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Enhancing Management Mechanisms To Ensure Sustainable Employment For Employees In Transport Enterprises

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Abstract: This study examines management mechanisms for ensuring sustainable employment in transport enterprises under conditions of digitalization, technological change, and increasing labor market requirements. Particular attention is given to workforce planning, professional development, employee motivation, occupational safety, and adaptation to technological changes. The study shows that an integrated human resource management approach can improve workforce stability, reduce employee turnover, enhance labor productivity, and strengthen the competitiveness of transport enterprises. The proposed approach emphasizes continuous employee development and effective adaptation to changing organizational and technological requirements.

Keywords: sustainable employment; transport enterprises; workforce management; human resources; employee motivation; labor productivity; professional development; digitalization.

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Introduction

The transport sector plays a strategically important role in ensuring economic connectivity, supporting the movement of people and goods, facilitating regional development, and strengthening the integration of domestic markets with international transport networks [1]. The expansion of transport and logistics services inevitably increases the demand for qualified labor and places new requirements on the organization of employment within transport enterprises. Consequently, the sustainability of employment has become an important component of effective enterprise management, particularly in an environment characterized by technological modernization, digital transformation, increasing competition, and changing labor-market requirements [2].

The relevance of this issue is reinforced by the rapid expansion of transport services in Uzbekistan. According to the National Statistics Committee, the volume of transport services reached 188.3 trillion soums in 2025, compared with 151.8 trillion soums in 2024 [3]. Thus, the volume of transport services increased by approximately 24 percent over the year, demonstrating the growing economic importance of the sector and the corresponding need for effective workforce management. At the same time, the employment rate in Uzbekistan increased from 68.3 percent in 2024 to 70.5 percent in 2025, indicating positive changes in the national labor market. These dynamics create favorable conditions for expanding employment opportunities; however, they also increase the importance of ensuring that newly created jobs are productive, stable, safe, and compatible with the evolving requirements of the transport industry [4].

The transformation of the transport sector is accompanied by substantial changes in the nature of work. Digital dispatching, electronic documentation, fleet-management systems, intelligent transport technologies, automated control mechanisms, and artificial intelligence are gradually changing traditional work processes [5].

Recent developments in Uzbekistan demonstrate that digital and technological modernization is becoming an integral part of transport-sector management. In particular, the development of intelligent transport systems and the introduction of advanced technologies are being incorporated into major infrastructure projects. Therefore, transport enterprises need to reconsider conventional approaches to human resource management and place greater emphasis on workforce adaptability, continuous professional development, retraining, and internal career mobility [6].

The state's recent policy measures also emphasize the importance of improving employment relations and strengthening mechanisms for workforce inclusion. The Presidential Decree of 4 August 2025, No. PF-126, "On additional measures to improve the system of labor relations and vocational training and to encourage employers," introduced new approaches to the reservation of jobs for socially vulnerable groups [7]. For economic entities employing more than 100 workers, the required reservation for specified socially vulnerable categories may account for up to 3 percent of total employment, while for budget organizations and enterprises with more than 50 percent state ownership employing more than 20 workers, the corresponding ceiling is up to 7 percent. These measures demonstrate that employment policy is increasingly being connected not only with the creation of jobs but also with ensuring equal access to employment and strengthening social responsibility in organizations [8].

Another important direction is the modernization of the transport and logistics system itself. In January 2025, the President emphasized the need to further develop transport and logistics infrastructure, increase the competitiveness of national carriers, and improve the efficiency of international transportation. In July 2026, further proposals were considered to strengthen Uzbekistan's position as a major land-based transport hub connecting Eastern and Western markets [9]. The country currently has approximately 4,000 kilometers of international transit corridors and 4,700 kilometers of railway infrastructure, while new logistics centers and major international rail projects are being developed. Such developments are likely to generate additional demand for drivers, engineers, dispatchers, logistics specialists, technical personnel, information technology professionals, and managers. Hence, the expansion of transport infrastructure should be accompanied by a systematic mechanism for developing and retaining human capital [10].

