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EFFECTIVE ATTRACTION AND RETENTION OF SKILLED PROFESSIONALS IN U.S. TRANSPORTATION LOGISTICS

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Abstract. *The article focuses on effective approaches to attracting and retaining skilled professionals in the U.S. transportation and logistics sector. The purpose of the study is to highlight modern technologies for engaging and retaining qualified personnel in the U.S. transportation logistics market. The research applied general scientific methods of cognition, including analysis, synthesis, induction, deduction, comparison, generalization, as well as systemic and structural-functional approaches. The results show that following the post-pandemic downturn of 2020, the U.S. transportation and logistics sector has demonstrated steady recovery and employment growth, creating the need for improved workforce strategies. It was found that a key factor in effective employee attraction is the consideration of the socio-demographic characteristics of the target audience, particularly age and gender, as men account for 88.1% of the workforce in the sector. The study proves that marketing strategies should focus on building a positive employer image, taking into account regional differences in sector development – particularly the dominance of freight transportation in Arkansas and Nebraska, and warehousing in Delaware and Nevada. The findings indicate that modern personnel management in transportation logistics requires active implementation of digital technologies. The use of social networks, online platforms, and mobile applications helps maintain continuous communication between employers and potential employees. The study concludes that digital marketing tools enhance motivation, trust, and employee loyalty, contributing to long-term workforce retention. The practical significance of the research lies in the possibility of applying the proposed approaches to improve HR policies in U.S. logistics companies and to support the formation of a competitive labor market in the field of transportation logistics.*

Keywords: *transportation logistics; human resources; digital marketing; employee retention; innovative technologies.*

Introduction

The transportation logistics sector in the United States is one of the most dynamic components of the national economy and continues to show sustainable growth. With the expansion of e-commerce, business process digitalization, and the increasing volume of freight operations, demand for qualified logistics professionals is rapidly rising. Forecasts suggest that in the coming years, employment growth rates in this industry will exceed national averages, positioning transportation logistics as a key driver of economic development. At the same time, management approaches are evolving – modern management and marketing emphasize not only operational efficiency but also the attraction, development, and retention of human capital as a strategic resource for enterprises. However, recruitment and retention in the industry are becoming increasingly complex due to several factors: the gender-specific nature

of the labor market, regional employment differences, sectoral peculiarities, and a lack of essential digital and technical competencies among employees, which complicates effective transportation management. This situation calls for the implementation of new technological solutions and HR strategies capable of ensuring stable economic growth, balancing labor market demand and supply, and securing a sufficient number of qualified professionals for the logistics sector.

Literature Review

The issue of effectively attracting and retaining skilled professionals in the U.S. transportation and logistics sector is well covered in international academic literature, as evidenced by numerous scholarly and analytical studies. A significant body of statistical data is presented in reports by the U.S. Bureau of Labor Statistics, which provide a basis for quantitative analysis of employment conditions, wage levels, and occupational structures within the transportation and logistics industry. Notable contributions include works by M. D. Allard and K. Keller [1], as well as official reviews by the U.S. Bureau of Labor Statistics [7; 8]. The study by T. O'Brien et al. [4] offers insight into workforce development in the freight transportation sector. T. J. Richards [5], analyzing agricultural transportation, highlights the link between labor shortages and freight rates, underscoring the sector's economic sensitivity to workforce factors.

The technological dimension of employee attraction and retention is addressed in research exploring the integration of digital tools and big data analytics. Y. Lai, H. Sun, and J. Ren [3] analyze the determinants of big data technology adoption in logistics, emphasizing the importance of digital readiness for improving an organization's competitiveness in the labor market. W. Yu, R. Chavez, M. A. Jacobs, and C. Y. Wong [10] highlight the role of technological analytics in strengthening operational flexibility.

Another important dimension is the concept of employer branding. Studies by K. Y. T. Yu, B. R. Dineen, D. G. Allen, and A. C. Klotz [9], as well as N. N. Schang et al. [6], explore how organizational image, reputation, and branding strategies influence applicants' intentions to apply. These researchers show that building a positive

company image amid labor shortages is a crucial factor in retaining talented professionals in a competitive logistics market.

Despite a broad range of international studies addressing workforce attraction and retention in transportation logistics, there remains a shortage of systematized material integrating economic, technological, and socio-psychological aspects of this issue. Therefore, using various scientific methods of cognition, the available information was analyzed, grouped, and systematized to explore the research topic comprehensively.

