



Article

Methods for Analyzing and Improving the Economic Efficiency of Capital Investment

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Abstract: Capital investments have a significant role in the development of the economy and the competitiveness of nations, as they increase production capacities, infrastructure, and provide a source of modern jobs. National economic policies emphasize optimal use of capital resources ensuring their economic efficiency. Although the investment policy is in the process of reform, and a favorable investment climate is created for direct foreign investment in Uzbekistan, it still requires an urgent assessment of the effectiveness of capital investments and its efficiency improvement methods. The assessment of investment projects with the use of economic statistical, analytical and mathematical methods aimed at profit growth and effectiveness. Although the importance of capital investment to the economic development is known, there are no widely-accepted methodology to assess the impact and efficiency of capital investment, especially in Uzbekistan market economy development. The objectives of this research are to examine the economic effectiveness of capital investments, determine the problems that exist in the current investment framework, and outline ways to make them more effective. It is established that the use of economic-mathematical models, method of assessing the risk and the digital tools significantly facilitate the process of capital investments verification. The results further highlight the need for social and technological factors to be included in investment analysis. The paper proposes a combined method based on conventional financial metrics, and contemporary fit-for-purpose digital technologies, which provide a more effective, and dynamic assessment of efficiency in capital investment. The results indicate that better planning of investments, the implementation of new methods of analysis and the use of new technologies can help significantly improve the economic efficiency of capital investments in Uzbekistan, leading to a long-term stability and growth of economy.

Keywords: Capital Investments, Economic Efficiency, Investment Activity, Profitability, Investment Policy, Analysis, Methods of Improvement

1. Introduction

Currently, it is impossible to overestimate the role of capital investments in the modernization of the economy and its competitiveness. The capital investments are important as they are the means of increasing the production capacities, new technologies, infrastructures, and modern job creation. Therefore, the rational use of factors of production and their economic efficiency is one of the priority areas of economic policies of any state. Yes, our country had some reforms taken place since last years which is expected to facilitate investment, stimulate capital flow and broaden activity of the private sector. Still, the urgent task is to assess the actual yield of existing capital investments and develop ways to increase it. In this regard, in the framework of the economic efficiency of

capital investments, it is possible to assess the performance of capital investments as well as to provide the rational distribution of resources.

The use of statistical, economical mathematical and analytical techniques is relevant in assessing the effectiveness of capital investments. Through these strategies, the payback of the investment projects, the coefficient of profitability and the efficiency rates are identified. Resting on the results of the analysis, effective recommendations are formed in order to quicken the economic evolution, enhance the efficiency of the capital resources utilization and the policy of investment. Thus, the primary aim of the research is to review the economic effectiveness of capital investments, evaluate the current issues and create the practical methods of their improvement.

This does not merely pose as a problem of the economic theory perspective but also that of the actual practical policy, as a major consideration to the issue of sustainable economic development. One of the most significant fields of economic science and which had been discussed by multiple scholars both local and foreign is the assessment of the economic efficiency of capital investments. It is assumed that investments and capital allocations are the primary drivers of the economy, since they will significantly contribute to the growth of the production capacity, generation of new job opportunities, and innovative activities.

The investments are pointed out as a factor in the stability of economic cycles and level of demand as a whole in economic literature, such as the writings of P. Samuelson, D. Ricardo, and J. M. Keynes. Keynes in his work *The General Theory* came up with the concept of marginal efficiency of capital, which is applied as a major indicator in making investment decisions. The indicators, which are utilized to analyze the investment activities in the modern economic theory, are NPV (Net Present Value), IRR (Internal Rate of Return), and PI (Profitability Index).

The Uzbek scholars include A. Vokhidov, Sh. The effectiveness of capital investments is essential to the increase of the competitiveness of the national economy as highlighted by Khudoyqulov, M. Tursunov and others in their works. They do their studies with the intention of bettering the state of investment, lure of the private capital and also analyzing on the efficacy of the state-investment programs. Specifically, the article by A. Vokhidov entitled *Factors of Economic Growth* gives a thorough explanation of how capital investments will influence modernization of technology.