The main challenge for transport enterprises is therefore to achieve a balance between economic efficiency and workforce stability. Reducing labor costs without considering employee development, workplace safety, motivation, and social protection may produce short-term savings but can increase staff turnover, skill shortages, and operational risks in the long term [11]. Conversely, excessive staffing without productivity-oriented management may weaken the financial sustainability of enterprises. This makes it necessary to develop an integrated management approach in which employment stability, labor productivity, employee competencies, occupational safety, motivation, and technological adaptation are considered as interconnected elements [12].

From this perspective, sustainable employment should be understood not simply as the preservation of existing workplaces, but as the creation of conditions that allow employees to maintain stable employment, improve their professional competencies, adapt to technological changes, achieve career development, and work in a safe and motivating environment. For transport enterprises, such an approach is particularly significant because the continuity and quality of transport services depend directly on the availability of experienced and professionally competent personnel [13].

Accordingly, the improvement of management mechanisms for sustainable employment in transport enterprises represents both an economic and a social priority. The development of strategic workforce planning, competency-based human resource management, continuous vocational training, digital HR systems, performance-oriented motivation, occupational safety, and effective internal mobility can contribute to reducing employee turnover while simultaneously improving productivity and organizational resilience [14].

Therefore, the purpose of this study is to examine the organizational and managerial mechanisms for ensuring sustainable employment in transport enterprises and to develop practical approaches for improving workforce stability under conditions of technological and institutional transformation. The study focuses particularly on the integration of workforce planning, employee development, motivation, occupational safety, digitalization, and social protection into a unified employment management framework [15].

The issue of sustainable employment has increasingly attracted the attention of researchers because technological transformation, demographic changes, labor shortages, and new organizational models are reshaping the structure of employment. In the transport sector, these processes are particularly pronounced because the effectiveness of transport services depends simultaneously on technology, infrastructure, organizational capabilities, and the availability of qualified personnel. Recent research therefore increasingly considers workforce stability not as a separate personnel issue, but as an integral component of organizational resilience and long-term competitiveness [16].

A recent systematic review of the future transport labor market emphasizes that transport enterprises are currently facing a combination of labor shortages, skills gaps, difficult working conditions, an ageing workforce, automation, digitalization, and the transition toward cleaner technologies. The authors argue that these changes require coordinated approaches to skilling, reskilling, and improving working conditions, because technological and environmental transformation can create both new employment opportunities and risks for certain occupational groups. This conclusion is particularly relevant for transport enterprises where traditional job functions are gradually being transformed by digital dispatching, automated control systems, intelligent transport technologies, and data-driven management [17].

The relationship between digital transformation and employment has also been examined by the International Labour Organization. According to the ILO, digitalization is restructuring occupations and changing the skills required by workers, while institutional responses to these changes often develop more slowly than technological innovation itself. The organization stresses that effective labor-market adjustment requires policies and management practices that enable workers to acquire new competencies and adapt to changing forms of work. For transport enterprises, this implies that digitalization should be accompanied by systematic retraining and professional development rather than being treated solely as a technological investment. The role of skills development has become even more significant in recent research. The ILO notes that technological change can make existing skills obsolete while simultaneously creating demand for new technical and transferable competencies. Workers possessing adaptable skills are better positioned to benefit from new employment opportunities and to remain productive during periods of technological restructuring. Accordingly, sustainable employment management should include continuous competency assessment, targeted training, reskilling, and upskilling mechanisms. This perspective shifts the focus of human resource management from filling existing vacancies toward preparing employees for future labor demand.

The OECD similarly finds that digital transformation is reshaping occupational structures and generating new requirements for digital competencies. Its research highlights the importance of targeted retraining and upskilling policies to reduce emerging labor-market bottlenecks and help workers adapt to changing occupational requirements. This approach is especially relevant to transport enterprises because many positions increasingly combine traditional operational knowledge with digital competencies. Drivers, dispatchers, logistics specialists, maintenance personnel, and managers are expected to interact with increasingly sophisticated digital systems, making competency development an essential element of workforce sustainability.

