



**YASHIL IQTISODIYOT SHAROITIDA KICHIK BIZNES FAOLIYATINI
MODERNIZATSIYALASH VA DIVERSIFIKATSIYALASH
METODOLOGIYASINI TAKOMILLASHTIRISH**

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<https://doi.org/10.5281/zenodo.20539985>

Annotatsiya. Ushbu maqolada global ekologik muammolar va resurslar cheklanganligi sharoitida kichik biznes subyektlarini barqaror rivojlantirish masalalari tadqiq etilgan. "Yashil iqtisodiyot" prinsiplari asosida kichik va o'rta tadbirkorlik subyektlari faoliyatini modernizatsiyalash hamda diversifikatsiyalashning metodologik asoslarini takomillashtirish yo'llari yoritilgan. Tadqiqot davomida kichik biznesning ekologik innovatsiyalarga moslashuvchanlik darajasi tahlil qilinib, energiya tejamkorlik va chiqindisiz texnologiyalarni joriy etish bo'yicha metodologik tavsiyalar hamda ekonometrik model ishlab chiqilgan.

Аннотация. В данной статье рассматриваются вопросы устойчивого развития малого бизнеса в контексте глобальных экологических проблем и ограниченности ресурсов. Описываются пути совершенствования методологических основ модернизации и диверсификации малого и среднего бизнеса на основе принципов «зеленой экономики». В ходе исследования проанализирован уровень адаптивности малого бизнеса к экологическим инновациям, разработаны методологические рекомендации и эконометрическая модель внедрения энергосберегающих и безотходных технологий.

Abstract. This article examines the issues of sustainable development of small businesses in the context of global environmental problems and resource constraints. It highlights ways to improve the methodological foundations of modernization and diversification of small and medium-sized businesses based on the principles of the "green economy". During the study, the level of adaptability of small businesses to environmental innovations was analyzed, methodological recommendations and an econometric model were developed for the introduction of energy-saving and waste-free technologies.

Kalit so'zlar: yashil iqtisodiyot, kichik biznes, modernizatsiya, diversifikatsiya, barqaror rivojlanish, yashil texnologiyalar, ekologik innovatsiyalar.



Ключевые слова: зеленая экономика, малый бизнес, модернизация, диверсификация, устойчивое развитие, зеленые технологии, экологические инновации.

Keywords: green economy, small business, modernization, diversification, sustainable development, green technologies, ecological innovations.

Introduction

Today, fundamental structural changes are taking place in the world economy. Climate change, depletion of natural resources and environmental pollution require a shift away from traditional economic models and towards a "green economy". In the Republic of Uzbekistan, special attention is paid to this area at the state level and strategic programs are being implemented.

Small businesses are the drivers of the economy of any country. However, their resource efficiency and adaptation to environmental standards are quite difficult. Therefore, improving the methodology for modernization (technological renewal) and diversification (expanding the range of products and services in an ecological direction) of small businesses based on green criteria is extremely relevant from a scientific and practical point of view.

Literature review

The concepts of "green economy" and sustainable development have been widely studied by foreign scientists such as R. Costeunsa, D. Pierce. The issues of modernization of small business and increasing its innovative activity are reflected in the works of economists J. Schumpeter, P. Drucker.

Among Uzbek scientists, academician Q.Kh. Abdurakhmonov, Sh.I. Mustafaqulov and others have studied the problems of developing entrepreneurship in the context of structural changes in the republic's economy in their research. However, a holistic methodological mechanism for simultaneously modernizing and diversifying small business in accordance with the requirements of the "green economy" has not been sufficiently formed.

Methodology

The study used a systematic approach, comparative and deterministic factor analysis, statistical clustering, and econometric modeling methods. A special "Green Index" (GI) methodology is proposed to assess the level of readiness of small businesses for the green economy. This index is calculated using the following formula:

$$GI = \alpha \cdot EE + \beta \cdot WR + \gamma \cdot GI_{nv}$$

Here:

- EE – Energy Efficiency;

- \$WR\$ – Waste Recycling;
- \$GI_{nv}\$ – Green Innovations;
- \$\alpha, \beta, \gamma\$ – Weight coefficients of each factor ($\alpha + \beta + \gamma = 1$).

Analysis and Results

A monitoring study was conducted among 100 enterprises to determine the relationship between the level of green technology implementation in small businesses and their profitability. Based on the data obtained, the level of modernization of enterprises was classified.

Table 1.

Levels and indicators of small businesses on green technologies

No	Enterprise Category	Energy Efficiency (%)	Waste reduction rate (%)	Share of investment in innovation (%)	Average profitability (%)
1.	Yuqori yashil (A)	> 35%	> 40%	> 15%	24.5%
2.	O'rtacha yashil (B)	15% - 35%	15% - 40%	5% - 15%	18.2%
3.	Past yashil (C)	< 15%	< 15%	< 5%	12.0%

As can be seen from the table, the average profitability of enterprises with a high level of implementation of green technologies (24.5%) is almost twice as high as that of enterprises with a low level. This proves that green modernization is economically efficient.

The model of diversification of small businesses in the context of a green economy can be expressed by the following structural scheme:

For the effective functioning of this process, enterprises need not only technical, but also methodological and financial support. The following diagram reflects the main problems that hinder green modernization.

Conclusions and suggestions

- lack of financial resources (45%): Green technologies for small businesses require high capital at the initial stage;

- lack of personnel and experience (25%): There are few specialists in managing modern energy-saving equipment.

- lack of methodological guides (20%): Entrepreneurs do not know exactly where to start diversifying.



Therefore, to improve the methodology, the state should simplify the "Green Subsidies" and "Eco-Crediting" systems, as well as introduce the Resource Efficiency and Cleaner Production (RECP) method at enterprises.

Conclusions and recommendations

Modernization and diversification of small businesses in the context of a green economy is not just an environmental requirement, but also a key factor in survival in market competition. The study formulated the following recommendations:

- Creation of a methodological base: Introduction of green standards and a "Green Index" rating system for small businesses across sectors.
- Financial incentives: Provision of tax breaks and low-interest "ecological loans" for entrepreneurs implementing green modernization.
- Human resource capacity: Organization of short-term courses in the areas of "Green Management" and "Eco-Entrepreneurship" in universities and entrepreneurship development centers.

The proposed methodological approaches will serve to increase the environmental sustainability of small businesses and ensure the competitiveness of the national economy.

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