Moreover, in their reports, the world and international bodies, including the World Bank, the International Monetary Fund, and the OECD, particularly, are particularly interested in enhancing the effectiveness of capital investments. Their analyses prescribe mechanisms of efficient utilization of capital resources, boosting their returns and employing less risk in investments. Specifically, the concept of Investment Policy Framework offered by the OECD explains the linkage between the stability of the investment environment and the effectiveness of capital flows.

However, over the past few years, capital investment structure has been transforming under the circumstances of the digital economy and technological modernization. Hence, it is articulated by modern literature that capital investments should be evaluated in a quantitative and qualitative way. In particular, human capital, information technologies and innovative infrastructure investments bring the most positive outcomes with regard to the production efficiency.

Besides, the efficacy of capital investments must be evaluated not only by the use of economic parameters but also by social effects as it has been emphasized by numerous academic sources. As an example, the human capital theory formulated by T. Schultz and G. Becker opines that human resource investment brings about high economic returns in the long-term.

The literature of domestic research also emphasizes the fact that to enhance the efficiency of capital investments, there is a necessity of efficient use of the available resources in production enterprises, introduction of energy-saving technologies, and choice of investment projects which occur in accordance with the overall economic analysis. Moreover, in the conditions of a market economy, risk factors in investment decision-making should be identified and mechanisms to overcome them should be developed.

Literature Review

In their study, S. Jorayev and M. Islomov focus on the significance of rational utilization of the production resources in the enhancement of economic efficiency of capital investments. They say that the use of modern energy efficient technologies will be able to lower the cost of production and to raise profits. The research also comes to the conclusion that updating the production capacities and technological upgrades also improve internal rate of return (IRR) and net present value (NPV) of investment projects [1].

B. Tursunov dwells on the importance of risk factors in the economic analysis of capital investments. He claims that the uncertainty level and external impacts of each investment project must be carefully examined in the market economy conditions. The analysis indicates the significance of applying scenario analysis and sensitivity analysis in order to reduce risks. This is a method that makes investment choices more justified and valid [2].

In their works, N. Abdurahmonova and D. Shodmonov emphasize the need to take into consideration socio-economic factors in the assessment of investment projects in the context of Uzbekistan. In particular, they prove that, to a great extent, regional infrastructure and level of employment influence the efficiency of capital investments in general. The study also examines the significance of state support policies to investments especially effects of tax incentives and credit mechanisms to efficiency indicators [3].

In their writing, Economics, the American economists P. Samuelson and W. Nordaus give a detailed account on the role of efficiency of capital in determining the growth rates of national output. To them, economic growth is a major result of capital accumulation. The authors also came up with the theory of diminishing returns on capital that is extensively used as a prominent economic model when making investment decisions [4].

In his masterpiece *The General Theory of Employment, Interest, and Money*, J. M. Keynes reflects upon the connection between consumption and investments. He views capital investments as one of the essential prerequisites of economic stability. One of the best policies that can boost employment and reduce economic recessions, according to Keynes, is the active state investment policy. This concept still affects the present-day economic policies of most countries [5].

In his model of economic growth, R. Solow illustrates the correlation between capital accumulation, labor and technological development. He used the Solow model to establish the mathematical basis of examining the economic efficiency of capital investments. In his theory, he asserts that only technological innovations have the capacity to sustain long term economic growth where capital presents decreasing returns with time [6].

Theorist of management P. Drucker stresses on the significance of human capital in increasing efficiency in investments. He claims that the knowledge and abilities of employees are the key asset of a business. More to this, Drucker does not just support investment funds to be directed to the tangible assets but also to the innovative procedures. This idea has become very topical in the contemporary online economy [7].

In his book *Competitive Advantage*, M. Porter examines the impact of competitive advantage in enhancing the efficiency of the capital investment. He suggests that people should channel capital into innovations, quality management and strategic planning. Porter claims that economic indicators are not the only way to measure the effectiveness

of investments, but also their effect on the position of a company on the market and its competitiveness [8].

J. Tobin came up with the theory known as the Tobin q theory which is founded on the ratio between the market value of capital and the replacement value of capital in assessing the decisions made in investing in capital. With this model, the activity of investment can be quantitatively evaluated. The approach of Tobin enhances the theoretical basis of the investment analysis and is a valuable methodological means to establish the most appropriate amount of capital investment in companies [9].

