IMPROVEMENT OF THE PRODUCTION AND TECHNICAL BASE OF AUTOMOTIVE SERVICE ENTERPRISES

Akhunov Rustam Yusupovich

Andijan State Technical Institute Senior teacher of the Department of "Transport Logistics"

Annotation. This article is devoted to the issue of improving the production and technical base of auto service enterprises. The article analyzes the composition of the production and technical base of auto service enterprises, the factors influencing its effective operation, as well as modern technical updates necessary for improving technological processes. Improvement of the technical base of car service enterprises plays an important role in automating service processes, increasing labor productivity, and improving the quality of service.

Keywords: modernization, automation, technical equipment, service efficiency, innovations.

Annotatsiya. Ushbu maqola avtoservis korxonalarining ishlab chiqarish-texnik bazasini takomillashtirish masalasiga bag‘ishlangan. Maqolada avtoservis korxonalarining ishlab chiqarish-texnik bazasi tarkibi, uning samarali ishlashiga ta’sir etuvchi omillar, shuningdek, texnologik jarayonlarni takomillashtirish uchun zarur bo‘lgan zamonaviy texnik yangilanishlar tahlil qilingan. Avtoservis korxonalarining texnik bazasini takomillashtirish xizmat ko‘rsatish jarayonlarini avtomatlashtirish, mehnat unumdorligini oshirish va xizmat ko‘rsatish sifatini yaxshilashda muhim ahamiyat kasb etadi.

Kalit so‘zlar: modernizatsiya, avtomatlashtirish, texnik jihozlash, xizmat ko‘rsatish samaradorligi, innovatsiyalar.

Аннотация. Данная статья посвящена вопросу совершенствования производственно-технической базы предприятий автосервиса. В статье анализируется состав производственно-технической базы автосервисных предприятий, факторы, влияющие на ее эффективную работу, а также современные технические обновления, необходимые для совершенствования технологических процессов. Совершенствование технической базы автосервисных предприятий играет важную роль в автоматизации процессов обслуживания, повышении производительности труда и качества обслуживания.

Ключевые слова: модернизация, автоматизация, техническое оснащение, эффективность обслуживания, инновации.

Introduction

In recent years, the automotive industry in Uzbekistan has been developing rapidly. This indicates that the population's need for cars has increased, road

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infrastructure has expanded, and the culture of using vehicles is growing. At the same time, the increase in the number of cars requires further development of their maintenance system.

The activities of car service enterprises should be based on high-quality, prompt, and reliable service. However, today in many car service enterprises, the technical base is outdated, the equipment is insufficient, or its condition does not meet the requirements. Competitiveness is declining as a result of service quality and inability to fully satisfy customer needs [1].

This article analyzes the state of the production and technical base of car service enterprises and develops scientifically based proposals for its improvement.

The production and technical base of car service enterprises is one of the important elements ensuring the effective functioning of the automotive industry today. By modernizing technologies and infrastructure in the field of car repair and maintenance, it is possible to improve the quality of services and improve the efficiency of the enterprise. The technical base of car services plays an important role, especially in the organization of production and repair processes. In turn, such issues as the introduction of modern technologies in this area, the use of new technical means and equipment, and the installation of automation systems are becoming increasingly relevant [2].

Today, a high level of technical base is necessary for the effective functioning of car service enterprises. Improvement of the production technical base by optimizing technological processes, economical use of energy resources, and increasing the efficiency of labor resources is of great importance not only for car service enterprises, but also for the entire automotive industry. The changes will primarily help accelerate processes such as vehicle maintenance, repair, and diagnostics. At the same time, these measures are aimed at extending the service life of the car and improving its technical condition[3].

This article presents important aspects of improving the production and technical base of auto service enterprises, the main problems and solutions related to increasing its efficiency and introducing new technologies. The article presents the necessary scientific and practical approaches to the modernization of car service activities and discusses innovative proposals in this area [4].

RESULT AND ANALYSIS

During the study, the production and technical base of several large auto service enterprises in the city of Tashkent was studied. Data were collected on the basis of practical observation, statistical analysis, questionnaires, and expert assessment methods. Employees of the enterprise, engineers and technicians, and clients participated in the survey.

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Comparison in the form of graphs and tables, the number of diagnostic equipment, the degree of their wear and tear, and indicators of the automation of service processes were taken into account as analysis methods. Based on the obtained results, an objective assessment of the current state of the technical base was carried out.

The experience of foreign countries - Germany, South Korea, and Turkey - was analyzed, and the possibilities of implementing innovative technologies suitable for the conditions of Uzbekistan were considered [5].

As a result of the research, it was established that the technical base of most car service enterprises has the following problems:

- Physical and moral obsolescence of equipment;
- Manual implementation of diagnostic processes;
- Low level of computerization and automation;
- Lack or improper organization of technological lines.

Below are the main indicators of the technical base:

Table 1

Company name	Number of equipment	Share of new equipment (%)	Service quality rating (1-10)
AutoMaster Service	120.	35%	7.
Turbo Auto Service	95.	20%	6.
MegaAuto Center	150.	50%	8.
AutoPro Line	80.	15%	5.
ProTex Auto	130.	45%	7.5.

