

Evaluating Cost Efficiency of REIT-Funded Commercial Real Estate Projects in India Using Earned Value Management

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Abstract - The emergence of Real Estate Investment Trusts (REITs) represents a significant financial mechanism in raising funds for commercial real estate projects, allowing institutional and retail investors to participate in income-producing real estate assets. Deviation in the performance indicators of the construction process such as cost and schedule overruns impacts the process of rent stabilization and ROI. EVM provides a unified approach for evaluating the performance of the project in quantitative terms by means of CPI and SPI. This research aims at examining the effectiveness of EVM in enhancing the cost efficiency of commercial real estate development projects funded by REITs by way of financial analysis and empirical analysis using DLF Cyber City, Porur, Chennai as a case study. The results indicate that the participation of REITs leads to increased transparency, stability of revenue streams, minimal developer risks, and high investor confidence, provided there is a method of performance evaluation using EVM.

Key Words: REIT, Earned Value Management, Cost Efficiency, Commercial Real Estate, Net Operating Income, Cap Rate

1. INTRODUCTION

Real Estate Investment Trusts (REITs) are investment instruments that facilitate the ability of institutional and individual investors to invest in income-producing commercial real estate without holding the properties. REITs combine capital and make investments into office parks, retail properties, and commercial real estate with connections to infrastructure producing stable rental revenue.

The implementation of REITs in India has led to a greater degree of transparency, liquidity, and institutionalism in grade-A commercial real estate developments. Nevertheless, successful execution of projects funded via REITs requires effective construction process and project stabilization time frames. Construction delay and cost overrun issues could potentially influence project cash flow.

Earned Value Management (EVM) is an effective approach for tracking project performance through a combination of cost, schedule, and scope parameters. With the help of CPI

and SPI, one can determine deviations from the plan and forecast the results of the whole project.

This paper examines the impact of EVM on cost efficiency in REIT-funded commercial real estate developments by means of a practical project case study.

2. METHODOLOGY

The methodology consists of:

- Review of REIT structure and its regulations
- Research on Earned Value Management indices
- Analysis of commercial property stabilization factors
- NOI calculation
- Valuation of capitalization rate modeling
- EVM performance analysis of an ongoing commercial development
- Analysis of investment structures between developer funding and REIT funding

Through such an organized methodology, the study will enable analysis of efficiency and sustainability of performance.

3. THE STRUCTURE AND OPERATION OF REITS

REIT is managed by a regulatory structure that involves three main bodies for governing and managing its operation.

Table -1: Components of REIT Structure

Component	Role
Sponsor	Establishes REIT and contributes assets
Manager	Handles leasing, acquisitions, operations
Trustee	Ensures regulatory compliance and investor protection

As per the regulations, at least 80 percent of the REIT's assets should be allocated to income-producing real estate and 90 percent of its cash flows should be distributed to the shareholders. These provisions ensure predictable income generation and enhance investor confidence.

4. EVM MANAGEMENT PERFORMANCE MEASUREMENT APPROACH

Earned value management is a methodology for assessing the performance of projects where both the scope and cost and schedule factors are combined to assess the project's performance and provide an estimate of the final project outcome.

The following are the three main variables that can be used to calculate the performance measures in the EVM management approach:

Planned Value (PV), Earned Value (EV), and Actual Cost (AC).

Table -2: Key EVM Indicators

Indicator	Formula	Interpretation
Cost Variance	EV – AC	Cost overrun or savings
Schedule Variance	EV – PV	Delay or advancement
CPI	EV / AC	Cost efficiency indicator
SPI	EV / PV	Schedule efficiency indicator

Values greater than one indicate efficient performance, while values below one indicate deviations.

5. ROLE OF EVM IN COMMERCIAL PROJECTS FUNDED BY REIT

It is important that construction of commercial projects funded by REIT be effectively overseen because income earning is directly associated with return on investment. Delayed constructions will definitely affect the cash flow efficiency of these ventures. The advantages of using EVM in REIT construction include effective monitoring, detection of problems, better forecasts, and coordination among all the financial and construction players.

Table -3: Contribution of EVM to the Achievement of REIT Objectives

REIT Objectives	Contribution from EVM
Scheduled completion	SPI
Cost effectiveness	CPI
Accountability of investments	Reporting
Consistency in performance	Cross project evaluation
Compliance with regulations	Documentation

In summary, EVM can be used to establish the connection between construction and performance of investments.