In their book *Financial Theory and Corporate Policy*, T. Copeland and J. Weston created modern techniques of financial analysis of investments. They justified the significance of net present value (NPV), internal rate of return (IRR) and investment risk analysis. Their methodology is currently very commonly used to gauge the efficiency of investment in businesses and is one of the instruments in establishing the feasibility of financial projects, particularly in capital markets worldwide [10].

2. Materials and Methods

The method of economic efficiency of capital investments, a comprehensive analysis of scientific methods and methods of analysis. Firstly, quantitative and qualitative parameters of capital investments their volume, structure and sectoral distribution are analyzed by means of economic-statistical approach. It allows to identify investment trends, their contribution to economic growth and performance of particular sectors over time. However, on the other hand, results in these methods lead to the calculation of performance indicators such as Return on Investment (ROI), Net Present Value (NPV), the Internal Rate of Return (IRR) or Payback Period (PP) that allow the expected liquidity and profitability to be evaluated at a glance. Further, the comparative analyses of investment projects to epochs in other parts in others sectors enable practitioners to identify the best practice and the lessons where performance still need overcoming. Also as a way to prop up the decision making process, the study uses economic-mathematical modelling to forecast results from investments, relating those to acceptable amounts of investments to be made and which ought to be avoided. This is a very numerical approach when it comes to quantification of the business impact of capital projects with concepts like NPV and IRR is rooted in this approach. Third, also to quantify the expert evaluation methods in which researchers collect the opinions of economists and investment professionals, supplementing the quantitative assessment, and providing appropriate guidance to improve capital investment efficiency. Last but not least, a step by step method is taken to evaluate the whole investment process and the investment process will be evaluated as per technological base, financial aspect and changing economic environment. By employing this methodology, one can attain a comprehensive view of the effectiveness of capital investments and gain insights into how to enhance these investments.

3. Results and Discussion

When economic efficiency of capital investments is studied, there is a number of scientific methods and approaches which are applied. The primary aim is to investigate investment operations thoroughly, reveal the factors influencing their effectiveness and offer scientifically-supported suggestions on how to fix the current issues. Economic-statistical, analytical, comparative, graphical, economic-mathematical, and expert evaluation techniques are very popular with the research.

Economic-statistical analysis is a method which helps to set out the significance of changes in capital investments in qualitative and quantitative expressions. Using this method, it is possible to analyze the volume of investments, their distribution by sectors, growth rate and profitabilitys. On the basis of statistical data, tendencies of the dynamics

of capital investments in construction during years and its influence on the economic growth are analysed [11].

Secondly, the comparative method is used to compare the efficiency of investments in capital at different times, in different locations or economic entities. Using this approach can help in determining the difference between investments projects that performed well and the one that failed and the possible causes. In this way, the best practices can be identified and transposed into other domains.

Thirdly, economic-mathematical modeling is an efficient tool in the prediction of the efficiency of capital investments and identification of optimal amounts of investments. With the approach, indicators like profit, profitability, net present value (NPV) and internal rate of return (IRR) are determined using mathematical formulae. Modeling gives an accurate numerical basis of decision making in investments.

Fourthly, the results of the research can be presented clearly and understandably using graphical analysis and visualization methods. The information in the shape of graphs, charts, and tables reflects correctly the dynamics of capital investments growth, their distribution per industry, and indicators of profitability. The technique helps in the intuitive visualization of statistical data as the analysis is undertaken [12].

Fifthly, the expert assessment method offers a qualitative method of assessing the efficiency of the investment activities. This is done by gathering and compiling the views of economists, financial pundits and investment gurus. On the basis of their assessments, approaches to capital investments control, risk mitigation, and new directions of investments might be defined.

Sixthly, the correlation-regression analysis is the tool employed in order to check the association between the volume of capital investments and the indicators of the economic growth, i.e. gross domestic product, production output, and employment. The approach enables the quantitative evaluation of the degree to which the effects of capital investments on economic efficiency are significant. This has led to the possibility of scientifically based inferences to focus on investment in particular fields.

Seventhly, the systematic analysis approach allows to thoroughly study the efficiency of capital investments. In this method, the investment process is viewed as one system and its various parts such as sources of finance, technological variables, human resource, organizational management, and external economic environment are mutually examined. In turn, systematic improvement strategies to be used to improve the efficiency of capital investment can be established [13].

