

Cost Benefit Analysis Feasibility Study for Opening a Mall

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Abstract

This report evaluates the financial and social feasibility of opening a new Asian Mall in Wah Cantt, Pakistan, through a comprehensive Cost-Benefit Analysis (CBA). The analysis explores initial capital investments, operational costs, potential revenue streams, and intangible benefits, presenting detailed metrics like Net Present Value (NPV) and Benefit-Cost Ratio (BCR). Using a structured methodology and sensitivity analysis, the study provides actionable insights and policy recommendations to support informed decision-making. The findings highlight that the project offers a strong financial return, with an NPV of PKR 178,650,000 and a BCR of 3.90, alongside significant community and economic benefits. This report also emphasizes how intangible benefits, such as job creation and enhanced market presence, align with long-term strategic goals.

1. Introduction

In recent years, Wah Cantt has emerged as a growing urban center with increasing demand for organized retail spaces. Situated near Islamabad, this city's strategic location and burgeoning population make it a prime candidate for business expansion. The city's demographic trends, including a rising middle-class population and improved infrastructure connectivity, further amplify its attractiveness for commercial ventures. Wah Cantt also benefits from proximity to major highways, facilitating supply chain logistics and customer accessibility.

The objective of this report is to determine whether the project's financial and social returns justify the required investment. By employing a structured CBA approach, this report will quantify tangible costs and benefits, examine non-financial advantages, and evaluate risk factors to provide a comprehensive perspective. Additionally, the study considers the potential socio-economic impact on the local community, including job creation and improved consumer access to goods. The analysis aims to provide both quantitative and qualitative evidence to support strategic decision-making.

2. Background and Objectives

Retail expansion is a critical component of strategic business growth. For the proposed Asian Mall, the key drivers include proximity to a growing urban population, an underserved retail market, and increasing disposable incomes in the region. Wah Cantt's central location ensures accessibility for customers and supply chains, further bolstering its viability. The area has also witnessed a rise in

consumer demand for organized retail spaces, driven by changing shopping habits and preferences for convenience and variety.

The project also aligns with broader economic trends, including urbanization and increased purchasing power among Pakistan's middle class. As retail becomes a cornerstone of urban economic development, the establishment of the Asian Mall represents an opportunity to tap into this growth trajectory while addressing gaps in local retail infrastructure.

The primary objectives of this report are:

1. **Quantifying Project Feasibility:** To identify and quantify all project-related costs and benefits, ensuring a detailed understanding of financial requirements and expected returns.
2. **Financial Metrics Assessment:** To calculate key financial indicators, including NPV and BCR, to assess economic feasibility and project profitability.
3. **Risk Evaluation:** To conduct sensitivity analyses to evaluate the impact of uncertainties on the project's outcomes, such as fluctuations in revenue or cost overruns.
4. **Strategic Recommendations:** To recommend actionable steps for project implementation and risk management, ensuring alignment with long-term strategic goals.

3. Methodology

The methodology for this CBA is modeled on internationally recognized frameworks, ensuring a robust and replicable approach. The steps include:

1. **Identifying Costs and Benefits:** Both tangible and intangible factors are considered, covering financial expenditures, community impacts, and potential risks. This includes reviewing market conditions and consumer preferences specific to Wah Cantt.
2. **Quantifying Costs and Benefits:** All elements are expressed in monetary terms, where applicable, using market research, expert estimates, and industry benchmarks. For intangible benefits, qualitative assessments are supplemented with proxy financial valuations where possible. These estimates are based on reliable data sources and adjusted for local market conditions.
3. **Discounting Future Values:** A discount rate of 8% is applied to account for the time value of money and local economic conditions, reflecting industry norms and the opportunity cost of capital. This ensures comparability across different time periods.
4. **Sensitivity Analysis:** Key variables, such as capital costs, revenue growth rates, and operating expenses, are tested to understand their influence on financial outcomes. Monte Carlo simulations are used to model uncertainty and generate a range of possible outcomes, providing a nuanced understanding of potential risks and rewards.
5. **Comparative Analysis:** Results are benchmarked against industry standards and similar projects to validate the project's potential and competitiveness. This includes comparing financial metrics with those of comparable malls in similar markets.

