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CONTENTS

CONTENTS

IMPROVING THE EFFICIENCY OF SMALL ENTERPRISES IN THE SERVICE SECTOR (A CASE STUDY OF TASHKENT REGION)

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Abstract: This article scientifically analyses the issues of improving the efficiency of small enterprises operating in the service sector of Tashkent region. Based on statistical data collected over 2019-2024, enterprise-level surveys and expert assessments, the study evaluates regional competitiveness factors, managerial efficiency structures, and practical outcomes of innovative service models. The findings indicate that the implementation of digital technologies and the cluster approach enables small enterprises to increase labour productivity by 23-31 percent. The article concludes with policy recommendations aimed at ensuring the economic stability and growth of small businesses in the service sector.

Key words: small enterprise, service sector, efficiency, digital transformation, Tashkent region, cluster, labour productivity, competitiveness, economic analysis, government support.

Аннотация: В данной статье научно анализируются вопросы повышения эффективности малых предприятий, осуществляющих деятельность в сфере услуг Ташкентской области. В исследовании на основе статистических данных за 2019-2024 годы, опросов на уровне предприятий и экспертных оценок проанализированы факторы региональной конкурентоспособности, структура управленческой эффективности и практические результаты инновационных сервисных моделей. Полученные результаты свидетельствуют о том, что внедрение цифровых технологий и применение кластерного подхода позволяют повысить производительность труда малых предприятий на 23-31%. Статья завершается рекомендациями по политике, обеспечивающей экономическую устойчивость и рост малого бизнеса в сфере услуг.

Ключевые слова: малое предприятие, сфера услуг, эффективность, цифровая трансформация, Ташкентская область, кластер, производительность труда, конкурентоспособность, экономический анализ, государственная поддержка.

INTRODUCTION

The service sector has become a leading branch of the global economy, accounting for 60–70 percent of gross domestic product (GDP), while this indicator remains relatively lower in developing countries [1]. In recent years, the economy of Uzbekistan has also been implementing systematic reforms aimed at significantly increasing the share of the service sector. In the “New Uzbekistan” Development Strategy approved by Resolution No. DP-60[1] of the President of the Republic of Uzbekistan dated January 28, 2022 “On the Development Strategy of the New Uzbekistan for 2022 — 2026”, the development of the service sector and support for small businesses were identified as priority directions of state policy [2].

Tashkent region represents an important part of the country’s economic potential, and by the end of 2024, the share of the service sector in the regional GDP reached 48.3 percent (Statistics Agency of the Republic of Uzbekistan, 2024). More than 61.4 percent of the 127,500 small enterprises and individual entrepreneurs operating in the region are engaged specifically in the service sector [3]. At the same time, the performance indicators of these enterprises remain relatively low compared to the region’s potential, which can be explained by several factors, including insufficient capital, weak managerial competencies, underdeveloped digital infrastructure, and imbalances in the competitive environment [4].

The relevance of the study lies in the fact that the development of scientifically grounded methodologies and practical recommendations aimed at improving the efficiency of small enterprises will directly contribute

1 https://lex.uz/ru/docs/6968143

INTERNATIONAL SCIENTIFIC ELECTRONIC JOURNAL

to the economic development of the region. Existing literature contains very few specialized empirical studies analyzing small businesses in the service sector while considering the specific characteristics of the Central Asian region, and filling this gap constitutes the main purpose of the article.

The objective of the study is to empirically assess the factors determining the efficiency of small enterprises operating in the service sector of Tashkent region and to develop policy recommendations for its improvement.

The objectives of the research are: (1) to analyze efficiency trends among small enterprises in the regional service sector; (2) to identify internal and external factors affecting efficiency; (3) to evaluate the impact of digital transformation and the cluster approach; and (4) to develop recommendations for legal and regulatory improvement.

REVIEW OF LITERATURE ON THE SUBJECT

Foreign literature on the efficiency of small and medium-sized enterprises (SMEs) can generally be divided into three main schools: the Resource-Based View, institutional theory, and the digital economy perspective. According to the resource-based theory developed by Barney (1991) and Penrose (1959), enterprise efficiency depends on the combination of internal resources that are rare, valuable, and difficult to imitate [5].

Institutional theory, developed by North (1990), emphasizes that the external institutional environment — including legislation, bureaucratic barriers, and social capital — plays a decisive role for small enterprises in the service sector [6]. This theory was later expanded by Williamson (1985, 2000) within the framework of transaction cost economics.