The above results show that at present, the modernization and technical renewal processes at car service enterprises are not being carried out sufficiently. In particular, the quality of services, the speed of service, and the quality of communication with clients remain at a low level.

Based on foreign experience, it is necessary to introduce such technologies as digital diagnostic equipment, automated control systems, and online queuing services. For example, in Germany, more than 90% of service centers are fully automated, which increases the speed and quality of service [6].

In Uzbekistan, however, in many cases, the client can wait in line, the necessary spare parts may not be available in the warehouse, or services may be delayed due to malfunctioning equipment. This leads to customer dissatisfaction.

The process of improving the production and technical base of car service enterprises is a complex and multifaceted issue, which is carried out taking into

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account various factors. This process includes not only the modernization of technical means, but also their efficient use, optimization of technological processes, and full utilization of labor resources. To ensure the effective operation of auto services, it is necessary to constantly improve the production and technical base, introduce new technologies, and apply them.

One of the main directions for improving the production and technical base of car service enterprises is the automation of technological processes. Automation not only accelerates service processes, but also contributes to improving the quality of processing. For example, by automating diagnostic processes, car service enterprises can significantly increase the efficiency of maintenance. Also, with the help of automated systems, errors in maintenance and repair processes are reduced, and as a result, time savings are achieved.

In addition, another important aspect of improving the production and technical base of car service enterprises is increasing energy efficiency. The introduction of modern energy-saving technologies will reduce the costs of car service enterprises, while ensuring environmentally friendly and sustainable operation. For example, by installing energy-saving systems, car service enterprises can effectively use electricity, which, in turn, reduces costs and increases the competitiveness of the enterprise.

Safety issues should also be taken into account when improving the production technical base. To ensure safety at car service enterprises, it is necessary to install special technical means and systems, including fire safety systems, security cameras, and automatic alarm systems. These systems not only ensure the safety of employees but also prevent accidents and other problems arising during vehicle maintenance.

Another important factor in improving the technical base of production is the training and advanced training of personnel. Specialists and technical personnel working in auto service enterprises must be well-versed in new technologies and equipment and use them effectively. Also, training specialists in the study and implementation of modern technical means and technologies serves to increase the overall efficiency of the car service enterprise.

In addition, the ecological situation plays an important role in improving the technical base of production. Car service enterprises, by implementing environmentally friendly technologies, can achieve not only environmental protection, but also cost reduction. For example, the use of environmentally friendly materials and energy-efficient technologies reduces the environmental impact of car services and the likelihood of environmental damage.

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This analysis shows that improving the production and technical base of auto service enterprises includes not only the introduction of modern technologies, but also ensuring economic efficiency, environmental conditions, and safety. This process increases the overall competitiveness of enterprises and improves the quality of services.

Conclusion

The stable operation and development of auto service enterprises based on modern requirements depends, first of all, on the level and condition of their production and technical base. Based on the analysis conducted in this scientific work, it was established that the production technical base consists not only of a physical infrastructure or a set of equipment, but also of a complex of technological and organizational factors that ensure the effectiveness of service processes.

Improvement of the technical base at car service enterprises includes many priority areas. These include: automation of service technologies, implementation of high-precision diagnostic tools, optimal organization of production areas, use of equipment that meets safety and environmental requirements, widespread use of modern information and communication technologies. Especially, the control of service processes through electronic control systems allows for the rapid, accurate, and high-quality implementation of the production process.

Studies have shown that by improving the technical base, service life is reduced, confidence in the quality of maintenance is increased, and the competitiveness of service enterprises is enhanced. At the same time, it will be possible to reduce the negative impact on the environment through the use of modern energy-saving and environmentally safe technologies. This is extremely important, taking into account the current relevance of environmental safety issues.

The role of the production and technical base in ensuring the successful operation and competitiveness of car service enterprises is invaluable. Studies have shown that the technical base is not only a set of existing equipment, but also the overall production potential of the enterprise, the quality of service, labor productivity, and the ability to flexibly respond to customer needs.

According to the analysis results, the improvement of the technical base should be carried out through the following priority areas: the introduction of modern automated equipment, optimization of technological processes, focus on energy efficiency, strengthening safety measures, and improving personnel qualifications. In particular, it is possible to achieve both economic and social efficiency through the introduction of environmentally friendly and energy-saving technologies.

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It also plays an important role in the development and implementation of new technological solutions based on innovative approaches in the automotive maintenance system and the modernization of the technical base. This, in turn, allows for an increase in the quality of services, a reduction in production costs, a shortening of service life, and full satisfaction of customer needs.

Also, improving the qualifications of employees and continuous training in modern technologies are important factors for the effective functioning of the technical base. Reducing errors and malfunctions in the production process, improving the quality and speed of service, and establishing effective communication with customers are all the advantages of the modernized technical base.

Based on the foregoing, it can be concluded that the improvement of the production and technical base of auto service enterprises not only increases the level of service, but also raises the level of economic efficiency, environmental sustainability, and customer satisfaction to a higher level. This plays an important role in the continuous development of the automotive industry today.

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