traditional employment relationships in logistics by providing a more flexible workforce than having permanent workers (Blackshaw, 2020). Therefore, the gig economy has become an integral part of many companies trying to quickly meet the supply chain requirements of seasonal workloads or unpredictable demands from consumers. Gig worker growth is on the rise within logistics for several reasons. Namely, the growth of e-commerce combined with the need for last-mile delivery capabilities is the biggest driver of this increase. Gig workers are employed to provide on-demand delivery of products shipped by shipping companies that want to deliver their items in one day or less as these companies rely heavily on gig workers who have a flexible schedule and can be quickly deployed to meet this demand (Bottalico and Nowak, 2024). Urbanization and technology have created new opportunities to provide on-demand delivery through delivery platforms, allowing companies to hire independent contractors from a much larger pool of people than previously possible. Additionally, the COVID-19 pandemic has generated a significant increase in the number of gig workers in logistics as there is now a need for home delivery services for food items and essential goods (Özbilgin et al., 2024).

The roles performed by logistics professionals are extremely important in the successful operation of supply chains because they may be involved with retrieving product from a warehouse or transferring it to a distribution centre, or providing a service to customers by delivering products directly to them, and may also be involved in sorting and packing product in a warehouse for shipment (Nezhad and Mohammadnazari, 2026). Many workers who perform delivery via the gig economy do so using their own vehicles and forms of transportation such as motorcycles, bicycles, trucks or cars to transport products to customers. Logistics companies benefit from using gig workers to perform deliveries, thereby allowing companies to grow their delivery capability without incurring the costs associated with owning vehicles that are solely dedicated to commercial delivery. Therefore, gig-based labour can be a very affordable and scalable option for logistics organisations to support their operations (Lyu et al., 2025). In addition, gig work provides lots of flexibility for workers who prefer working on a temporary basis and would like to have control over how many hours they will work and how much work they will complete. While there are several benefits to the gig worker model, it has also created challenges for both workers and companies. For instance, gig workers face many challenges regarding job security, benefits, and protections typically associated with traditional employment. Furthermore, many times gig workers are treated as independent contractors versus employees, meaning they do not qualify for healthcare benefits, paid time off, or retirement benefits. This classification has raised significant concerns regarding fair labor practices and whether gig work will last (Lyu et al., 2025). Gig companies face difficulties managing a relatively small, distributed workforce because they must ensure consistency in service levels from their gig workforce, maintain engagement of gig workers and track the performance of thousands of independent gig workers who only work occasionally.

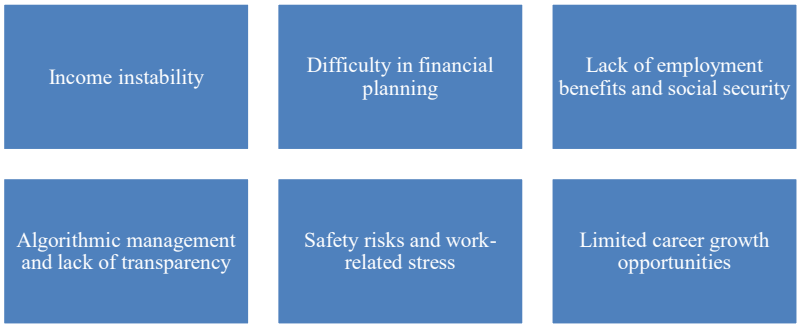
The HRM sector has become increasingly complicated by the growing number of gig workers in logistics, making it necessary to employ different management methodologies than those used to manage traditional employees. Due to the evolution of the global economy and delivery expectations, organizations must rethink their policies and procedures related to HR (Nezhad and Mohammadnazari, 2026). In particular, organizations should concentrate on efficient recruitment methods, clear lines of communication, reliable performance evaluation, and equitable compensation for gig workers. As such, companies are using digital technologies more frequently to improve management practices related to gig workers (Torshizi et al., 2025). For example, artificial intelligence and data analytics systems can assist with optimizing work schedules, assigning work, and evaluating gig workers by evaluating their performance based on such factors as the time it takes to deliver, customer ratings, and overall worker reliability. Additionally, through predictive analytic capabilities of artificial intelligence, organizations can more accurately predict demand trends for logistics services and proactively allocate gig workers to work accordingly to ensure successful logistics operations during periods of high demand.