Recent literature also points to the growing role of artificial intelligence in changing job tasks and skill requirements. The OECD reports that AI affects not only the quantity of work performed but also the composition of competencies required from employees, increasing the importance of digital, managerial, and analytical skills in many areas of employment. Thus, transport enterprises introducing AI-supported planning, predictive

maintenance, automated customer-service systems, and intelligent fleet-management technologies need to anticipate changes in job content and prepare employees accordingly.

Another important strand of research concerns the strategic role of human resource management in transport organizations. A recent systematic literature review covering studies across aviation, maritime, rail, logistics, and public transportation identifies workforce planning, employee engagement, well-being, performance management, digital transformation, sustainability, and diversity as major HRM themes in the transport sector. The review demonstrates that effective workforce management increasingly requires an integrated approach in which employee-related policies are directly connected with operational and strategic objectives. This supports the argument that sustainable employment should be embedded within the broader management system of transport enterprises.

The social dimension of employment sustainability has received increasing attention as well. Research on urban public transport workers shows that workload, time pressure, shift work, working-time arrangements, career development, salary, organizational roles, and workplace relationships are important factors affecting employees' mental well-being. This finding indicates that employment stability cannot be assessed solely by the number of jobs maintained. Job quality, working conditions, occupational safety, employee well-being, and opportunities for professional advancement are also important dimensions of sustainable employment.

The literature on sustainable human resource management further demonstrates a growing shift from traditional personnel administration toward sustainability-oriented HR practices. A 2024 systematic review of green human resource management research found substantial growth in studies linking HR practices with organizational sustainability, although relatively less attention has been given to the social and economic dimensions of sustainability compared with environmental performance. This observation is important for transport enterprises because the transition toward environmentally sustainable transport should simultaneously address workforce development, decent employment, and organizational performance.

The literature reviewed above allows several common theoretical propositions to be identified. First, sustainable employment is multidimensional and includes employment stability, job quality, occupational safety, fair remuneration, social protection, and opportunities for professional development. Second, technological and environmental transformation changes the content of work and therefore requires continuous development of employee competencies. Third, strategic human resource management should be integrated with enterprise-level planning, especially in sectors characterized by rapid technological change and labor shortages. Fourth, employee well-being and working conditions have a direct relationship with workforce retention and organizational sustainability.

At the same time, the existing literature reveals a research gap. A significant proportion of recent studies examine digital skills, occupational well-being, green HRM, or strategic workforce management separately. Comparatively fewer studies provide an integrated management framework specifically designed for transport enterprises that simultaneously connects workforce planning, competency development, employee motivation, occupational safety, digital transformation, and employment stability. This gap is particularly relevant for developing economies, including Uzbekistan, where transport infrastructure and logistics services are expanding while enterprises are also adapting to digital technologies and changing labor-market requirements.

Therefore, the present study builds on existing theoretical and empirical research but focuses specifically on the integration of economic, organizational, technological, and social instruments within a unified mechanism for sustainable employment management in transport enterprises. Such an approach makes it possible to move beyond the traditional concept of personnel administration toward a strategic workforce model in which employee development and organizational efficiency are treated as mutually reinforcing objectives.

Methodology

This study employs a qualitative research approach to examine management mechanisms for ensuring sustainable employment in transport enterprises. The research is based on the analysis and synthesis of recent scientific studies, international reports, and relevant institutional documents concerning workforce management, digital transformation, employee development, and labor sustainability.

Systematic and comparative analysis methods were used to identify the main factors influencing employment stability. These factors include workforce planning, professional development, employee motivation, occupational safety, working conditions, and adaptation to technological changes.

The study also applies a conceptual approach to develop an integrated management framework in which human resource practices are linked with the strategic objectives of transport enterprises. Based on the findings, practical measures for improving workforce stability, employee competencies, and organizational efficiency are formulated.