4. Costs and Benefits Analysis

4.1 Costs

Costs are categorized into initial capital expenditures and recurring operational expenses. Each component is discussed in detail below:

Initial Capital Costs

The initial capital costs for subject project were analyzed in detail. Table 1 summarizes the initial capital investment required for the project:

Table 1: Initial capital costs

Category	Details	Cost (PKR)
Real Estate (5-Year Lease)	Lease for 2,500 sq. ft. in Wah Cantt	15,000,000
Renovations and Setup	Shelving, lighting, signage	5,000,000
Equipment	POS systems, security, IT infrastructure	2,000,000
Initial Inventory	Stock for three months	10,000,000
Marketing Campaign	Grand opening and advertisements	1,500,000
Total Initial Costs		33,500,000

The largest portion of the capital costs is allocated to real estate, reflecting the importance of securing a prime location in a high-traffic area. Renovation and setup costs include infrastructure installations critical to operational efficiency, such as shelving and point-of-sale systems. Marketing expenses are strategically directed toward creating awareness and driving footfall during the mall's initial phase.

Operating Costs

Operating costs include recurring expenditures necessary to sustain daily operations. These are outlined in Table 2.

Table 2: Total Operating Costs

Category	Annual Cost (PKR)	5-Year Total (PKR)
Rent	3,000,000	15,000,000
Salaries and Benefits	3,000,000	15,000,000
Utilities and Maintenance	600,000	3,000,000
Inventory Restocking	8,000,000	40,000,000
Marketing	1,500,000	7,500,000
Total Operating Costs		80,500,000

Rent constitutes a significant recurring cost, reflecting the premium for commercial spaces in the area. Salaries and benefits are projected based on industry standards for retail staffing, ensuring a motivated and efficient workforce. Inventory restocking costs are calculated to maintain optimal stock levels, minimizing disruptions in product availability. Utilities and maintenance expenses ensure a seamless shopping experience for customers.

Table 3: Overview of all Costs

Category	Details	Total Cost (PKR)
Initial Capital Costs	Lease, renovations, inventory, marketing	33,500,000
Operating Costs (5 yrs)	Rent, salaries, utilities, restocking, marketing	80,500,000
Opportunity Costs	Foregone ROI on alternative investments (10% ROI)	16,750,000
Indirect Costs	Supply chain disruptions, environmental impact	3,000,000
Total Costs		133,750,000

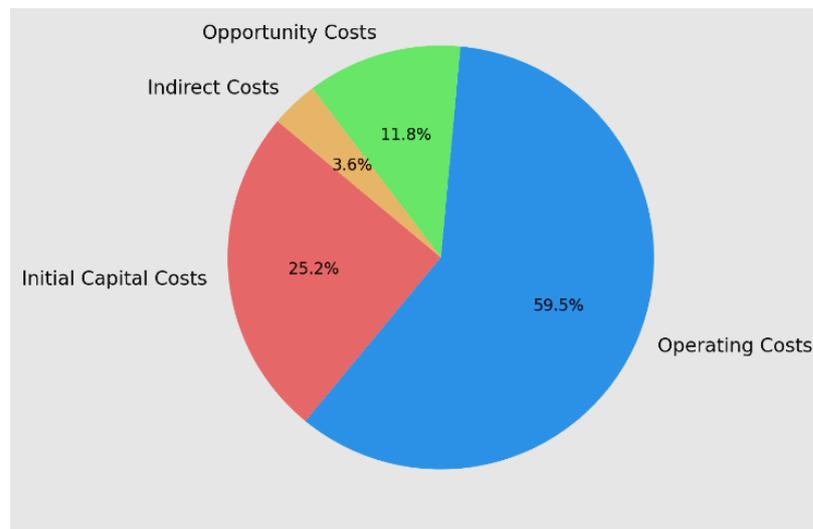


Figure 1: Cost Breakdown of Asian Mall Project

4.2 Benefits

4.2.1 Revenue Generation

The primary financial benefit of the project is revenue from sales. Based on market research, annual sales are projected to grow at a 10% annual rate, starting from PKR 25,000,000 in the first year and reaching approximately PKR 37,800,000 by the fifth year. Cumulative revenue over five years is estimated at PKR 140,900,000. These estimates are supported by a thorough analysis of market demand and consumer spending patterns in the region.

Table 4: Overview of benefits

Category	Details
Revenue Generation	Sales revenue over five years
Cost Savings	Economies of scale, operational efficiencies
Intangible Benefits	Brand recognition, market share growth, job creation

4.2.2 Cost Savings

The project is expected to generate operational efficiencies and economies of scale. For example, bulk purchasing agreements with suppliers can reduce inventory procurement costs by 5%, translating to a total saving of PKR 15,000,000 over five years. Additionally, streamlined logistics and technological integration contribute to long-term cost reductions. These savings enhance the overall financial viability of the project.