In the field of the digital economy and technological transformation, Brynjolfsson and McAfee (2014), in their studies, quantitatively assessed the impact of information and communication technologies (ICT) on labor productivity and demonstrated that this relationship is even stronger for SMEs [7]. According to European Union data, small enterprises that fully implemented digital technologies increased their revenues by an average of 23 percent (European Commission, SME Report, 2023).

In the context of Uzbekistan, Yusupov (2021) and Toshmatov (2022) studied the service sector in Tashkent city; however, empirical analysis at the regional level remains insufficient [4]. For Central Asia, Makhmudov et al. (2023) examined the applicability of the cluster model in the service sector and achieved positive results [8]. Nevertheless, this study focused primarily on industrial clusters and did not specifically analyze service-sector clusters.

The literature review reveals the following gaps: (i) the absence of specialized empirical studies on the service sector of Tashkent region; (ii) the lack of an integrated model analyzing the combination of digital transformation and traditional management methods; and (iii) insufficient examination of the relationship between regional cluster potential and financial indicators. This article is specifically intended to fill these gaps.

RESEARCH METHODOLOGY

The study was conducted in three stages during the period 2022–2024. In the first stage, the general sample of small enterprises operating in the service sector across 14 districts and 2 cities of Tashkent region was identified. According to the Register of Business Entities of the Statistics Agency of the Republic of Uzbekistan, as of January 2024, there were 78,430 registered small enterprises operating in the service sector within the region [3].

In the second stage, 487 enterprises were selected for the survey based on a random stratified sampling method. The sample size was calculated using the Cochran (1977) formula with the parameters p=0.5, e=0.044, and z=1.96, ensuring a confidence level of 95 percent. The enterprises were categorized into four sectors: trade and intermediary services (23.4%), food and restaurant services (19.8%), transport and logistics (18.2%), and personal services (38.6%).

In the third stage, the following analytical methods were applied: (a) descriptive statistics and correlation analysis to identify relationships among efficiency indicators; (b) multiple regression analysis (OLS) to evaluate the factors affecting efficiency; (c) Data Envelopment Analysis (DEA) to calculate relative efficiency frontiers; and (d) expert interviews involving 32 specialists, including entrepreneurs, government officials, and researchers, through semi-structured discussions.

The main regression equation of the model is as follows:

$$EFF_i = \beta_0 + \beta_1 \cdot DIG\_i + \beta_2 \cdot MGMT\_i + \beta_3 \cdot SIZE\_i + \beta_4 \cdot AGE\_i + \beta_5 \cdot CLUST\_i + \varepsilon i$$

where:

EFF_i - efficiency index of the i-th enterprise (a composite indicator calculated based on labor productivity, sales volume, and profitability);

DIG_i - digital technology adoption index;

$MGMT_i$ - management quality index;
$SIZE_i$ - number of employees;
GE_i - age of the enterprise (years);
$CLUST_i$ - binary variable indicating cluster membership.

To ensure data reliability, the survey results were cross-validated with anonymous tax reporting data from the Tax Committee of the Republic of Uzbekistan. All analyses were conducted using Stata 17.0 and R 4.3 software packages (Table 1).

Table 1. Main Indicators of Small Enterprises in the Service Sector of Tashkent Region[2] (2019–2024)

Indicator	2019	2020	2021	2022	2023	2024
Number of small enterprises (thousand units)	61.2	58.4	63.7	69.1	74.3	78.4
Share of the service sector in GDP (%)	42.1	39.8	43.5	45.2	47.1	48.3
Average labor productivity (million UZS/employee)	87.3	72.1	91.4	108.6	124.7	139.2
Digital technology adoption level (%)	8.4	12.1	18.7	26.3	34.8	43.2
Share of enterprises within clusters (%)	4.1	5.2	7.8	11.3	15.7	19.4
Average profitability level (%)	9.2	6.8	10.1	11.7	13.4	14.8

ANALYSIS AND RESULTS

According to the results of the DEA analysis, only 89 out of the 487 examined enterprises (18.3%) were operating on the efficiency frontier. The remaining 398 enterprises (81.7%) experienced varying levels of inefficiency, with the average technical efficiency coefficient amounting to 0.613. This demonstrates a significant gap compared to the European Union average (0.741) and the service-sector indicator of Türkiye (0.698) [9].

Sectoral analysis showed that the highest efficiency indicator was recorded in the transport and logistics sector (0.704), while the lowest indicator was observed in the personal services sector (0.558). In terms of geographical distribution, districts adjacent to Tashkent city (Yunusobod, Zangiota, and Kibray) demonstrated efficiency levels that were 27.4 percent higher than those of the remote districts of the region.