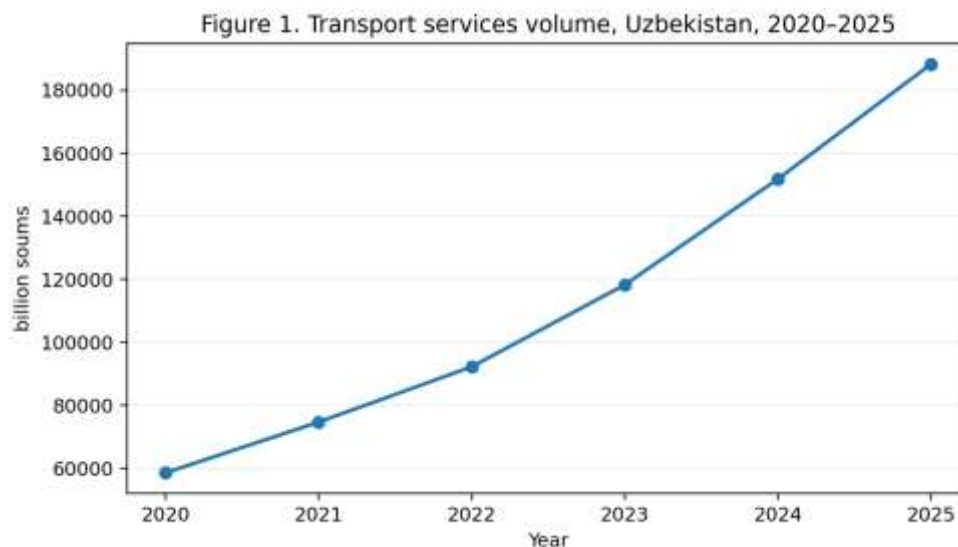
Result and discussion

The empirical analysis shows that the expansion of Uzbekistan's transport market is occurring faster than the growth of employment in the sector. According to the National Statistics Committee, the volume of transport services increased from 58,623.0 billion soums in 2020 to 188,270.8 billion soums in 2025. The 2025 value was 24.0% higher than in 2024, when transport services amounted to 151,825.0 billion soums. The scale of this increase confirms that transport activity is expanding and that enterprises need management systems capable of matching operational growth with an adequate supply of qualified employees.

Table 1. Dynamics of transport services in Uzbekistan, 2020–2025

Year	Transport services, bln soums	Annual change, %	2020=100
2020	58 623.0	—	100.0
2021	74 708.7	27.4	127.4
2022	92 277.2	23.5	157.4
2023	118 275.5	28.2	201.8
2024	151 825.0	28.4	259.0
2025	188 270.8	24.0	321.2

**Source: National Statistics Committee of the Republic of Uzbekistan, SIAT [14].*



The data in Table 1 and Figure 1 indicate a sustained upward trajectory after 2020. Between 2020 and 2025, the nominal volume of transport services more than tripled.

Importantly, the latest official annual dataset shows that road transport alone generated 95,853.8 billion soums of services in 2025, up from 73,439.0 billion soums in 2024. This concentration means that workforce planning in road transport has a particularly strong influence on the overall employment sustainability of the sector.

At the same time, the labor-market data reveal a more complex picture. The number of people employed in the 'transportation and storage' economic activity was 610.5 thousand in 2020, rose to 654.2 thousand in 2021, and then declined to 584.6 thousand in 2025. From 2024 to 2025, employment in this activity fell by about 2.8%, while total transport-service output increased by 24.0% over the same period. This divergence should not be interpreted automatically as job destruction caused by technology, because the official statistics measure employment by economic activity rather than individual enterprise staffing. Nevertheless, it is a strong signal that productivity, technology, work organization, and employment policies must be managed together.

