ASSESSMENT OF THE OPERATIONAL EFFICIENCY AND SERVICE DELIVERY PROCESSES IN AN ENTERPRISE MANAGEMENT PROGRAM

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Abstract: This paper highlights the critical role of industrial infrastructure particularly the well-developed networks of roads and railways in ensuring the efficient operation of production systems. The effective performance of this infrastructure significantly contributes to lowering overall production costs, thereby enhancing both product competitiveness and broader economic growth.

To support the rapid development of modern industrial and social infrastructure, and to create favorable conditions for consistent and sustainable economic advancement, a special program titled *"On Additional Measures for Further Development of Production and Social Infrastructure in 2019"* was introduced, with its implementation monitored under strict oversight. An essential component of this effort is determining the annual production plan for enterprises, denoted as α_{ϕ}, using vehicle-related coefficients—particularly $\alpha_{т}$, which accounts for technical readiness factors. One of the main challenges identified is the insufficient equipment and lack of necessary conditions in certain regions and enterprise workshops, which impedes the full execution of technological processes. Therefore, it is imperative to enhance the exploitation and maintenance services within enterprises. This study offers methodological recommendations for improving operational processes and suggests that their implementation can contribute to improved transport safety and efficiency.

Key words: car, traffic safety, traffic, traffic signs, dangerous site.

Annotatsiya: Ushbu maqola ishlab chiqarish tizimlarining samarali ishlashini ta’minlashda sanoat infratuzilmasining, ayniqsa yaxshi rivojlangan yo‘l va temir yo‘l tarmoqlarining muhim rolini ta’kidlaydi. Bu infratuzilmaning samarali ishlashi umumiy ishlab chiqarish xarajatlarini sezilarli darajada kamaytirib,

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mahsulotning raqobatbardoshligi va keng qamrovli iqtisodiy o‘sishni oshirishga hissa qo‘shadi.

Zamonaviy sanoat va ijtimoiy infratuzilmani jadal rivojlantirishni qo‘llab-quvvatlash, iqtisodiyotni izchil va barqaror rivojlantirish uchun qulay shart-sharoitlar yaratish maqsadida "2019-yilda ishlab chiqarish va ijtimoiy infratuzilmani yanada rivojlantirish bo‘yicha qo‘shimcha chora-tadbirlar to‘g‘risida"gi maxsus dastur joriy etildi va uning ijrosi qat’iy nazoratga olindi. Bu ishning muhim tarkibiy qismi korxonalarning yillik ishlab chiqarish rejasini aniqlash hisoblanadi, ya’ni $\alpha_ф$, bunda transport vositalari bilan bog‘liq koeffitsiyentlar, ayniqsa texnik tayyorgarlik omillarini hisobga oluvchi $\alpha_т$ qo‘llaniladi. Aniqlangan asosiy muammolardan biri ayrim hududlar va korxona sexlarida texnologik jarayonlarni to‘liq amalga oshirishga to‘sqinlik qiladigan yetarli darajada jihozlanmaganlik va zarur shart-sharoitlarning yo‘qligidir. Shu sababli, korxonalarda ekspluatatsiya va ta’mirlash xizmatini takomillashtirish zarur. Ushbu tadqiqot operatsion jarayonlarni takomillashtirish bo‘yicha uslubiy tavsiyalarni taqdim etadi va ularni amalga oshirish transport xavfsizligi va samaradorligini oshirishga xizmat qilishi mumkinligini ko‘rsatadi.

Kalit so‘zlar: avtomobil, harakat xavfsizligi, yo‘l harakati, yo‘l belgilari, xavfli joy.

Аннотация: В данной работе подчеркивается критическая роль промышленной инфраструктуры, особенно хорошо развитых сетей автомобильных и железных дорог, в обеспечении эффективной работы производственных систем. Эффективное функционирование этой инфраструктуры существенно способствует снижению общих производственных затрат, тем самым повышая как конкурентоспособность продукции, так и экономический рост в целом.