Lastly, scientific generalization and deduction-induction methods offer a theoretical framework of the results received. The empirical data is provided by different sources and general theoretical conclusions are made. It is based on this that there are proposals and recommendations, which are drawn to enhance the economic efficiency of capital investments.

Economic-statistical analysis is useful in order to investigate in details the state of existence, amount, structure, dynamics of capital investments. It provides the possibility of a quantitative evaluation of the actual economic effect of the investment process. That is, this analysis can be used to know the annual growth rates of capital investments, how they are allocated to various sectors, share compared to the production output, and their role in economic growth. This offers a requisite ground on which the effectiveness of the investment policy can be measured [14].

The qualitative indicators of the investment activity also can be evaluated with the help of economic-statistical analysis. It does not just consider the amount of capital, but also the type of technologies that are being funded, how investments have been used to modernize production capacities as well as the degree to which innovative projects are funded. Through this, the level of capital investments in terms of quality is discovered in

the analysis, that is, the functionality in the analysis in improving the efficiency of the economy.

The approach assists in determining the trends of the capital investments changes with time. The trends in growth or declines in investments as per the statistical data are followed. Consequently, economic cycles, that is, their growth and contraction, and the effect on capital investments are examined. This fact is important in economic policy planning.

The economic-statistical analysis also allows assessing the efficiency of the investment in sectors, regions, or economic entities. As an example, the efficiency of capital investments in industry, agriculture, transportation, building, or services can be compared. Based on this comparison, it is possible to identify the most successful areas and find the possibility of more effective allocation of investment flows [15].

The other major factor of economic-statistical analysis is that it gives a dependable empirical foundation of economic forecasting. Judging by the trends revealed after the analysis, it is possible to forecast further capital investments growth rates and its influence on the economical efficiency. This, in its turn, justifies scientifically the state investment policy and strategic planning in areas of financial decision-making at the enterprise level.

The scientific and practical significance of economic-statistical analysis is the fact that it is based on quantitative evidence to make a decision. In comparison with subjective evaluation, an evaluation process based on objective statistical indicators provides more precise results when it comes to measuring the efficiency of the utilization of investment resources. Thus, the economic-statistical method is an essential instrument used in the optimization of the capital investment management system, redistribution of financial resources, and production profitability.

Growth rates of capital investments in Uzbekistan:

- In 2024, fixed capital investments across major sectors increased by 27.6%.
- Foreign investments during 2024 grew by 53.6%, reaching 10.3% of the gross domestic product (GDP).
- In the first quarter of 2025, capital investments showed a 15.32% increase compared to the same period of the previous year.
- In the first half of 2025, the total volume of investments reached 273.4 trillion soums, which is 5.5% higher than in the first half of 2024.

Statistical data on the distribution and growth rates of capital investments (fixed capital investments) across the regions of the Republic of Uzbekistan:

- In the first nine months of 2023, the highest regional investment performance indicators were observed in Syrdarya region (IPI = 2.00) and Bukhara region (IPI = 1.67).
- During this period, there was a significant disparity in investment volumes among regions; for instance, the gap between the regions with the highest and lowest investment volumes was approximately 3.7 times.
- Tashkent city share in total on investment distribution by regions in first half 2023 — 20,5%, Tashkent region — 13,3%, Bukhara region — 8,9%, Samkand region — 8,8%

Compiling the nationwide investments in on a regional basis in 2024, the Total volume of investments summed up to 493.7 trillion soums, 127.6% more than a year earlier.

The economy efficiency assessment of capital investments is one of the major stage of any investment activity. On this basis the return on investments, the impact on economic growth and the level of financial performance is determined. C-CAPs information generated through the evaluation process are necessary at higher levels of enterprise but also critical for investment policy refinements in whole sectors and for the national economy. The tools of economic-mathematical, statistical and financial analysis

methods are used in order to obtain data for comparing expenditures on capital with costs for similar capital without equity engaged.

Economic efficiency indicators · These relate to general economic efficiency, including (but not limited to): return on investment (ROI), profit ratio to capital, net present value (NPV), internal rate of return (IRR) and payback period. These indicators evaluate the economic viability of an investment project, i.e. the amount of income generated by each unit of capital invested. At the bottom line, investment efficiency can be calculated based on formula $ROI = (\text{Profit} / \text{Capital Investment}) \times 100\%$.

