

# Optimizing Construction Management: Strategies for Productivity and Growth in Uzbekistan

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**Abstract:** The article examines the pivotal role of labour productivity in managing the construction industry, representing a multifaceted economic and social phenomenon necessitating systematic scientific oversight. Emphasis is placed on the imperative need for effective organisation and management. Essentially, construction management mirrors project management, wherein the manager bears responsibility for devising and executing action plans. The socio-economic progress of our nation hinges on ensuring universal access to secure and comfortable living environments. Additionally, the article outlines strategies for optimising management and organisation within the construction sector, discussing micro and macro-level changes amid reform initiatives, identifying obstacles, challenges, and offering recommendations for improvement.

## 1 INTRODUCTION

The introduction underscores the pivotal role of labour as the primary driver of any work process, emphasising its significance as a complex economic phenomenon requiring meticulous scientific organisation. It highlights the urgent need for efficient management in construction production, necessitating the implementation of advanced methodologies for enhanced productivity. The focus is on comprehensively understanding internal economic activity planning methods and scrutinising business and innovation projects. Moreover, it advocates for the development of architecture and construction institutions to bolster economic changes, promote urban planning, and integrate modern technologies. The objective is to ensure safe and comfortable living conditions, underpinning the socio-economic development of the nation. The narrative stresses the importance of strategic initiatives aimed at leveraging innovation, investment, labour, and material resources to advance the construction sector, aligning with state policies and economic objectives. Statistical analysis reveals a significant increase in the number of construction enterprises, reflecting the sector's growing

contribution to the national economy. The purpose of the research is to develop modern methods of management in the construction industry, the investment environment and investment attractiveness in the implementation of projects, to increase the level of investment efficiency and research changes aimed at the introduction of innovative solutions.

## 2 METHODOLOGY

Construction management encompasses the systematic organisation of construction processes, employing industrial methods to ensure high-quality outcomes within strategic project deadlines while minimising labour and material resource consumption. Originating in the late 19th century, the discipline evolved from the pioneering work of Frederick Winslow Taylor, who delineated the preparation and implementation phases of production processes, advocated for labour division, set operation deadlines, and devised monitoring systems. Russian theorist Alexander Alexandrovich Bogdanov further advanced organisational management, coining "tectology" to encapsulate the study of

construction and organisation. Construction production relies on technology, scrutinising construction methods for building and structure erection, reconstruction, and maintenance. Project management lies at the core of construction management, with leaders assuming responsibility for action plans, resource assessment, investment attraction, and team assembly. Uzbekistan has made significant legislative strides, bolstering construction management through decrees, laws, and resolutions, facilitating infrastructure development and economic growth. Regulatory measures ensure adherence to quality standards and enhance construction control mechanisms, underscoring the importance of efficient production management in meeting national development goals.

### 3 RESULTS

Among enterprises offering various economic services, construction of buildings and structures

accounts for 58.0%, reflecting an 8.0% increase from 2019. Additionally, civil facility construction comprises 9.3% (up by 22.2% from 2019), while specialized construction work has surged by 32.6%, marking a 20.8% growth compared to 2019.

According to data from the Statistics Department of Navoi region for January-June 2022, construction work worth 2,679.9 million sums has been completed, showing a growth rate of 108.1% compared to the same period in 2021. This volume comprises work undertaken by large construction organizations, small micro-firms, enterprises, and informal sectors, with construction works categorized based on ownership forms—state and non-state enterprises and organizations. Notably, non-state enterprise construction has seen an 8.5% change, while state enterprise construction has surged by 91.5%.

As of July 1, 2022, the construction sector in the unit boasts 1,753 enterprises and organizations, marking an increase of 129 compared to the previous period.

Table 1: Construction works.

Region	2018	2019	2020	2021	2022
Republic of Uzbekistan	51129,3	71156,5	88130,3	107492,7	130790,9
Republic of Karakalpakstan	2182,7	3315,4	3992,5	4480,6	5272,4
Andijan	2819,5	3539,1	4673,0	5657,8	6864,1
Bukhara	3581,2	4368,1	5659,8	7401,1	8448,7
Jizzakh	1564,3	2510,6	2715,0	3085,4	3446,4
Kashkadarya	3701,1	4365,3	4832,6	6336,6	7793,8
Navoi	2280,8	3464,0	3944,7	5155,5	5855,0
Namangan	2257,6	3471,0	4678,2	5556,7	6653,2
Samarkand	3299,0	4527,2	5755,3	7385,7	8895,4
Surkhandarya	2879,7	3979,7	4774,7	5868,4	6521,9
Syr Darya	1001,1	1926,2	2407,6	2708,8	3260,1
Tashkent	3006,7	5594,1	7102,6	9401,2	12237,4
Ferghana	2942,7	4162,8	5473,9	6993,7	8646,0
Khorezm	1878,3	2496,8	2856,8	4228,5	4878,4
Tashkent sh.	10870,7	16256,9	19215,4	26535,3	32946,1

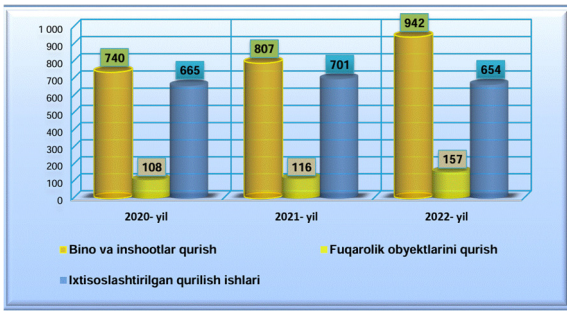


Figure 1: The number of enterprises and organizations engaged in construction work, as of July 1, 2022.