Figure 2. Employment in transportation and storage, 2020-2025

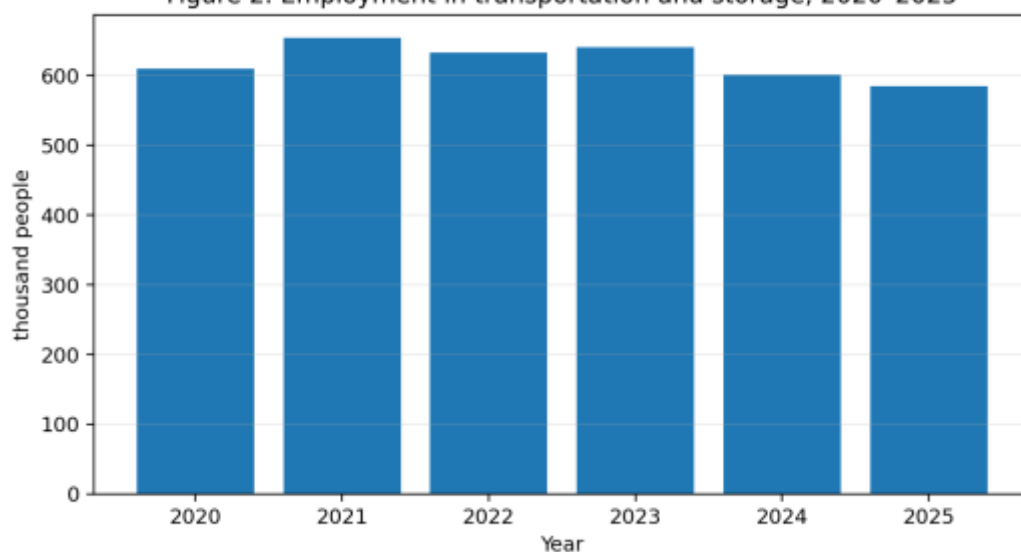


Table 2. Employment and labor-market indicators relevant to sustainable employment

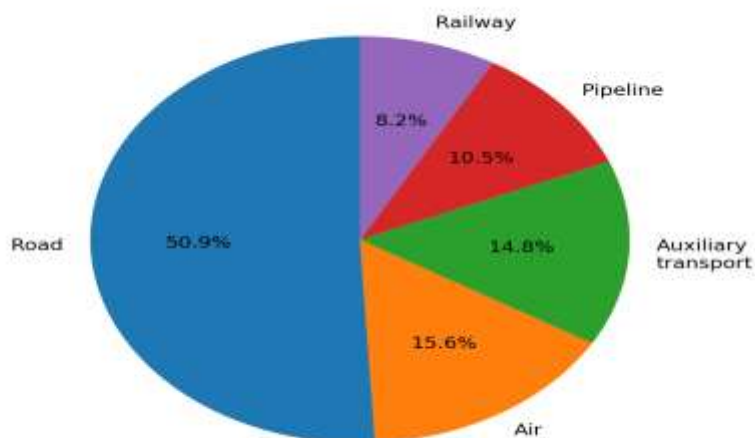
Indicator	2020	2024	2025	Change 2024–2025
Employment in transportation and storage, thousand people	610.5	601.5	584.6	-2.8%
National employment rate, %	66.0	68.3	70.5	+2.2 percentage points
Transport services, bln soums	58 623.0	151 825.0	188 270.8	+24.0%

**Source: National Statistics Committee of the Republic of Uzbekistan; 2025 employment data are preliminary.*

A second important finding concerns the structure of transport services. In 2025, road transport accounted for 50.9% of total transport-service volume, followed by air transport (15.6%), auxiliary transport activities (14.8%), pipeline transport (10.5%), and railway transport (8.2%). The structure demonstrates that sustainable employment measures

should be differentiated by subsector: road transport requires strong attention to driver availability, fatigue management, technical maintenance and dispatching, while logistics and auxiliary services require growing digital and analytical competencies.

Figure 3. Structure of transport services by type, 2025



The relationship between output and employment becomes clearer when both indicators are normalized to their 2020 levels. By 2025, transport-service output had reached approximately 321.0% of its 2020 level, whereas employment in transportation and storage stood at about 95.8% of its 2020 level. This pattern suggests that a substantial part of recent sectoral expansion has been supported by higher productivity, changes in the structure of services, technology, capital intensity, or the use of organizational models that reduce the need for proportional increases in headcount. For management, the implication is important: sustainable employment should be pursued through higher employee value and adaptability rather than through a simple numerical increase in staffing.