В целях поддержки ускоренного развития современной промышленной и социальной инфраструктуры, а также создания благоприятных условий для последовательного и устойчивого экономического прогресса была внедрена специальная программа "О дополнительных мерах по дальнейшему развитию производственной и социальной инфраструктуры в 2019 году," реализация которой находится под строгим контролем. Важной составляющей этой работы является определение годового производственного плана предприятий, обозначаемого как $\alpha_ф$, с использованием коэффициентов, связанных с транспортными средствами - в частности $\alpha_т$, который учитывает факторы технической готовности. Одной из основных проблем, выявленных, является недостаточное оснащение и отсутствие необходимых условий в отдельных регионах и цехах

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предприятий, что затрудняет полноценное выполнение технологических процессов. Поэтому крайне важно улучшить эксплуатационные и технические услуги на предприятиях. В данном исследовании представлены методические рекомендации по совершенствованию эксплуатационных процессов и предложено, что их внедрение может способствовать повышению безопасности и эффективности перевозок.

Ключевые слова: автомобиль, безопасность движения, дорожное движение, дорожные знаки, опасный участок.

Introduction

Deep transformations, gradual reform and liberalization of all aspects of political and socio-economical life, democratic renewal and modernization of our society are being rapidly developed in our country [1].

The next priority is further development of production and social infrastructure as an important factor of modernization of the country and increasing employment.

Special attention should be given to this priority, which is of utmost importance. There are several reasons.

First, the development of infrastructure will create the necessary conditions for the establishment of new enterprises and development of the economy as a whole, as well as the opportunities for the development of the country's rich mineral resources [2].

Secondly, the industrial infrastructure, first of all, the developed system of roads and railways, their effective functioning is an important condition and factor in reducing the total production costs. This, in turn, enhances the competitiveness of the products and the economy as a whole [3].

Thirdly, the development of social infrastructure, provision of the population with clean drinking water, energy, the construction of social facilities and, ultimately, improvement of living standards.

Fourth, infrastructure development is a labor-intensive industry. This will create new jobs, provide employment to the population, especially young people, and increase the incomes and welfare of the people.

The rapid development of passenger cars worldwide in Uzbekistan, with the need to increase the technical rigidity and culture of driving cars, necessitates the creation of a comprehensive network of technical service zones [4]. Many organizations and enterprises in the country are involved in projects of technical service zones.

However, no technical literature has been developed to cover all aspects of TSS yet. This disadvantage, in turn, has a significant impact on the quality and

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performance of the work, due to the variety of equipment, despite their generalities. Many car service stations have been designed and used in the global automotive industry [5].

This article covers the development of new projects of automotive maintenance stations, summarizing their economic and manufacturing processes, taking into account the experience gained in the field of automotive industry.

METHODOLOGY

The main purpose of the article is to summarize the design process for the maintenance areas and make recommendations for their efficient use. It provides a feasibility study of the technologies and their technical performance [6].

In order to ensure the accelerated development of modern production and social infrastructure, and to create favorable conditions for the consistent and sustainable economic growth, a special program "On Additional Measures for Further Development of Production and Social Infrastructure in 2019" was adopted and its implementation under strict control [7].

Effective operation of the motor transport enterprise is a combination of the efficient operation of working posts in the production regions and workshops. To this end, technological development needs to be assessed in order to further develop the social infrastructure of motor transport enterprises.

The ATC assesses the annual production program using a variety of methods, depending on the impact level. That is, using cycles, rapid computational and computational methods.

RESULT AND DISCUSSION

At the same time, the calculator is calculated based on the aggregate data for calculating the daily production volume of the rolling stock at the enterprise (volume of transportation, total annual transportation):

It is desirable to determine the annual production program for the enterprise α_{ϕ}using the coefficients of avtomobile,in this α_T with the accounting of technical preparation coefficients.

$$\alpha_i = \frac{D_r \cdot \alpha_T}{D_c} \qquad (1)$$

In this regard, it is necessary to take into account the annual production volume of the rolling stock in ATC.