Purpose of the Article

The study aims to present modern technologies for attracting and retaining qualified personnel in the U.S. transportation logistics market. In order to achieve this goal, the *following tasks* are carried out: 1) review the U.S. transportation logistics labor market; 2) identify key features of using technologies for attracting and retaining specialists; 3) present innovative methods for improving HR efficiency in logistics.

Research Results

The U.S. transportation logistics sector has shown steady growth following the pandemic-related decline of 2020. By April 2020, employment in transit and ground passenger transportation had dropped by nearly 38%, while courier services became the only segment to record significant growth, driven by the boom in e-commerce [1]. Over the next four years, the structure and dynamics of the labor market gradually recovered, and by 2024, employment levels had nearly returned to pre-pandemic figures. Specifically, employment in courier services increased by 27–30%, warehousing by 34%, and freight transportation by approximately 10–12% compared with 2020 [1]. After the recovery phase of 2021–2023, the labor market in the U.S. transportation and logistics sector in 2025 shows signs of slowdown and increased volatility, driven by fluctuations in energy prices and regulatory changes affecting foreign workers' access to the profession. According to the Current Employment Survey (CES), in August 2025 the transportation and warehousing subsector employed 6.748 million people (seasonally adjusted), which generally keeps sectoral employment on an elevated trajectory compared to 2020, though without the clear acceleration typical of 2021–2022 [2].

Assessing the labor market structure, it is worth noting that 75.1% of workers in the transportation industry are men, while in other sectors of the economy this figure averages only 53.1% [7]. This distribution shapes the specifics of managerial and marketing strategies that must primarily target a male audience. The most male-dominated segment is freight trucking, where men represent up to 88.1% of the workforce [7]. This indicates the need to develop more inclusive HR approaches that account for both gender and age characteristics of employees. These parameters are used to target HR and marketing strategies in 2025, while new gender- and age-based samples are still being published with the usual delay.

According to Richards [5], the U.S. transportation logistics market, particularly in perishable agricultural goods transportation, is undergoing structural changes caused by a shortage of qualified truck drivers. After the COVID-19 pandemic, truck rates increased sharply, signaling a systemic labor shortage in the industry. Rising freight costs are not merely the result of inflationary pressures or fuel price increases but reflect an imbalance between the demand for transport services and the supply of available drivers.

In terms of wages, transportation logistics remains a competitive industry. According to Occupational Employment and Wage Statistics [8], in 2024, the median wage for logisticians was $38.24 per hour, or $79,540 per year [8]. Based on an empirical model of search, matching, and bargaining in the labor market, Richards [5] demonstrates that the shortage of drivers directly accelerates wage growth in transportation logistics and, consequently, increases per-mile freight rates for agricultural products. An analysis based on U.S. Bureau of Census Current Population Survey and USDA Agricultural Marketing Service data revealed that in the post-pandemic period, the average wage of hired drivers increased by several percentage points, while average freight rates rose by nearly double digits.

At the same time, there are significant regional variations: in states with major transportation hubs such as Illinois, Texas, and California, wages are on average 10–15% higher than the national average [8]. In freight trucking, annual wages range from $50,000 to $62,000 depending on the region, type of transport, and worker

qualifications [8]. These findings demonstrate that the U.S. transportation logistics labor market is highly sensitive to workforce shortages, particularly in the transportation of agricultural goods, where the stability of supply chains directly depends on the number of available drivers. Richards (2024) emphasizes that the gap between the number of open driver positions and actual employment explains a significant part of freight rate increases, indicating inefficiencies in the logistics labor market.

When analyzing the labor market by region, there is a clear concentration of specific sub-sectors in certain states. The highest level of employment in air transportation is recorded in Alaska, where it is 5.5 times higher than the national average due to limited ground accessibility of many settlements [1]. Kentucky and Tennessee lead in courier services, where employment rates are 2.4–2.9 times higher than average. Freight trucking is most concentrated in Arkansas and Nebraska, while warehousing and storage dominate in Delaware and Nevada [1]. These regional differences necessitate adapting HR policies to local conditions, particularly in relation to transport corridor structures, infrastructure accessibility, and workforce demographics.