4.2.3 Intangible Benefits

Intangible benefits include enhanced brand recognition, improved customer satisfaction, and increased market share. These factors contribute to the mall's competitive positioning, fostering customer loyalty and repeat business. Furthermore, the project is anticipated to create 20 direct jobs and numerous indirect employment opportunities, bolstering the local economy. Enhanced consumer access to a diverse range of products will improve living standards and convenience. Additionally, the mall is expected to contribute to urban development by attracting ancillary businesses and services to the area.

5. Financial Analysis

5.1 Net Present Value (NPV)

NPV is calculated as the difference between the total discounted benefits and total discounted costs over five years. Using a discount rate of 8%, the results are as follows:

- **Discounted Costs:** PKR 61,550,000
- **Discounted Benefits:** PKR 240,200,000
- **NPV:** PKR 178,650,000

The positive NPV reflects the project's strong financial viability, indicating that the benefits significantly outweigh the costs. This robust margin underscores the project's potential for delivering substantial economic returns. The high NPV demonstrates the project's ability to generate value even under conservative assumptions.

5.2 Benefit-Cost Ratio (BCR)

BCR is calculated by dividing total discounted benefits by total discounted costs: A BCR greater than 1 confirms the project's economic merit, indicating a return of PKR 3.90 for every PKR 1 invested. This ratio highlights the efficiency and profitability of the proposed investment. Furthermore, the high BCR underscores the project's alignment with investor expectations and community benefits.

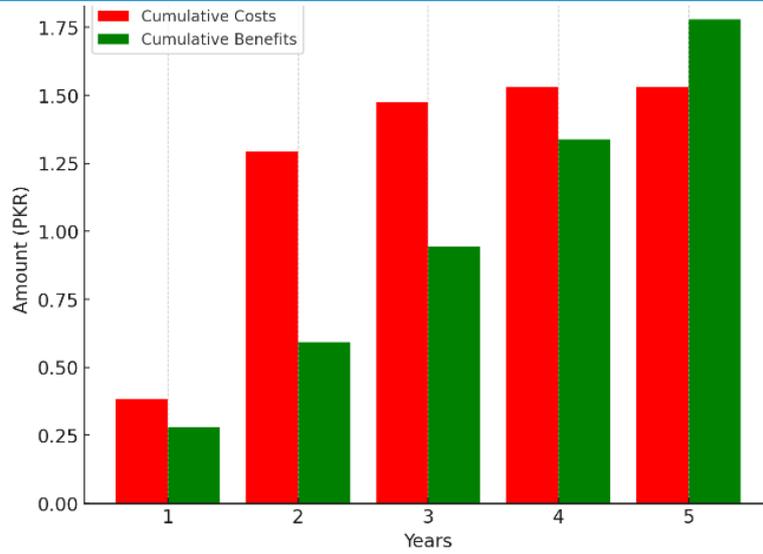


Figure 2: Cumulative Cost Vs Benefits Over 5 Years

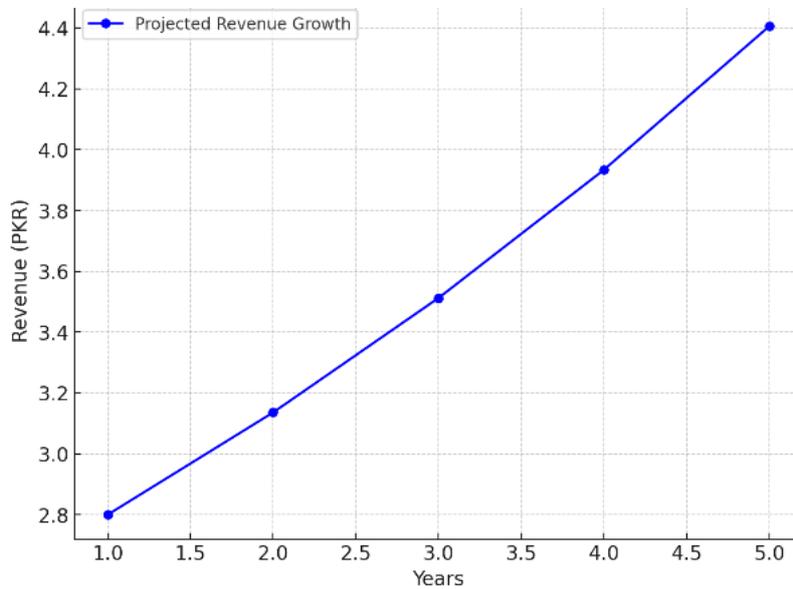


Figure 3: Projected Revenue Growth Over 5 Years

6. Sensitivity Analysis

Sensitivity analysis evaluates the impact of variations in key parameters on project outcomes. Three scenarios were analyzed:

- **Best Case:** Higher-than-expected revenues and lower costs yield an NPV of PKR 220,000,000 and a BCR of 4.50.
- **Worst Case:** Increased costs and reduced revenue lower the NPV to PKR 140,000,000, with a BCR of 2.90.
- **Most Likely Case:** Moderate assumptions yield an NPV of PKR 178,650,000 and a BCR of 3.90.