Another important factor pertaining to gig work within the logistics realm is the worker relationship with digital platforms. This type of company serves as an intermediary between workers and the customer by determining how to allocate tasks, how their payments occur, and how to evaluate worker performance. These companies have allowed for a flexible way (Li et al., 2023) to work; however, they have also created an imbalance in the relationship between businesses and workers and, in many cases, workers rely heavily on the platform algorithm to receive job offers and generate their income while having very little power to influence their working conditions or the decision making process surrounding those conditions (Blackshaw, 2020) . Consequently, fairness, transparency, and worker rights have become larger issues in terms of the discussion surrounding the gig economy. Gig work has become an increasing focus of government and policy makers around the world as they examine the larger implications of this type of employment along with the logistics

and other industries in which it has been implemented (Liu and Cai, 2025). As a result of these explorations, various regulatory frameworks are being developed in order to ensure that gig workers receive a fair wage, have safe working environments and have access to adequate levels of social protection. Governments in different countries have implemented or are in the process of introducing policies that require platform companies to provide certain benefits or protections to gig workers. In addition to these types of value-added regulations, many governments are considering creating new classifications of work that would fit between independent contractors and traditional employees (Bottalico and Nowak, 2024). This policy debate shows that there is a need to create a balance between the flexibility associated with gig work and the protection of worker rights.

Challenges of gig workers in logistics

As a result of the tremendous explosion in e-commerce and on-demand delivery services, among other things, the gig economy is now integral to the logistics sector supporting the use of digital labour platforms (Liu and Cai., 2025). Companies now frequently depend on flexible workers for various tasks such as package sorting, supporting last mile deliveries and offering short-term warehouse support (Torshizi et al., 2025). Although gig work can provide some benefits to workers such as flexible working hours and easier access to work, gig workers have faced many challenges in logistics that impact their overall health, job security and income consistency. Gig workers in logistics have many of the same challenges that traditional employees have but they face additional obstacles, including lack of income continuity. Unlike the traditional type of employee who often receives a salary that provides for their ability to pay bills on time each month, gig workers receive payment on demand based on the work they do versus having set hours in which to work (Kediya et al., 2024). Due to seasonality and lack of availability, gig workers may have inconsistent income from month to month or from hour to hour (Nezhad and Mohammadnazari, 2026). For example, during peak holiday shopping periods gig workers can make more money than they can during other months due to the volume of deliveries that are being requested. Conversely, during non-peak periods the amount of deliveries being requested may be much lower than during peak periods resulting in gig workers having very little money to live on in the month of April or, for example, July. Because of the uncertain nature of gig work income, gig workers have difficulty planning and budgeting their finances and are therefore more susceptible to fluctuations in the economy as a whole.



Source: according to Liu and Cai (2025); Nezhad and Mohammadnazari (2026); Kediya et al. (2024); Appiah (2023); Griffin (2026); Bottalico and Nowak (2024); Lyu et al. (2025); Torshizi et al. (2025)

Fig. 1. Challenges of gig workers in logistics

The absence of employment benefits and social safety nets creates another significant obstacle. Most gig workers in the logistics sector work on an independent contractor basis and are therefore not considered traditional employees (Kediya et al., 2024). Consequently, the vast majority are excluded from benefit types such as health care coverage, paid time off, retirement savings plans, and unemployment compensation. In many instances, gig workers have to bear their own work-related expenses such as fuel, vehicle repair, mobile data, and insurance; this can drastically reduce overall earnings while exposing gig workers to potential financial losses, especially if they suffer a work-related accident or experience a health emergency (Appiah,2023). Lacking access to Social Security benefits emphasizes the instability that is typical of gig jobs within the logistics sector. Gig workers face serious challenges due to both algorithmic management and lack of transparency (Griffin,2026). Digital platforms routinely use machines and artificial intelligence to allocate tasks and monitor work, making use of both for rating employees. While these technologies might enhance the speed of operations, they also raise questions regarding fairness and transparency. For example, workers typically do not know how algorithms determine their job assignment. Thus, if an award is low or if there was an algorithmic error that resulted in a lower rating, this will reduce the amount of delivery jobs available to the worker, thereby causing loss of income. In addition, because of limited options for communicating with these operators regarding their decisions, it may be difficult for workers to contest an operator's decision (Bottalico and Nowak, 2024).

Concerns about safety and work-related stress are prevalent in the logistics gig workforce. Delivery drivers frequently experience deadlines and expectations for productivity that can lead to mental stress as well as physical fatigue (Appiah,2023). Many delivery drivers encounter traffic congestion, inclement weather and long hours working to deliver goods on time. Conditions such as these put delivery drivers at an increased risk of being in a vehicle accident and being injured while delivering goods. Many gig workers may not be formally employed and may not receive benefits if they are injured while on the job (Griffin,2026). Like traditional employment roles, gig work typically consists of mostly repetitive task-based jobs, as there is typically very little opportunity for professional advancement (Lyu et al., 2025).

Therefore, many workers will typically remain temporary or low-skilled workers for extended periods with little to no opportunity for career advancement programs. This lack of upward mobility can have some negative impact on job satisfaction and inhibit the long-term economic stability of gig workers (Torshizi et al., 2025).