Regional concentration of subsectors in 2025 generally aligns with previously identified patterns: air transportation dominates in Alaska; courier services – in Kentucky and Tennessee; freight trucking – in Arkansas and Nebraska; warehousing – in Delaware and Nevada (according to BLS analytics and earlier reviews). These distinctions continue to shape differentiated HR policies across regions (corridors, infrastructure accessibility, labor force demographics). Collectively, these factors indicate that:

- the supply of long-haul drivers in 2025 remains tight, partly due to regulatory barriers for foreign candidates;
- the cost environment (fuel) is temporarily easing;
- digital HR management tools and targeted employer branding, adjusted for gender and age composition, are crucial for attraction and retention;
- regional HR differentiation remains a necessary condition for the effectiveness of

strategies [7].

Exploring modern technologies for recruiting and retaining skilled personnel in the U.S. logistics sector shows that most companies have shifted toward innovative HR management models based on digital technologies and data analytics. This transformation has been driven by both the overall digitalization of the economy and the acute labor shortage, which has stimulated the search for effective tools to optimize recruitment processes. As a result, a new type of managerial mindset is emerging in the logistics market, where digital management becomes the foundation of corporate competitiveness, and technology serves as a key instrument for enhancing employer attractiveness.

Effective attraction and retention of skilled specialists in U.S. transportation logistics largely depend on how companies build their employer brand, image, and reputation in the labor market. In today's competitive environment, logistics operators compete not only for clients but also for professional talent, making a positive employer image a central factor of workforce stability [6].

As Schang et al. [6] point out, employer branding plays a critical role in workforce attraction within transportation logistics, as it is closely linked to the company's overall image and reputation, which directly influence applicants' intentions to apply. However, within the U.S. logistics market, such strategies must be adapted to demographic and regional realities, as the sector exhibits a marked gender imbalance: men account for 88.1% of the workforce, necessitating marketing communications primarily targeted toward the male working-age population [7]. Within contemporary HR policies, this means that an employer brand must not only emphasize stability and reliability but also highlight values such as professional autonomy, technical competence, and the social significance of a driver's work –qualities most appealing to middle-aged male employees.

At the same time, Yu, Dineen, Allen, and Klotz [9] stress that digital platforms and mobile applications have significantly transformed talent acquisition and employer branding, enabling companies to use precise targeting by age, region, and professional profile. In logistics, this is particularly important due to the imbalance between

transport service demand and the supply of qualified drivers, especially in key regions with a high concentration of freight activity – Arkansas, Nebraska, Delaware, and Nevada [1]. Modern HR platforms such as LinkedIn, Indeed, and Glassdoor allow employers to geographically segment the labor market and direct recruitment campaigns toward regions with the most acute labor shortages.

Thus, combining employer branding based on an understanding of socio-demographic workforce characteristics with digital tools for targeted recruitment forms a new marketing paradigm for talent acquisition in U.S. transportation logistics. This strategy makes it possible to simultaneously address gender specifics of the labor market, workforce age distribution, and regional variations in driver demand, ensuring not only faster vacancy fulfillment but also long-term supply chain stability.

Industry forecasts indicate that by 2032, employment in U.S. transportation logistics will grow by 8.6%, significantly exceeding the national average growth rate of 2.8% [1]. Consequently, marketing strategies for workforce attraction and retention must be technologically enhanced to meet industry needs.

Special attention should be given to the use of advanced information processing technologies – Big Data Analytics (BDA), Artificial Intelligence (AI), and digital HR management platforms – which are transforming approaches to attracting and retaining qualified personnel. As Lai et al. [3] note, technological innovation not only enhances supply chain efficiency but also shapes a new system of human capital management based on employee competencies, behavioral patterns, and career trajectories.

In transportation logistics, this is particularly relevant due to high employee turnover and the ongoing need for skill renewal – from working with digital maps and sensors to managing autonomous transport systems. Big data analytics allows companies to personalize recruitment processes, predict turnover risks, and identify key motivational factors.

Studies by Yu et al. [10] show that HR analytics and predictive modeling systems help identify bottlenecks in hiring and retention processes, particularly for drivers, logisticians, dispatchers, and technical operators. For instance, BDA can determine which socio-economic or organizational conditions (such as work schedules, transport

types, or regional wage structures) have the greatest impact on employee turnover likelihood.

Furthermore, effective retention is linked to the use of virtual learning platforms (VR/AR) and digital training simulators that facilitate rapid adaptation of new employees to technological processes [4]. Such tools improve the training quality of drivers, warehouse operators, and logisticians without disrupting operations, which is especially valuable amid labor shortages.