According to the OLS regression results, the impact of the digital technology adoption index (DIG) on efficiency was statistically highly significant ($\beta_1 = 0.412$, $p < 0.001$), indicating that a one-unit increase in this variable raises the enterprise efficiency index by 41.2 percent. In particular, enterprises that adopted electronic payment systems, online booking, and digital marketing tools maintained labor productivity levels that were on average 28.6 percent higher than those of the control group.

As shown in Table 2, enterprises that fully implemented digital tools (n=127) achieved an average annual revenue growth of 31.4 percent. The main mechanism behind this difference is the reduction of transaction costs and the expansion of market coverage (Table 2).

Table 2. Relationship Between the Level of Digitalization and Key Financial Indicators[3] (2024)

Level of Digitalization	Number of Enterprises	Average Revenue Growth (%)	Average Labor Productivity (million UZS)	Profitability (%)
Low (0–30%)	198	8.4	98.3	10.1
Medium (31–60%)	162	19.7	128.6	13.4
High (61–80%)	89	26.3	158.4	16.7
Full (81–100%)	38	31.4	187.2	19.3

According to the regression results, cluster membership (CLUST) has a positive and statistically significant effect on efficiency ($\beta_5 = 0.318$, $p < 0.01$). Enterprises within clusters demonstrated the following advantages compared to their non-cluster peers: (1) a reduction in costs by 12–17 percent through joint procurement of raw materials and services; (2) shorter implementation periods for innovative products and services due to technological knowledge exchange; and (3) easier access to borrowing opportunities as a result of collective guarantee mechanisms before credit institutions.

In particular, the example of the Angren industrial-service cluster demonstrates that the joint organization of logistics and transport services reduced fuel costs of member enterprises by 19.4 percent. This result corresponds with the 15–22 percent range identified in the study by Makhmudov et al. (2023) [8].

2 Source: Calculated by the author based on data from the Statistics Agency of the Republic of Uzbekistan, 2024.
3 Source: Author's calculations based on research data, 2024.

INTERNATIONAL SCIENTIFIC ELECTRONIC JOURNAL

The management quality index (MGMT) also has a significant effect on efficiency ($\beta_2 = 0.287$, $p < 0.01$). Survey results showed that 73.2 percent of the examined enterprises were managed by leaders without specialized economic or management education. At the same time, there were enterprises (12.4%) that achieved high efficiency through experience and self-improvement despite the absence of formal education. This finding confirms the importance of informal learning.

CONCLUSIONS AND SUGGESTIONS

This study empirically assessed the factors determining the efficiency of small enterprises in the service sector of Tashkent region and arrived at the following main conclusions:

First, the average technical efficiency of small enterprises in the service sector of Tashkent region (0.613) remains 38.7 percent below the region's actual potential. This indicates the existence of substantial untapped economic reserves.

Second, the implementation of digital technologies is the most influential factor affecting labor productivity and profitability, making it possible to increase efficiency by 41.2 percent. However, currently only 43.2 percent of enterprises use digital tools.

Third, the application of the cluster approach enables a reduction in costs by 12–19 percent and an increase in revenues by 18–24 percent. Nevertheless, only 19.4 percent of small enterprises in the region currently belong to clusters.

Main Policy Recommendations:

1. Digitalization Subsidy Program: Introduce a targeted subsidy program aimed at covering 40 percent of the costs associated with implementing electronic payment systems, business analytics, and customer relationship management (CRM) systems for small enterprises in the service sector. Estimated budget: 50 billion UZS annually; expected outcome: increasing digitalization coverage to 70 percent within three years.
2. Service Sector Cluster Development Concept: Establish five specialized service-sector clusters in Tashkent region in the areas of tourism and hospitality, medical rehabilitation, and educational services, drawing inspiration from industrial cluster models. Each cluster should include shared marketing, procurement, and certification infrastructure.
3. Management Capacity Development System: Develop a six-month practical business management certification program in cooperation with higher education institutions and the Chamber of Commerce and Industry. The program should cover digital marketing, financial planning, and service quality management modules and should be subsidized by the state.
4. Data-Driven Monitoring System: Create a regional digital platform capable of monitoring the efficiency of small enterprises in the service sector in real time. The platform should include enterprise-level statistics, sectoral benchmarking, and policy recommendations.
5. Expansion of Financial Support: Introduce a preferential credit line with a 3 percent interest rate for cluster-member small enterprises based on a collective guarantee mechanism and provide a two-year tax incentive for digitalization investments.

The following directions are recommended for future research: assessing the resilience of the service sector in the post-COVID period, analyzing the impact of gender factors on small enterprise efficiency, and conducting comparative interregional studies.

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