Carrying out an assessment of the composition of the vehicles involved in the transport of vehicles by the coefficient of use of cars in scientific terms is as follows;

$$Q_{year} = Q_{day} 361 \cdot \alpha_f = \frac{T_N \cdot \vartheta_T \cdot \beta \cdot q \cdot \gamma_e}{\mathcal{L}_{day} + \mathcal{L}_{ot} \cdot \vartheta_T \cdot \beta} \cdot 361 \qquad (2)$$

Here is; $Q_{year} - \ daily\ traffic\ amount$

ISSN 3030-3907

T_N – time in work

ϑ_T – technical speed

β – using distance coefficient.

$q_ь$ – norminal load capacity.

γ_c – use of cargo handling capacity.

$\mathcal{L}_{day}$ – daily walking distance.

$£_{ot}$ – overloading time.

According to this assessment, annual transportation$\alpha_f$is related to the use of in-house car ratios.

In order to calculate α_f the ratio of use of in-house vehicles,it is necessary to α_T- First evaluate the technical readiness ratio according to operating conditions:

$$\alpha_T = \frac{1}{1+\mathcal{L}_d(\frac{d}{1000}+\frac{D_c}{\mathcal{L}_{cr}})} \quad (3)$$

The evaluation process should be based on the total cost of car maintainance and the total annual maintenance;

You should first take into account the annual distance for your product.

$$\mathcal{EL} = \mathrm{A}_i \cdot \mathcal{L}_d \cdot 365 \cdot \alpha_i \quad (4)$$

Here is:$\mathrm{A}_i - \ number\ of\ automobiles$

Expression studies were performed on the example of auto-assembling No. 11 at Marjanbulak gold-ore deposit in Gallaaral district.

Particularly in it: the automobiles [1, 7] in enterprises $\mathrm{A}_i = 75$

Identified the normal amount of walking distance to full repair$\mathcal{L}_{cr} = 520000\ km$ the amount ofheavyconditions$\mathcal{L}_{cr} = 385000\ km.$

1- TS $distance\ \ \mathcal{L}_1 = 3000\ km$

2- TS $distance\ \mathcal{L}_2 = 10000\ km$

Daily walking distance $\mathcal{L}_D = 210$км

Comparison dates of automobiles 2-TS and CR$d = 0.315\ days$ DR=24 day senterprises working day 305.

These information were taken for the exploitation condition from the experimental research center MAHSERVIS in Jizzakh city, Sharof Rashidov street. The calculation for the whole enterprise is made as follows.

$$N_{c1} = \frac{\mathcal{L}_{cr}}{L_{c1}} = \frac{385000}{385000} = 1 \quad (5)$$

$$N_2 = \frac{L_{cr}}{L_2} - N_{cr} = \frac{386000}{10000} - 1 = 38.5 - 37 \quad (6)$$

$$N_1 = \frac{L_{c1}}{L_1} = N_{yer} - N_2 = \frac{386000}{3000} - 1 - 37 = 90 \quad (7)$$

$$N_{dc} = \frac{L_{cr}}{L_{dr}} = \frac{386000}{25000} = 1540 \quad (8)$$

ISSN 3030-3907

$$D_{7K} = \frac{L_{cr}}{L_{dr}} = \frac{38600}{250} = 1540 \quad (9)$$

During the cycle standing days in 2-TS, CR and DR

$$D_T = \frac{\mathcal{L} \cdot l_{UKT}}{1000} D_{cr.te} \cdot N_{XE} = \frac{0.315 \cdot 38600}{1000} + 24 \cdot 1 = 145\ day \quad (10)$$

$$\alpha_T = \frac{D_E}{D_E + D_T} = \frac{1540}{1540 + 141} = 0.91$$

According to the calculation the automobiles in enterprises α_T-Technical preparation coefficient of vehicles in the company is calculated for the exploitation condition for the company as followers:

$$\alpha_T = \frac{1}{1+\mathcal{L}_{dr}(\frac{d_2 \cdot K_2 + d_{dr} \cdot K_{cr}}{10000} + \frac{D_{cr}(\eta_u - 1)}{\mathcal{L}_{cr} \cdot \eta_i}]} \quad (11)$$