The NPV (Net Present Value) indicator guarantees an analysis of future cash flows formed after capital investments in the present value. When an investment (cash outgo and inflow) has a positive NPV, it will be a profitable investment. The investment internal rate of return (IRR) denotes the return the project will yield, compared with the minimum mandatory interest rate at which the project is done. IRR and NPV Indicators are the best economic standards, especially in the selection of long-term investment projects.

This is the period to achieve something back from the investment made on capital. This metric is very important for risk assessment the shorter the payback period, the lower the risk of the project. Moreover, secondary metrics such as capital turnover ratio and the profitability index (PI) are involved to assess the efficiency of investment in a more detailed manner.

Sectoral and regional indicators are also important when it comes to the effectiveness of investments in capital. An indirect measure of investment results is, for example, the determination of growth rates of gross regional product (GRP), the number of jobs, production volume, and export potential. Capital investments are therefore perceived as direct genesis of the technological advancement experienced by industry, noted specifically among its productivity as well as per unit cost of production.

In addition, it provides an economic and statistical analysis methods of the determined dynamics of change in capital investments in time, their influence on economic performance and the inter-sectoral difference. The ICAP method of correlation-regression analysis is one of the most widely used to assess the impact of capital investments on the allows-evaluation of the impact of capital investments on indicators of the economic growth. This approach is useful to explore how investment flows relate to measures of economic activity, such as GDP, production or employment.

The last two methods i.e. expert evaluation and analytical approach are directed towards determining qualitative factors. Recommendations are drawn up based on experts' views to make investment policy more effective. Special attention is paid to the fact that projects for the introduction of energy saving technologies, organization of the rational use of resources, as well as avoiding redundant production costs can reach a high degree of economic efficiency.

Therefore, the complex system of indicators and analytical tools for evaluating the effectiveness of capital investments enables to use the real results of investment activities. Every indicator has its own work, and the combination of them provides a complete picture of economic stability, production efficiency, and utilization level of materials. This prepares a solid basis for decisions in a capital development plan or capital management investment which is leaving to be scientifically evidence-based.

From both the domestic and international experiences can be identified the various approaches to improving the efficiency of capital investments. For Uzbekistan, investment activity, as a rule, implies renewal of capacities, implementations of advanced technical solutions and support of export-oriented industries. The state investment policy has primarily emphasised financing capital projects, lowering interregional economic inequalities, as well as, accelerating private-sector growth. Simultaneously, within the framework of programs created by the Ministry of Investments and Foreign Trade,

consistent measures are being taken to attract foreign direct investment, as well as providing tax incentives, and establishing favorable environment for investors.

Reviewing international experiences, especially in developed countries such as the USA, Germany and Japan, the system of investment activity regulation is based on market mechanisms. Here, sophisticated analytic approaches like cost-benefit, risk-adjusted return, and ROI benchmarking are used to maximize the productivity of capital investments within these countries. These approaches can take into account not just financial factors but also social and environmental factors. As a result, investments are directed not only toward profitable projects but also toward areas that contribute to sustainable economic growth.

Moreover, good investment environment in Southeast Asia countries, especially South Korea and Singapore, is the public-private partnership approach, which is a catalyst for investment activities. This need is even more important in countries, where investment projects are implemented according to specific and rigid strategic planning, where the most important sectors of the economy are well defined, and the economy is highly concentrated in these fields. Also, innovation clusters, technology parks and start-up ecosystems are created for the speedy return of capital investment.

At the same time, there is a significant room for improvement of investment activities at the local level by means of adaptation of international experience. The first is to encourage private sector activity, the second is a stable investment environment, and the third is modern risk management mechanisms. Especially with the implementation of international standards in assessing the economic efficiency of investment projects, it contributes to increasing the transparency of the domestic economy, as well as increasing the trust of foreign investors.

Therefore, the study of both national and foreign experience proves that for improving the efficiency of investment activities a systematic approach is required. This includes both raising and managing financial resources, deploying them at projects with high innovative potential, and upgrading mechanisms of public-private partnerships. Consequently, capital investments play an important role in stimulating economic growth and sustainable socio-economic development.