The main factor of the increase in the number of enterprises and organizations in the field of total construction is the increase of construction of buildings and structures by 116.7% compared to last year (the share of total construction is 53.7%), the construction of civil facilities by 135.3% (total share in construction is 8.9%), an increase in specialized construction works by 93.3% (share in total construction is 37.4%) or the number of construction enterprises operating in the region, as of June 1, 2022, the number in the region. The construction enterprises with the largest share are registered in Navoi city (28.0%), Karmana (17.2%) and Kyziltepa (14.7%) districts, as can be seen in Figure 2.

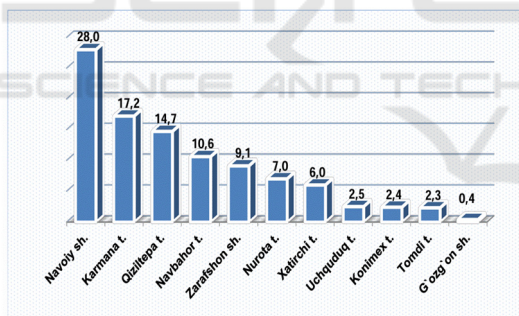


Figure 2: The number of construction enterprises operating in Navoi region, as of June 1, 2022 (share, in %).

The volume of construction works carried out by small enterprises and micro-companies in January-June 2022 exhibited notable growth compared to other construction organizations in the Navoi region. Their contribution accounted for 55.3% of the total construction volume, marking a 0.5-point increase from January-June 2021. Moreover, their construction works amounted to 1,482.3 million soums, representing a 110.9% increase compared to the corresponding period in 2021.

To further enhance the growth trajectory in the construction sector of the Navoi region, several field management initiatives can be proposed:

- Ensure the timely execution of contracts for construction projects.
- Maintain continuity in production processes to minimize equipment and crew downtime.
- Reduce transportation costs for delivering construction materials and modernize local warehouses or establish new ones.
- Provide timely access to construction materials, equipment, and expert teams.
- Optimize inventory management for building materials and equipment.
- Implement an efficient organization of construction sites to minimize temporary costs and plan access routes, temporary utilities, and barriers.
- Develop provisions for quality sanitary and social conditions for workers.
- Establish management projects for ensuring safe working conditions and compliance with labour and environmental protection regulations.

## 4 DISCUSSION

The construction industry faces significant challenges stemming from outdated regulatory documents, inadequate personnel training, and systemic issues impeding its development. Firstly, regulations established under the former regime are outdated, necessitating adaptation to modern requirements, digitalization, and the integration of energy-efficient technologies. Furthermore, shortcomings in urban planning, including inadequate master plans for "smart cities" and rural architecture-planning projects, persist, hindering progress in the field.

In addition to regulatory challenges, personnel shortages exacerbate the industry's woes. Approximately 500 vacancies exist within the system, including 110 in district architecture and construction departments, and about 200 positions in project organizations remain unfilled. This shortage extends to professional construction-contracting organizations, which lack the comprehensive capacity to handle the increasing volume of construction works due to insufficient material, technical, and financial resources.

Systemic issues further compound these challenges. The absence or non-compliance with master plans in many settlements hampers the development of complex construction projects and infrastructure facilities, constraining entrepreneurship and investment activity. Moreover,

market trends in project-research work often fail to foster advanced development or the creation of high-tech architectural projects.

Furthermore, the low adoption of modern information and communication technologies hinders the transparency and efficiency of public service provision in investment processes and urban development activities. Additionally, the underdevelopment of practical construction science and the weak material-technical potential of higher education institutions impede personnel training, retraining, and skill upgrading.

These multifaceted challenges impede the rapid innovation and development of the construction industry. Therefore, it is imperative to formulate a strategy for modernizing the industry and fostering rapid, innovative growth. Such a strategy should address regulatory reform, personnel training initiatives, and systemic improvements to overcome barriers to progress and promote sustainable development in the construction sector.

## 5 CONCLUSION

The evolution of the construction sector over the past three decades has been remarkable, transitioning into a modernized, technologically advanced, and economically stable industry. However, to sustain this progress, continuous improvement in the knowledge and skills of professionals alongside enhancements in material, labor, and social conditions is imperative. Efforts to optimize economic efficiency should focus on reducing labor and material costs, leveraging socio-economic factors, and enhancing the productivity and morale of management staff and workers alike. Emphasizing the social direction of management, such as prioritizing employee satisfaction and improving working conditions, is vital in navigating market dynamics and maximizing the sector's potential for growth and development. By nurturing a conducive environment that values both human capital and technological advancement, the construction industry can further elevate its competitiveness and contribute significantly to socio-economic progress.

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