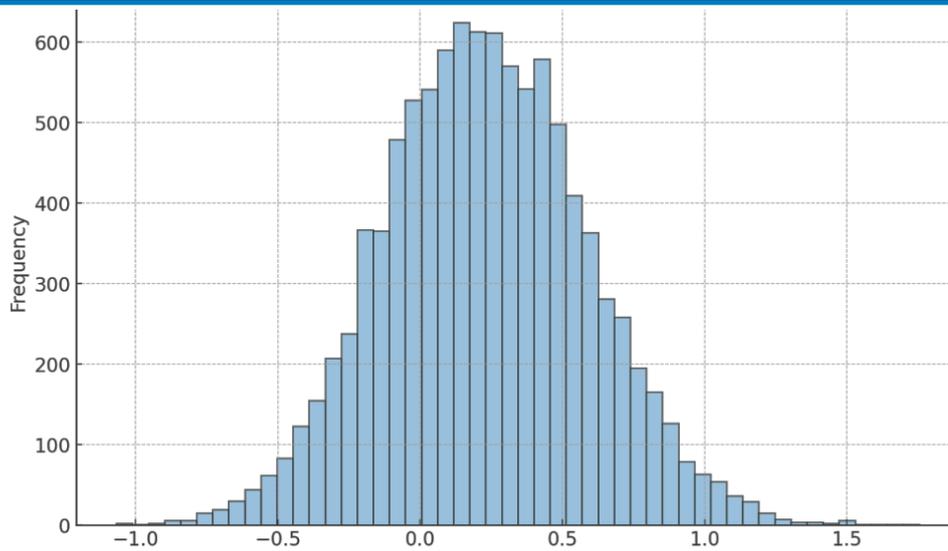


Figure 4: Monte Carlo simulation: NPV distribution for Asian mall

These results demonstrate the project's resilience under varying conditions. External factors, such as economic downturns or shifts in consumer behavior, were also considered in the analysis, ensuring a comprehensive risk assessment. The sensitivity analysis emphasizes the importance of proactive risk management to mitigate potential challenges.

7. Conclusion

This analysis confirms the feasibility of establishing a new Asian Mall in Wah Cantt. The project's strong financial metrics, including an NPV of PKR 178,650,000 and a BCR of 3.90, underline its potential for profitability. Intangible benefits, such as community impact and market share growth, further enhance its attractiveness. The findings support the conclusion that the project is a sound investment, aligning with both financial and strategic goals. Moreover, the project is positioned to contribute significantly to local economic development and consumer satisfaction.

8. Recommendations

1. Proceed with the project while closely monitoring key performance indicators to ensure alignment with projections.
2. Implement a robust marketing strategy to maximize early adoption and build customer loyalty. A focus on digital channels and local outreach programs can amplify impact.
3. Develop contingency plans to address potential risks, such as cost overruns or supply chain disruptions, ensuring resilience under adverse conditions.
4. Leverage local partnerships to enhance operational efficiency and strengthen community engagement. Partnering with local suppliers and contractors can reduce costs and promote economic inclusivity.
5. Establish a feedback mechanism to continuously gather insights from customers and staff, enabling iterative improvements to operations and service quality.
6. Explore opportunities for expansion by identifying adjacent markets and underserved customer segments, ensuring sustainable long-term growth.

References

1. Financial and Risk Analysis in Engineering Projects.
2. KPMG Pakistan. Pakistan Bureau of Statistics. (2024).
3. Economic Survey of Pakistan 2023-24. Islamabad: Government of Pakistan.
4. PMBOK Guide (7th Edition). Newtown Square, PA: PMI.
5. Federal Board of Revenue (FBR). (2024). Taxation and Project Finance Guidelines for Engineering Firms. Islamabad: Government of Pakistan.
6. Pakistan Retail Business Association. (2023). Retail Industry Growth Report. Karachi: PRBA.
7. State Bank of Pakistan. (2024). Economic Trends in the Retail Sector. Islamabad: SBP.
8. World Bank. (2023). Sustainable Development and Retail Growth Strategies. Washington, DC: World Bank.