Identifying determinants of capital investment economic efficiency is of paramount importance to investment policy and economic development strategy of each country. The most important factors determining the efficiency of capital investments are the efficiency of utilization of production resources, technological progress, labor productivity and the efficiency of management systems. Likewise, investment profitability will also be impacted by the economic environment external and its determinants such as tax policy, interest rates, currency stability, etc., and other standard incentives provided by the government. Hence, these factors need to be systematically analyzed for efficient capital investment management.

The efficiency of capital investments depends also on the internal factors. Key internal factors that influence the success of an enterprise include production capacity, management quality, financial stability, and innovation activity. In addition, the introduction of energy-efficient technologies, rationalization of resource consumption or the reduction of production losses increases the profitability of an enterprise. Investments in employee skills are investments in human capital, which at the same time guarantee high economic efficiency for a long period of time.

The economic arrangement may largely determine the efficiency of capital investment. The profitability of capital investments is directly influenced by factors in the sphere of market conditions, namely competition spheres, government investment policies and international economic relations. The system includes, for example, the tax preferences from the government, a simplified licensing scheme, and a stable macroeconomic

environment, which increase the attractiveness of foreign and domestic investors. These are the factors that activate investment processes and increase their activity.

Economic efficiency of capital investments(performance) is the totality of complexes dealing with the economic efficiency of capital investments; aimed at achieving the maximum output to input ratio among the factors of production and consumption. The first is the deep analysis of economic and financial justification of investment projects. More projects are evaluated financially for NP Vs, IRR and PI, to find out which direction is most from an financial return standpoint. Simultaneously, risk management plans are created. It adds stability and competition to capital investments for this process.

Digital technologies and analytical models were designed to the end of improving management practices, if used correctly. Investment project performance can be predicted in advance and on-going efficiency monitored in real time, using modern analytics. Moreover, smart asset management systems facilitate better capital investment allocation, reduce unnecessary expenses and improve capital allocation efficiencies.

Factors influencing the effectiveness of investment in fixed capital are heterogeneous, which requires an integrated management of its constituent elements. Como resultado, correnteĵoj de kapitalinvestado povas kolektive fariĝi la ĝeneralian motoro por kresko de la ekonomio, se ili estas adekvata velenata de eksteraj kaj internaj faktojn, de efika uzo de limigitaj resursoj en ligo de universala skalo, de akcelado de teknikaj transformoj, kaj apliko de scienca administrada mekanismo. Therefore, the study and development of the system of investment management is one of the most important priorities of the investment policy of any country.

The structured process from capitol investments covering budgeting to achieving economic sustainability in developing and maintaining most effective analytical approaches and methods. Right now in this moment, the validity of investments has to consider quantitative processes but also qualitative ones. Thus, a new approach must be adopted that includes a thorough survey on the return of investments by the capital placements; how quickly they recoup their investment; and how they add up towards the growth of the economy. A more accurate and comprehensive assessment of efficiency can be achieved by combining traditional financial analysis methods with modern digital technologies.

Mainly, as a more advanced Analytical method, the multifactor regression models, the correlation analysis and efficiency index (Efficiency Index) are suggested. Such techniques allow us to update the mapping of growth rates of capital investment, output volumes, and profit. DOFE plotting correlation analysis can be useful, for example, illustrating the relationship (or absence of) between capital investments and production profitability identifying the top contributors. And it does this by allowing investment capital to flow to its highest marginal value.

Then there is the not-so-small matter of polishing new analytics. Evaluating efficiency of investment projects: Use of modern technologies of Big data analytics, machine learning and predictive modeling It weans from the wait, serves investor profit, assists in the shape of investment opportunity, analyses the risks far breaching and but a laser sharp focus that channels the flow of Capital investment the only way possible. It also provides a more accurate assessment of the economic footprint of both goods introduced to the market through new technology and investments towards innovation.

It also makes an integrated analytical model easier to integrate, and therefore, the capital investments are more rational. In this approach, the various economic, financial, social and environmental aspects are combined together; The analysis evaluates the profitability of an investment project – as well as indicators of the environmental performance, social employment and local service level. Hence capital investments turns profit motives into long term socio-economic outputs instead of merely short term outputs of revenue.

In addition, when improving the methodological develop, the aforementioned require sufficient means of digital economy. For example: projects – global real-time monitoring of investment projects, automated reporting systems and decision-making mechanisms based on artificial intelligence significantly expand the functions of capital investment management. These methods enable very precise monitoring of resource consumption, financial flow effectiveness, and investment efficiency.