Figure 4. Relative dynamics (2020=100)

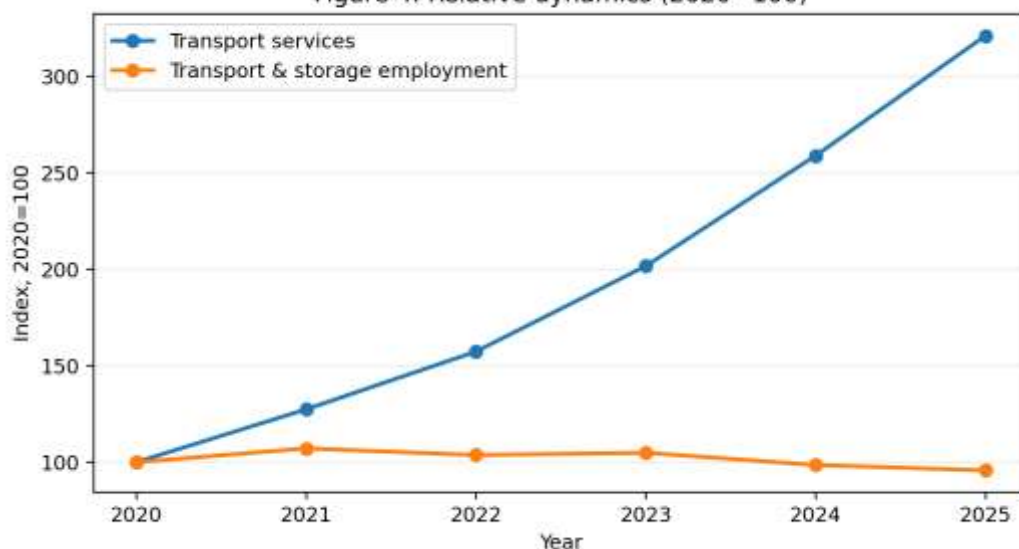


Table 3. Proposed management priorities derived from the empirical findings

Observed issue	Management response	Expected effect
Transport output grows faster than sector employment	Strategic workforce forecasting linked to service and investment plans	Lower staffing gaps and better workload allocation
Employment in transportation and storage declined in 2024–	Reskilling, internal mobility and targeted retention of	Higher employability and lower involuntary turnover

Observed issue	Management response	Expected effect
2025	critical specialists	
Road transport accounts for 50.9% of service volume	Priority training in safe driving, digital dispatching and vehicle diagnostics	Improved service quality and occupational safety
Digitalization changes job content	Competency mapping and continuous upskilling	Faster adaptation to technology
National employment rate increased to 70.5% in 2025	Competition for qualified workers and stronger employer value proposition	Improved attraction and retention of skilled staff

**Source: author's synthesis based on official statistics.*

The results therefore support an integrated management model in which employment sustainability is treated as a balance between economic performance and workforce capability. Management should monitor at least five dimensions simultaneously: workforce stability, labor productivity, competency development, occupational safety, and technological adaptation. A rise in service output accompanied by persistent staff shortages can create excessive workloads and safety risks; conversely, retaining employees without upgrading their skills can reduce productivity. The appropriate objective is to increase the productivity and employability of workers while maintaining decent and safe employment conditions.

The findings are also consistent with the national labor-market context. Uzbekistan's employment rate increased from 68.3% in 2024 to 70.5% in 2025, according to the National Statistics Committee. For transport enterprises, a tighter labor market can increase the cost of attracting and retaining experienced employees. This strengthens the case for transparent pay systems, career pathways, continuous training, safer working conditions, and internal mobility. In other words, sustainable employment should be treated not only as a social responsibility but also as an economic instrument for maintaining operational continuity.

The central empirical result is the mismatch between rapid growth in transport-service output and the decline in employment within transportation and storage after 2021. The evidence does not by itself prove displacement by automation, but it does indicate that the sector is becoming more productivity-intensive. Therefore, the management priority should shift from headcount-based personnel administration to a capability-based model that combines forecasting, reskilling, safety, motivation, and digital HR analytics. Such a model can help transport enterprises preserve stable employment while responding to technological and market changes.