5. LIVE CASE STUDY

5.1 DLF CYBER CITY, PORUR, CHENNAI

The DLF Cyber City in Porur, Chennai, India, is a massive commercial office space development project spanning about 8.4 million square feet of leasable space. This project faced issues of cost overrun and time overrun due to rising material prices and prolonged construction period.



Fig -1: DLF Cyber City, Porur

This project was budgeted to be completed in a span of five years with a cost of ₹2,075 crore. The total cost incurred at the end of this project was ₹2,386 crore with delay of about fourteen months in the completion timeline. The following table shows the earned value management indicators that reflect efficiency of execution.

Table -4: EVM Performance Metrics – DLF, Porur

METRIC	VALUE
Budgeted Cost (BAC)	₹2,075 Cr
Actual Cost (AC)	₹2,386 Cr
Cost Variance (CV)	-₹311 Cr
Cost Performance Index (CPI)	0.87
Schedule Performance Index (SPI)	0.84
Estimated Cost at Completion (EAC)	₹2,386 Cr
Variance at Completion (VAC)	-₹311 Cr

The CPI less than one reflects cost inefficiency, and SPI less than one reflects schedule delay during execution.

6. ANALYSIS OF VALUATION OF REIT BASED ON NOI

With stabilization achieved, the potential for strong rental income for REIT investment was shown. The net operating income calculation was done to find the value of the asset through the participation of REITs.

Table -5: Calculation of Net Operating Income

Factor	Values
Leasable Space	8.4 million sq. ft.
Occupancy Level after Stabilization	95%
Monthly Rent	₹82/ sq. ft.
Annual Gross Rent	₹785.23 Cr
Operating Cost	₹180.60 Cr
Net Operating Income	₹604.63 Cr

7. CAPITALIZATION RATE VALUATION ANALYSIS

Capitalization rate valuation was performed to estimate stabilized asset value after REIT integration.

Table -6: Stabilized Asset Value Estimation

Cap Rate	Asset Value (₹ Cr)	Debt (60%)	NDCF (₹ Cr)
7%	8,637	5,182	139
8%	7,557	4,534	194

The results indicate improved refinancing capability and long-term financial sustainability under REIT participation.

8. COMPARISON: NON-REIT VS REIT MODEL

A comparison between developer-funded and REIT-funded investment structures highlights the advantages of institutional financing mechanisms.

Table -7: Financial Performance Comparison

Parameter	Developer Model	REIT Model
Debt Load	High	Reduced
Cash Flow Stability	Irregular	Stable
Investor Returns	Market dependent	Yield-based
Transparency	Moderate	High
Risk Exposure	High	Lower

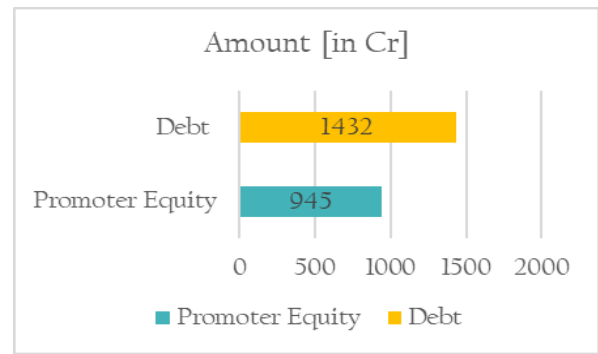


Fig -2: Capital Structure [Before REIT]

The REIT model improves capital efficiency and reduces long-term financial risk exposure.

9. FINDINGS

According to the findings, REIT involvement contributes positively to enhancing the reliability of earnings and financial information within CRE projects. With the adoption of Earned Value Management, any issues related to cost overruns and delays can be detected in advance. Additionally, the Net Operating Income model affirms that stabilized CRE properties have steady cash flows, which qualify them for a REIT portfolio.

10. CONCLUSION

The adoption of the Earned Value Management system in the development of commercial real estate projects using the funds from the REIT makes it an ideal approach to improve the efficiency of cost management and project execution control. Although the involvement of REITs brings improved liquidity and transparency and increases investor interest, the use of EVM in assessing construction project performance is strengthened by the use of objective measures like CPI and SPI.

11. RECOMMENDATIONS

The incorporation of REITs should only occur during later construction phases in order to reduce risk and ensure that the property can be valued at a higher level. Regular tracking using CPI and SPI measurements should be used during execution stages for better forecasting. Valuation through NOI measurements should be done before the decision is made to incorporate REITs.

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