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The Journal of Transport showcases groundbreaking scientific and applied research conducted by transport-oriented universities, higher educational institutions, research centers, and institutes both within the Republic of Uzbekistan and globally. Recognized for its academic rigor, the journal is included in the prestigious list of scientific publications endorsed by the decree of the Presidium of the Higher Attestation Commission No. 353/3 dated April 6, 2024. This inclusion signifies its role as a vital repository for publishing primary scientific findings from doctoral dissertations, including Doctor of Philosophy (PhD) and Doctor of Science (DSc) candidates in the technical and economic sciences.

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Articles are published in Uzbek, Russian, and English, ensuring a wide-reaching audience and fostering cross-cultural academic exchange. As a beacon of academic excellence, the "Journal of Transport" continues to serve as a vital conduit for knowledge dissemination, collaboration, and innovation in the transport sector and related fields.

Impact of increasing labor productivity in the company contributing factors

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Abstract: Labor productivity plays a critical role in determining a company's efficiency, profitability, and competitive advantage. Enhancing workforce productivity requires a combination of strategic management, technological advancements, and employee wellbeing initiatives. This article explores the key factors that contribute to increased labor productivity in organizations, including technological innovation, human resource management practices, work environment, and leadership strategies. By analyzing recent empirical studies, this paper provides insights into how companies can optimize productivity and sustain longterm growth. As a result, the volume of product manufacturing in industrial enterprises increases, ensuring a reduction in product cost. Additionally, workers' productivity and efficiency in their jobs improve. The introduction of new technologies in production reduces the use of human labor resources and leads to a decrease in employees' working hours in enterprises.

Keywords: Labor productivity, workforce efficiency, human resource management, technology adoption

1. Introduction

In a highly competitive business environment, improving labor productivity is crucial for organizational success. Productivity growth directly impacts a company's ability to maximize output while minimizing costs. Various internal and external factors influence labor productivity, including technological advancements, employee motivation, organizational culture, and leadership effectiveness. Understanding these contributing factors enables businesses to implement targeted strategies that foster workforce efficiency and long-term sustainability.

2. Methods and materials

Key Factors Contributing to Increased Labor Productivity

Technological Innovation and Automation. The integration of advanced technologies, such as artificial intelligence (AI), automation, and digital transformation, enhances productivity by streamlining processes, reducing manual workload, and minimizing errors. The adoption of Industry 4.0 technologies, including the Internet of Things (IoT) and big data analytics, has revolutionized workplace efficiency by enabling real-time decision-making and predictive maintenance [1].

Human Resource Management (HRM) Practices. Effective HRM practices play a pivotal role in boosting workforce productivity. Recruitment strategies, employee training and development, performance appraisal systems, and incentive programs significantly impact employee motivation and engagement. Companies that invest in continuous learning and skill development create a more competent workforce, leading to higher productivity levels.

Employee Motivation and Job Satisfaction. Motivated employees are more productive, engaged, and committed to achieving organizational goals. Factors such as competitive salaries, recognition programs, career advancement opportunities, and work-life balance contribute to job satisfaction. Psychological theories, such as Maslow's hierarchy of needs and Herzberg's two-factor theory, suggest that intrinsic and extrinsic motivators drive employee performance and productivity [2].

Workplace Environment and Organizational Culture. A positive work environment fosters collaboration, innovation, and high performance. Factors such as ergonomic workplace design, flexible work arrangements, and mental health support contribute to employee well-being and efficiency. Organizational culture, characterized by strong communication, inclusivity, and teamwork, plays a crucial role in enhancing productivity levels.

Leadership and Management Strategies. Transformational leadership and effective management strategies influence labor productivity by setting clear goals, fostering a culture of accountability, and inspiring employees. Leaders who prioritize employee development, provide constructive feedback, and encourage innovation create a high-performance work environment [3].

Digitalization and Remote Work. The rise of digitalization and remote work has reshaped labor productivity dynamics. Cloud computing, collaboration tools, and virtual communication platforms enable employees to work efficiently regardless of location. While remote work offers flexibility, organizations must implement clear performance metrics and ensure seamless digital communication to maintain productivity [4].

Case Studies and Empirical Evidence

Recent studies have demonstrated a positive correlation between the adoption of technological advancements and labor productivity growth. For example, companies that implemented AI-powered automation reported a 20–30% increase in operational efficiency [5]. Similarly, firms with strong HRM policies and employee engagement programs observed significant improvements in workforce performance and retention rates.

Challenges and Future Perspectives

Despite the benefits of productivity-enhancing initiatives, organizations face challenges such as resistance to change, high implementation costs, and workforce adaptation issues. Future research should explore the long-

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term impact of digital transformation on labor productivity and investigate emerging trends in workplace innovation.

3. Conclusion

Increasing labor productivity is a multidimensional process that requires a strategic approach involving technology, human resource management, leadership, and workplace environment improvements. Companies that prioritize these factors can enhance operational efficiency, drive economic growth, and gain a sustainable competitive advantage.

Key formulas for labor productivity measurement

Basic Labor Productivity Formula. Labor productivity is generally calculated as:

$$LP = \frac{O}{L}$$

where:

LP - labor Productivity

O - total Output (goods produced, services delivered, revenue generated)

L - labor Input (hours worked, number of employees, total wages) [6].

Multifactor Productivity (MFP) Formula. To account for multiple input factors like capital and materials, the Multifactor Productivity (MFP) formula is used:

$$MFP = \frac{O}{L + K + M}$$

where:

K - capital input (investment in machinery, IT, infrastructure)

M - material input (raw materials, supplies, logistics) [7,8].

Growth Rate of Labor Productivity. To analyze labor productivity improvement over time, the growth rate formula is:

$$\text{Productivity Growth Rate} = \left(\frac{LP_t - LP_{t-1}}{LP_{t-1}}\right) \times 100$$

where:

LPt - labor productivity at time

LPt−1 - labor productivity at previous period [9].

Cobb-Douglas Production Function. A widely used economic model to understand the relationship between labor, capital, and output is the Cobb-Douglas function:

$$O = AL^{\alpha}K^{\beta}$$

where:

O - output

A - total factor productivity (TFP)

L - labor input

K - capital input

α,β - elasticities of labor and capital

Efficiency Ratio. To evaluate how effectively labor resources are utilized, the efficiency ratio is calculated as:

$$\text{Efficiency Ratio} = \frac{\text{Actual Output}}{\text{Standard Output Expected}} \times 100$$

Human Capital Index (HCI) Formula [10]. Employee skills and training significantly impact productivity. The Human Capital Index can be estimated as:

$$HCI = \frac{\sum(E_i \times S_i)}{N}$$

where:

Ei - employee experience level

Si - skill level rating

N - total number of employees

Practical Application and Case Study Example:

A manufacturing company wants to measure its productivity growth after implementing automation.

Previous labor productivity: 505050 units/hour

New labor productivity: 656565 units/hour

Applying the growth rate formula:

$$\text{Growth Rate} = \left(\frac{65 - 50}{50}\right) \times 100 = 30\%$$

This indicates a 30% increase in labor productivity due to automation.

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