Conclusion

The study demonstrates that ensuring sustainable employment in transport enterprises requires a transition from conventional personnel administration toward a strategic and integrated workforce management approach. The analysis shows that the expansion of transport services, technological modernization, and digital transformation are changing both the quantity and structure of labor demand, making employee adaptability an increasingly important factor of organizational sustainability. Sustainable employment should therefore be based on several interconnected management priorities, including strategic workforce planning, continuous professional development, employee motivation, occupational safety, and effective adaptation to digital technologies. Particular attention should be given to retraining and upskilling employees whose traditional job functions are being transformed by automation and digitalization. The findings also indicate that employment stability should not be assessed only by the number of existing jobs. The quality of employment, labor productivity, employee

retention, working conditions, career opportunities, and professional competencies should be considered simultaneously. An integrated system of workforce monitoring and performance evaluation can help transport enterprises identify emerging labor risks and respond to them in a timely manner. In this regard, the implementation of digital human resource management, competency-based planning, targeted training programs, balanced incentive systems, and stronger occupational safety measures can contribute to reducing employee turnover and improving organizational efficiency. Such an approach enables transport enterprises to combine technological development with the preservation and development of human capital. Overall, improving management mechanisms for sustainable employment can strengthen the resilience, competitiveness, and long-term performance of transport enterprises. The most effective strategy is to view employees not merely as a cost factor, but as a strategic resource whose knowledge, skills, motivation, and ability to adapt directly determine the sustainable development of the transport sector.

REFERENCES

- [1] World Bank, *Uzbekistan: Country Economic Memorandum—Fostering Private Sector-Led Growth and Global Integration*. Washington, DC, USA: World Bank, 2022.
- [2] National Statistics Committee of the Republic of Uzbekistan, "Employment rate, annual data," *SIAT Open Data*, Tashkent, Uzbekistan, 2025.
- [3] President of the Republic of Uzbekistan, "Major transport infrastructure investment projects reviewed," May 26, 2026.
- [4] President of the Republic of Uzbekistan, "On additional measures to improve the system of labor relations and vocational training and to encourage employers," Decree No. PF-126, Aug. 4, 2025.
- [5] President of the Republic of Uzbekistan, "Tasks identified for the development of the transport sector," Jan. 11, 2025.
- [6] President of the Republic of Uzbekistan, "Proposals for developing the transport and logistics system reviewed," Jul. 1, 2026.
- [7] "A review of the future transport labour market: An EU approach," *European Transport Studies*, vol. 1, Art. no. 100007, 2024, doi: 10.1016/j.ets.2024.100007.
- [8] L. Charles, S. Xia, and A. P. Coutts, *Digitalization and Employment: A Review*. Geneva, Switzerland: International Labour Organization, 2022.
- [9] International Labour Organization, *Skills for Digital Transformation*. Geneva, Switzerland: ILO, 2024.
- [10] OECD, *Skills for the Digital Transition*. Paris, France: OECD Publishing, 2021.
- [11] OECD, *How Is AI Changing the Way Workers Perform Their Jobs and the Skills They Require?* Paris, France: OECD Publishing, 2024, doi: 10.1787/8dc62c72-en.
- [12] S. M. Rahman, "Human resource management in the transport sector: A systematic literature review of strategic approaches and sectoral impacts," *American Journal of Interdisciplinary Studies*, 2025.
- [13] "Mental health outcomes among urban public transport workers: A systematic literature review," *Journal of Transport & Health*, vol. 36, Art. no. 101804, 2024, doi: 10.1016/j.jth.2024.101804.
- [14] "A systematic literature review on green human resource management (GHRM): An organizational sustainability perspective," *Cogent Business & Management*, 2024, doi: 10.1080/23311975.2024.2371983.
- [15] National Statistics Committee of the Republic of Uzbekistan, "Transport services volume, by type (annually), 2010–2025," *SIAT Open Data*, Tashkent, Uzbekistan, 2026.
- [16] International Labour Organization, *Navigating the Future: Skills and Jobs in the Green and Digital Transitions—Scenario-Based Insights*. Geneva, Switzerland: ILO, 2024.
- [17] European Commission, "Commission recommendation on means to address the impact of automation and digitalisation on the transport workforce," *Official Journal of the European Union*, 2024.