

# Building resilience:

Advancing financial feasibility modeling for the Middle East's infrastructure future



Infrastructure investment remains central to the Middle East's policy agenda, even as the region faces a complex and changing environment. Driven by growing populations, shifting economic priorities, sustainability commitments, and rapid technological innovation, infrastructure projects continue to play a vital role in regional development. As projects grow in scale and complexity, financial feasibility modeling must evolve beyond static forecasts to embrace flexibility, transparency, and resilience.

### The changing Middle East infrastructure landscape

The region's strategic initiatives such as Saudi Vision 2030 and the UAE's Net Zero by 2050 commitment underscore a transformative agenda prioritizing economic diversification, climate resilience, and social impact. Infrastructure investment remains a cornerstone of this agenda, but the focus is shifting towards projects that integrate digital transformation, sustainability, and social value—reflecting a new era of strategic infrastructure planning.

### Challenges in financial feasibility modeling

Infrastructure projects in the Middle East face a complex risk environment characterized by geopolitical considerations, fluctuating commodity prices, evolving regulatory frameworks, and rapid technological disruption. Regulatory reforms in public-private partnerships (PPP) and infrastructure financing, such as Saudi Arabia's National Centre for Privatization & PPP, are introducing new governance frameworks demanding greater rigor and transparency.

## As projects grow in scale and complexity, financial feasibility modeling must evolve beyond static forecasts to embrace flexibility, transparency, and resilience

Additionally, assessing the suitability and impact of various funding and financing options adds significant complexity.

Projects often face a range of financing structures with differing cost of capital, risk profiles, and repayment terms. Moreover, project-on-project considerations, including interdependencies, portfolio risk diversification, and capital allocation priorities, require integrated modeling approaches that can capture these nuances. Accurately reflecting these complexities is essential to provide stakeholders with a realistic view of project viability and optimize financing strategies.

A key challenge is managing uncertainty. Advanced financial feasibility models embed scenario planning and stress testing to simulate a range of possible futures, enabling stakeholders to understand potential impacts and develop robust mitigation strategies. This approach supports more resilient decision-making and helps safeguard project viability under diverse conditions.

Moreover, infrastructure projects frequently revisit and revise their financial forecasts as they progress. According to Deloitte's GCC Powers of Construction 2024 report, approximately 60% of large infrastructure projects in the region experience schedule delays or cost overruns during execution, reflecting the dynamic nature of project environments. This underscores the need for flexible, driver-based models that can be updated efficiently to reflect new information, changing assumptions, and emerging risks.



### Evolving modeling techniques to manage uncertainty by enhancing flexibility

Financial feasibility modeling techniques are evolving to better manage uncertainty by becoming more flexible and adaptive to the complexities of Middle East infrastructure projects. Traditional static models are being replaced with dynamic approaches that allow stakeholders to respond swiftly to changing conditions and emerging risks. Key advancements include:

- **Driver-based modeling:** Breaking down projects into core value drivers such as capacity, utilization, and tariff rates creates flexible models that can be quickly updated as assumptions evolve. This enables real-time scenario analysis and clearer communication with stakeholders.
- **Scenario planning and stress testing:** Incorporating multiple scenarios and stress tests helps capture a broad spectrum of potential outcomes. This approach allows project teams to assess resilience against uncertainties like oil price fluctuations, geopolitical developments, and supply chain challenges, supporting proactive risk management.
- **Modeling schedule risk and delays:** Delays in project schedules can have a disproportionately large impact on return metrics such as internal rate of return (IRR) and net present value (NPV).
- **Automation and data integration:** Automated Extract, Transform, Load (ETL) workflows and real-time dashboards improve model accuracy and agility. Emerging technologies such as artificial intelligence (AI) and machine learning (ML) further enhance data quality and predictive power, enabling more responsive decision-making.

In practice, schedule slippage often reduces returns more significantly than equivalent adverse movements in key financial drivers like tariffs or cost inflation. More advanced financial models increasingly incorporate schedule risk analysis and are able to reforecast cash flow projections to quantify these impacts, enabling more accurate and actionable insights.

- **Collaborative development:** Emphasizing cross-disciplinary collaboration ensures that financial assumptions reflect operational realities and strategic goals. This collective approach strengthens model robustness and fosters alignment across finance, operations, and sustainability teams.



### Data and governance imperatives

Data challenges persist, particularly in integrating diverse datasets from emerging technology platforms and sustainability metrics. Effective governance of assumptions and transparent communication remain critical to building confidence among investors, developers, and regulators.

Governance and transparency require clear articulation of assumptions, risks, and expected outcomes to ensure value for money and alignment with ESG objectives. Regional governments are increasingly emphasizing these principles, as seen in the Gulf Cooperation Council (GCC)'s efforts to harmonize infrastructure governance frameworks across member states.

Importantly, advanced financial modelling that enhances transparency and accountability can significantly improve the attractiveness of infrastructure projects to foreign investors. International capital providers often seek robust, transparent evidence of risk management and value creation before committing funds. By demonstrating resilience and clarity through sophisticated modeling techniques, projects can potentially access a broader range of financing sources, supporting the region's infrastructure ambitions.

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As the Middle East pursues infrastructure that is not only expansive but also sustainable and technologically advanced, financial feasibility modeling must be agile, comprehensive, and forward-looking. Embracing these capabilities is vital to unlocking and articulating value, supporting the success of the region's transformative agenda. 

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