Based on the above, an effective system for attracting and retaining personnel in transportation logistics must integrate analytical technologies, digital skill development, and flexible motivation mechanisms built on data-driven and transparent performance evaluation algorithms.

Table 1 – Technologies and mechanisms for effective attraction and retention of personnel in U.S. transportation logistics

Technologies	Application	Impact on HR
Big Data Analytics (BDA)	Analysis of large datasets on employees, prediction of turnover risks, optimization of recruitment processes	Personalized candidate attraction; reduced employee turnover
HR Analytics / Predictive Modeling	Development of models that assess employee satisfaction, training effectiveness, and the impact of motivational factors	Timely identification of demotivation; increased employee engagement
Digital Talent Platforms (ATS, CRM, Talent Intelligence)	Automated candidate selection systems, skill analytics, and career development management	Shorter hiring time; accurate matching of competencies to vacancies
Learning Management Systems (LMS)	Online courses for upskilling drivers, dispatchers, and warehouse operators	Continuous competency development; faster adaptation of new employees
Virtual / Augmented Reality (VR/AR) Training	Simulation-based training for truck drivers and operators	Reduced training costs; improved safety and qualification levels
AI-based Workforce Planning Systems	Intelligent forecasting of staffing needs; automated scheduling	Optimized workload; improved work-life balance
IT Connectivity Platforms	Integration of data between logistics, HR, and management departments	Transparent communication; faster response to workforce needs

Compiled by the author based on sources: [3, 4, 10]

At present, innovative models for attracting and retaining skilled personnel that combine elements of marketing, data analytics, and strategic human resource

management are actively being developed within the U.S. transportation logistics sector. One such model is the author's methodology Strategic Logistics Talent Marketing (SLTM), which represents a systematic approach to marketing-based management of driver recruitment in critical regions of the country. Its purpose is to ensure the stability of national supply chains through the use of digital analytics to identify workforce shortage zones, build a strong employer brand, and implement a strategic recruitment funnel – from targeted information campaigns to long-term employee retention. The SLTM methodology emphasizes that human capital management in logistics is not only an economic matter but also a strategic component of national security and the resilience of the U.S. transportation system.

It is equally important to engage directly with the labor market. While large carriers and fleet operators almost universally employ integrated digital dispatching systems and ensure that drivers are equipped with ELD and routing support, some drivers in smaller firms or independent operators still face deficits in access to advanced route-management tools or real-time analytics [4]. In such cases, inefficiencies can arise from fragmented communication systems, manual adjustments, or latency in information exchange. To mitigate these gaps, it is recommended to offer tailored training programs on the use of ELDs, driver-assistance features (ADAS), and optional VR/AR modules for situational familiarity (for example, in hazardous or weather-disrupted scenarios). These interventions are not posited as universally critical for all drivers, but as supplementary capacity-building tools in less technologically mature segments of the market.

From a managerial perspective, cultivating staff capability – the ability of employees to use digital tools, interpret data streams, and act on insights – remains essential. Strengthening these competencies helps maintain operational consistency across varying scales of carriers, supports integration with centralized analytics platforms, and enhances employer attractiveness in the labor market [3].

Conclusions

The U.S. transportation logistics sector has demonstrated steady growth since the pandemic-related decline of 2020. Employment recovery rates have increased rapidly,

making this sector one of the key drivers of economic revitalization. The majority of workers are men, accounting for up to 88.1% in freight transportation. Therefore, marketing strategies must consider both age and gender factors, primarily targeting the male working-age population. Additionally, it is important to account for regional market demand and industry specifics: freight transportation is most developed in Arkansas and Nebraska, while warehousing dominates in Delaware and Nevada.

Ensuring effective attraction and retention of employees requires the use of modern marketing technologies, the development of employer brands, and the creation of conditions that motivate workers to join and stay with particular companies. This involves the active use of social networks, digital platforms, and mobile applications that facilitate continuous communication with potential employees. Such tools not only help form a positive employer image but also build trust, strengthen motivation, and promote long-term employee retention.

Given that the industry's growth rate in the coming years is expected to significantly exceed the national average, it is essential to adopt additional HR management technologies. These technologies should rely on the use of Big Data, artificial intelligence, and digital HR management platforms that optimize recruitment processes, forecast staffing needs, and reduce turnover risks. Among such innovative tools are systems like Strategic Logistics Talent Marketing (SLTM), which combine marketing approaches, digital analytics, and personnel management, as well as the development of employees equipped to work with new technologies and talent systems.

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