Here is: $d_{2n} d_{pr} \cdot 2 - TS$ ва CR Comparing days

$$d_2 = \frac{D_2 \cdot 1000}{\mathcal{L}_2} day/1000\ km \quad (12)$$

$$d_{cr} = d - d_2\ day\ /1000\ km \quad (13)$$

d-2-TS and in CR normative general comparing days

$$d = d^h \cdot k_y \quad (14)$$

for quarry $d^H = 0.1\ day/1000$км $coefficient\ of\ correction$ $K_i = 1.26$ $d = 0.5 \cdot 1.26 = 0.63\ k/1000\ km$

$$d_2 = \frac{1 \cdot 1000}{10000} = 0.1\ k/1000\ km$$

$$d_{cr} = 0.63 - 0.1 = 0.53\ k/1000\ km$$

K_2 The coefficient that takes into account the type of movement is equal $K_2 = 2.011$ for the Gallaaral quarry.

K_{CR} – Current repairing works volume that takes into account coefficient $K_{CR} = 0.5$

According to above mentioned information $\alpha_т$-technical preparation coefficient is determined.

$$\alpha_i = \frac{1}{1 + 250\left(\frac{0.1 \cdot 2.05 + 0{,}53 * 0.5}{1000} + \frac{24(2-1)}{386000}\right)} = 0.88$$

As it is seen from the calculation, α_i = 0.88, it is necessary to revise the normative parameters for the enterprise in order to improve the expropriation service at the enterprise. Depending on the ratio of α_i-technical readiness to use in cars, the ratio of coefficients is determined as follows.

$$\alpha_i = \frac{D_y}{D_{cy}} \cdot \alpha_T \cdot K_i \quad (14)$$

Here is :K_i- is the coefficient for the reduction due to technical problems with the use of vehicles under the conditions of expropriation.

ISSN 3030-3907

$$K_i = \frac{D_{EY}}{D_Y \cdot \alpha_T} \quad (15)$$

Here is: D_{EY} - annual exploitation days.

ATC for specific excretion conditions is calculated as follows:

$$K_i = \frac{D_{EO}}{D_i \cdot \alpha_T} = \frac{301}{301 \cdot 0.88} = 1.13$$

$$K_i = \frac{301}{301 \cdot 0.91} = 1.10$$

For the real codition of enteprise

$$\alpha_i = \frac{301}{301} \cdot 0.88 \cdot 1.13 = 0.830$$

During cycle for the condition of enterprise

$$\alpha_i = \frac{301}{301} \cdot 0.91 \cdot 1.1 = 0.836$$

In terms of operating environment at the enterprise

$$\alpha_i = \frac{D_Y}{D_K} \cdot \alpha_T = \frac{301}{301} \cdot 0.88 = 0.73$$

CONCLUSION

In conclusion, it should be noted that for the enterprise, the same type of cars $\alpha_i = 0.73, \alpha_i = 0.830, \alpha_i = 0.836$, can be interpreted as:

1) Due to non-conformity of operation requirements of ATC

2) $A_i = 75$ per day the technical parameters of $A_i = 62$ correspond to technical parameters, while, $A_i = 13$, exactly 17% of the vehicle is not technically ready for work;

1) Inadequate points of equipment for the lack of conditions for the complete performance of technological processes in the regions and workshops at the enterprise.

2) Should improve the exploitation service at the enterprise

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