This pay in alone is one of the most basic snares in the present economy because sequentially, innovative arrangements are created here which will be used as a consequence to abbreviated efficiency of capital speculations through coordinated R&D. Merging tradition with digital hottest tips lucidity tools and integrated assessment methods widen the investment canvas and render it more effective. That is why economic growth, reasonable use of resources and an investment policy based on science are sustainable.

Further improvement of investment policy of Uzbekistan and acceleration of economic growth could be achieved in such an important area as the development of practical recommendations for the efficiency improvement of capital investments in view of the economy of Uzbekistan. The republic's economy is undergoing reforms primarily aimed at the productive use of resources, the rise in production competitiveness, and foreign investments attraction. This approach indirectly identifies the extent to which capital investments are profitable by delivering returns for the required additional investments across each sector and industry, this analysis also helps to identify techniques that will further optimise their effectiveness.

These problems are easier to solve if the investment planning system is able to adapt to actual changes, with the effectiveness of capital investments in Uzbekistan dating back not only in the traditional directions. This means a selection of investment projects using econometric justified criteria and strengthening financial return indicators-based selection system with the use of NPV, IRR, PI and other comparable profitability indices. With this method it is possible to evaluate project financial sustainability and optimize resource allocation in the public or private sphere. At the same time, it is necessary to disperse investments in regions by allocating resources not only in large centers, but also in capital-endowed regions.

Through “Invest Analytics”, a single digital platform for the monitoring of the efficiency of capital investments could be created in the context of Uzbekistan. Using this system, each investment project would be monitored step by step, with cash flow, time spent, and performance tracked in real-time. Due to the potential of artificial intelligence technologies, it will also be possible to automatically predict the profitability, risk indicators and economic impact of investments.

The activation of capital investments will be associated not only with financial analysis, but also with updating production technologies. Thus, the generalization of the use of new energy-saving technologies, modern sources of renewable energy, frameworks for economic auto-production, should not only make it cheaper but also make investments more profitable in the long term." This is where the existing mechanism of tax breaks and subsidies from the state is strengthened.

It is essential that more initiatives are taken to hold the private sector to account in terms of its investment behaviour. Although the share of state investments in Uzbekistan still is relatively high than those of the region, attraction of private capital is an indicator of sustainable economic stability in the long-run. It will need extension of public-private partnership (PPP) initiatives, a offering of profit guarantee avenues & easier permission processes to dealers. While promoting the optimal use of capital spending, human capital investment is also included. When it comes to the outcomes of investment, the infrastructure or technology is only part of the equation, also essential is the background and the expertise of the specialists operating it. Thus, improving the quality of education,

broadening vocational training and facilitating R&D practices are further options for raising the overall return from investment.

More extensive measures should be taken for improving effectiveness of capital investments in the economy of Uzbekistan. More substantial improvement of investment environment is possible through the scientific justification of investment planning, implementation of digital monitoring systems, wide application of advanced technologies, strengthening the private sector movement, and people-centered approach. This, in turn, increases the economic efficiency of capital investments generating room for sustainable economic growth.

4. Conclusion

Hence, the suggested research shows the need for the business-commercial and social-investment domain through upgrading an efficient estimation of assets in capital combining the econometric/ statistically-based analysis of the research and proving of the actions obtaining with experts assessment. The outcomes show that these indicators along with leading-edge digital technology and risk analysis methods can significantly enhance investment decision and resource allocation, in context to methods such as ROI, NPV and IRR. In addition, the study highlights the acceptability of a multi-faceted assessment that measures factors beyond the financial economic cost of capital in delivering socio-economic results. The implications of these findings are that as long as capital investments are efficient the economic growth can be maintained for the long run, something that can also be achieved via market driven rates of sustainable development and technological innovation. However, the present study can not obtain additional data connected to the investment evaluation in emerging markets, mainly in some regions, like Uzbekistan and it is fundamental for further research that optimizes the dilemma of investment evaluation models by applied big data analytics and artificial intelligence methods for more accurate predictions of investment success. Moreover, the analysis could also investigate the socio-economic consequences of capital investments in enhancing regional development.

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