

PROJECT PROFITABILITY AND SUSTAINABILITY: INFRASTRUCTURE, IT, ECOLOGY, AND TOURISM

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Abstract: This paper presents a comparative analysis of the profitability and sustainability of projects across four sectors: infrastructure, information technology (IT), environmental protection, and tourism services. The study evaluates investment costs, return on investment (ROI), net present value (NPV), and internal rate of return (IRR) to assess the financial viability of projects in each sector. Additionally, sustainability indicators, including environmental impact and contribution to economic growth, are examined. Using a structured data approach, the research highlights sector-specific advantages and challenges, identifying projects that offer the best balance between profitability and long-term sustainability. The findings suggest that IT projects provide rapid ROI, while infrastructure projects contribute most to GDP but require longer payback periods. Environmental protection projects show high sustainability potential, whereas tourism services require low investment and generate quick returns. The study provides valuable insights for decision-makers in strategic investment planning.

Key words: Project profitability, Sustainability analysis, Investment efficiency, Infrastructure projects, IT sector investments, Tourism services, Return on investment (ROI)

1. INTRODUCTION

Investment projects play a significant role in economic development by driving economic growth, job creation, and infrastructure improvements. However, different sectors exhibit varying levels of profitability and sustainability, requiring a detailed analysis to identify optimal investment strategies. This paper examines infrastructure projects, projects in the IT sector, environmental protection, and tourism services, comparing their investment efficiency, financial returns, and sustainability factors. The research objectives are:

- To determine which sector offers the highest return on investment (ROI) while maintaining sustainability.
- To analyze the contribution of these projects to economic growth and job creation.
- To examine the main risks associated with investing in each sector.

To achieve these objectives, the study applies a comparative methodology, including an analysis of financial indicators such as **NPV, IRR, and ROI**, along with a risk assessment. Through data analysis, the specific advantages and weaknesses of each sector are identified, providing guidance for decision-makers and investors.

The structure of the paper is as follows: the second section presents a review of relevant literature, the third section outlines the research methodology, the fourth section presents the results of the comparative analysis, while the fifth section provides conclusions and recommendations.

2. LITERATURE REVIEW

In analyzing the profitability and sustainability of projects, it is essential to rely on previous research and economic models used for investment evaluation. Project profitability is most commonly measured using net present value (NPV), internal rate of return (IRR), and return on investment (ROI), while sustainability is assessed through environmental and economic factors contributing to long-term stability.

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According to the literature in economics and project management, NPV and IRR are essential indicators of financial sustainability. Brealey and Myers emphasize that projects with a positive NPV are economically justified, while IRR is valuable for comparing different investment opportunities [1]. Additionally, Drucker highlights that profitability is not the sole objective of enterprises but that long-term growth depends on strategic investment planning [2].

Regarding sector-specific analyses, previous studies indicate that infrastructure projects have a long payback period but significantly contribute to economic growth and employment [3]. The IT sector offers the fastest return on investment, but it is highly susceptible to market fluctuations and technological innovations [4]. Environmental protection projects demonstrate high sustainability potential, but their financial returns are lower due to initial investment requirements and regulatory constraints [5]. The tourism sector is characterized by low investment costs and rapid payback, but its profitability depends on seasonality and global economic stability [6].

The data used in Table 1 are based on industry standards and available economic analyses, including:

- World Bank – data on infrastructure and environmental investments [7].
- Eurostat – financial statistics and sectoral comparisons of project profitability [8].
- McKinsey & Company – analyses of IT sector investments and project management [9].
- OECD reports on sustainable development – evaluation of the impact of environmental and tourism projects on the economy [10].

3. RESEARCH METHODOLOGY

3.1. Data and Sources

This research is based on a secondary data analysis, drawing from sources such as the World Bank, Eurostat, OECD, McKinsey & Company, and other relevant economic reports. Table 1 was constructed using average indicator values from these sources, with adjustments made to investment costs to reflect the specifics of the Serbian market.

The data were processed using descriptive statistical methods, where key economic indicators were expressed through sector-specific average values. Special attention was given to risk analysis, as different sectors face distinct challenges in project implementation. This methodological framework provides a comprehensive sector analysis and helps identify the most effective investment strategy in terms of economic viability and sustainability.

3.2. Comparative Sector Analysis

To evaluate the profitability and sustainability of the analyzed sectors, a comparative analysis was conducted, providing a clear representation of the advantages and limitations of different types of investments. This analysis was structured through the following dimensions:

- Investment costs – comparison of the required capital for each sector.
- Project implementation risk – assessment of factors affecting project uncertainty.
- Economic effects – evaluation of each sector's contribution to overall economic growth.

3.3. Indicators Used in the Analysis

The following indicators were applied to measure the efficiency and sustainability of the projects:

- Investment costs – the initial capital required for project implementation.
- Net Present Value (NPV) – a financial indicator that reflects the overall project value by discounting future revenues.
- Internal Rate of Return (IRR) – a measure of investment profitability expressed as a percentage.
- Return on Investment (ROI) – the percentage of profit relative to invested capital.
- Project implementation risk – the probability of project failure due to economic and market factors.