AI-integrated and fair work system for managing gig workers in logistics

In the past few years, e-commerce has transformed logistics through the growth of digital platforms within logistics. One aspect of this growth includes gig workers, who are workers that perform flexible work (Razzaq et al., 2022). This model allows logistics companies to quickly adjust to changes in demand for their services, but it also presents challenges for companies regarding how to manage their gig workforce and ensure transparency and fairness (Torshizi et al., 2025). AI has recently been introduced into Human Resource Management as a potential solution to the issues associated with gig workforces within logistics (Li et al., 2023). An AI-integrated, fair-work system would allow companies in logistics to manage their gig workforce more efficiently, while also ensuring fair treatment, transparency of the workforce, and better working conditions for gig workers. Artificial intelligence is an important tool for improving workforce management in logistics industries (Ibrahim and Elgendy, 2025). Artificially intelligent workforce systems can analyze huge amounts of data and optimize decision-making regarding forecasting of future demand; how to distribute tasks; and scheduling of workers' shifts (Blackshaw, 2020). For example, AI algorithms will be able to determine the expected number of packages to be shipped based on historical information and seasonal trends and customer demand patterns and then allocate the work required to gig workers accordingly, resulting in either underutilization or overutilization of them. In addition, AI-based platforms will match workers to tasks based on where they are located; their skill levels, their previous performance; and their availability. Intelligent task allocation increases productivity within logistics by decreasing delays in the logistics operation, thus creating a win-win environment for both companies and gig workers. A case study of amazon highlighted that, the company uses AI-driven systems during sales events. It helps to forecast demand spikes and make evident growth in their delivery workforce. It helps to ensure timely and efficient operations (Menon et al., 2025).

AI operationally has a definite edge over traditional labour forces (Majumdar and Misra, 2026). Fairness, however, has always raised issues for workers within gig-based logistics systems. Many part-time, or gig workers, suffer the following issues when working in a gig-based logistics environment: they have little to no job security; they do not receive predictable income; they lack access to company-provided employee benefits; and they are often subjected to performance evaluation systems that are not very transparent (Li et al., 2023). In order to assist gig workers when working in gig-based logistics, AI embedded fair work systems are intended to improve transparency and fairness in how gig-based workers are treated by the various platforms that they use to find work. For example, AI can be programmed to create an easily understandable method of determining how tasks are allocated among gig workers, as well as a rating system for evaluating gig workers' performance (Torshizi et al., 2025). By providing transparency in how gig workers are evaluated, a company's gig worker platform can establish higher levels of trust between gig workers and the company. Additionally, gig worker platforms can also demonstrate to gig workers that they are being evaluated fairly, as all gig workers are evaluated against the same performance standards. Additionally, worker welfare and rights are another component of a fair AI-based workplace. AI-derived platforms can also collect data on the number of hours people work, the amount of their work distributed and the conditions of their deliveries, in order to give people more time to rest, as well as to prevent them from having too many hours in a week, too much work, or too many deliveries in a day (Torshizi et al., 2025). Additionally, AI will analyze the gathered data in real time to better understand how the work is being shared across all employees, as well as to identify whether there are any individuals who are receiving a greater share of the work than others (Zhang et al., 2022). Finally, AI can identify patterns of discrimination or bias associated with how tasks are assigned and how people are rated on completion of those tasks (Kediya et al., 2024). If an employee consistently receives fewer assignments, or lower ratings than others, the AI-based system has the ability to identify that issue for review, allowing the organization to address the inequity issue and potentially create a more equitable workplace (Liu and Cai, 2025).

Additionally, AI enhanced systems can greatly improve the communication and assistance for gig workers. Many gig workers are independent and feel a lack of connection to the organizations they do work for. AI powered platforms can provide automated assistance, real-time updates, and feedback mechanisms, to keep workers up to date with current job opportunities, earnings and performance metrics (Majumdar and Misra, 2026). Further, chatbots serve as a digital support tool enabling workers to quickly resolve operational issues such as: routing issues; payment delays; or technical issues. All of these tools will improve the overall experience of the worker and provide the workers with a greater sense of support in the logistics ecosystem (Appiah,2023). While having better operational management is always helpful, using AI for ethical work systems will create long-term sustainability within the logistics sector (Knight et al., 2026). Companies that offer fair and transparent treatment to their workers are likely to have the most qualified workers remain within their workforce, as having an environment that demonstrates both fairness and provides stable earning opportunities results in increased job satisfaction and higher levels of worker performance (Zhang et al., 2022). Increased worker satisfaction results in decreased shelf time of inventories, thereby enhancing service quality and customer satisfaction. As the level of logistical sector competition continues to increase, organizations that implement an ethical based worker-centric AI system will be at a significant competitive advantage because their workers will see them as either a reliable employer or one that is worthy of motivation.

Conclusions

1. The article discussed that the logistics industry has increasingly relied on gig workers due to the rapid growth of global supply chains, e-commerce, and the demand for faster and more flexible delivery services.

2. Despite offering flexibility, gig workers in logistics face several challenges such as income instability, lack of employment benefits, safety risks, and limited career growth opportunities.
3. Integrating artificial intelligence with fair work systems can help logistics companies manage gig workers more efficiently while improving transparency, fairness, and overall working conditions.

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