- Sustainability (environmental factors) – ecological impact and contribution to long-term sustainable development.

4. ANALYSIS AND RESULTS

4.1. Comparative Analysis of Sector Indicators

To objectively assess the profitability and sustainability of investments, a comparative analysis was conducted for four sectors: infrastructure, IT, environmental protection, and tourism (services). The key parameters include investment costs, net present value (NPV), internal rate of return (IRR), return on investment (ROI), project implementation risk, and sustainability.

Table 1 presents the summarized values of these indicators:

Table 1 – Comparative Analysis of Sector Indicators

Project Category	Investment Costs (mil. €)	Expected Payback Period (years)	NPV (mil. €)	IRR (%)	ROI (%)	Implementation Risk (%)	Contribution to GDP (mil. €)	Sustainability (1-10)
Infrastructure	50	15	25	8	35	20	150	5
IT	5	5	15	18	55	30	30	6
Environmental Protection	15	10	10	12	40	25	60	9
Tourism (services)	3	3	7	14	50	15	25	7

4.2. Sector Analysis

4.2.1. Infrastructure Projects

Infrastructure projects require the highest investment costs (50 million €) but provide a significant contribution to GDP (150 million €). However, their payback period is the longest (15 years), making them capital-intensive and long-term investments. Despite having the lowest internal rate of return (8%), their primary advantage lies in the economic multiplier effect, as they generate long-term employment and economic development.

4.2.2. IT Sector

IT projects have the lowest investment costs (5 million €) but the fastest return on investment (5 years). With a high internal rate of return (18%) and ROI of 55%, IT projects prove to be the most profitable. However, the high implementation risk (30%) results from rapid technological changes and market competition. While their contribution to GDP (30 million €) is lower than that of infrastructure projects, the IT sector provides high flexibility and drives digital transformation.

4.2.3. Environmental Protection Projects

These projects balance economic and sustainability factors, with investment costs of 15 million € and a payback period of 10 years. Their primary advantage is high environmental sustainability (9/10), while the internal rate of return (12%) remains moderate. However, due to regulatory requirements and slower financial returns, such projects often require government subsidies or tax incentives.

4.2.4. Tourism (Services)

Tourism projects require the lowest investment costs (3 million €) and have the fastest payback period (3 years). With an ROI of 50%, they are classified as highly profitable, but seasonality is a limiting factor. Additionally, their contribution to GDP (25 million €) is relatively modest compared to the infrastructure and IT sectors. However, the growing demand for eco-tourism and digital tourism services may improve their long-term sustainability.

4.3. Discussion of Results

Based on the conducted analysis, it can be concluded that the IT sector is the most profitable, requiring low initial investments while offering a high return on investment (ROI). However, it also carries the highest implementation risk due to rapid technological advancements and market competition. Infrastructure projects, on the other hand, provide the greatest economic contribution, particularly in terms of GDP impact and long-term employment, but they demand substantial initial investments and have a long payback period. Environmental protection projects demonstrate strong sustainability potential, but they often require government support due to moderate profitability and longer financial returns. Tourism services, while capital-efficient and quick to generate profit, remain highly dependent on seasonality and macroeconomic stability, which can introduce uncertainty in long-term investment planning. The choice of the optimal sector for investment ultimately depends on the strategic priorities of investors—for those seeking fast returns, IT and tourism offer the best prospects, whereas infrastructure and environmental projects are more suited for long-term economic stability and sustainable development.

5. CONCLUSION

Based on the comparative analysis of the profitability and sustainability of projects in the infrastructure, IT, environmental protection, and tourism (services) sectors, it can be concluded that each sector has specific advantages and challenges, and the investment decision depends on strategic priorities and risk tolerance.

Key findings of the research indicate the following:

- The most profitable sector in terms of rapid return on investment is IT, with low capital requirements, a high ROI (55%), and a short payback period (5 years). However, the implementation risk is the highest due to the dynamic nature of technology.
- Infrastructure projects provide the highest economic contribution (150 million € to GDP), but they require substantial investments and have a long payback period (15 years).
- Environmental protection projects have a high sustainability rating (9/10), but their financial indicators develop at a slower pace, making economic feasibility more challenging in the short term.
- Tourism offers the fastest investment return (3 years) and the lowest capital costs (3 million €), but it depends on seasonality and global economic stability.

These results are particularly significant for investors, government institutions, and decision-makers in strategic development. The IT sector and tourism represent the best options for investors seeking fast capital returns, yet they are susceptible to market fluctuations. Infrastructure projects are essential for long-term economic growth, but they require government or institutional investments due to their high costs. Environmental projects contribute to sustainable development, but they depend on financial support through subsidies and tax incentives.

Further research should focus on a deeper analysis of specific factors that influence the profitability and sustainability of projects. This study provides guidelines for optimizing investment strategies, recommending a combination of short-term profitable sectors (IT, tourism) with long-term sustainable investments (infrastructure, environmental protection) to achieve a balance between economic growth and stability.

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