

Management Topic 04 :

What are the potential **scenarios** for the future of the Architecture, Design, and Engineering sector, and what **proactive measures** should firms take to prepare for them?

PhD Candidate: Chirag Gujarati

Supervisors Prof George Shinkle
Dr Nicole Gardner

project title

Navigating Uncertainty: Enhancing Future Preparedness in the AEC Sector



PROBLEM

The Architecture, Engineering, and Construction (AEC) sector is currently facing increasing volatility driven by rapid technological advancements, fluctuating market conditions, and a global push for sustainability. Traditionally, AEC sector firms/ executives have emphasised long-term planning in their design decisions to ensure that infrastructure remains functional and adaptable over time. However, this future-oriented mindset has not fully permeated into their business strategies. In this era characterised by rapid change, AEC Sector firms will increase their success probability by cultivating strategic foresight and forward-looking initiatives to proactively manage uncertainty and seize emerging opportunities.

PROGRESS

A comprehensive literature review has highlighted key factors influencing strategic foresight, including organisational culture, leadership, and technology adoption. Furthermore, existing studies have primarily focused on individual aspects of strategic foresight and dynamic capabilities, highlighting the need for a more holistic approach that considers the interplay between these elements and the role of AI in facilitating organisational adaptability. Theoretical frameworks such as Dynamic Capabilities Theory and Organisational Information Processing Theory have been identified to explore how firms in AEC sector can enhance their future-oriented decision-making processes.

GAP

Despite the acknowledged importance of scenario planning in addressing future uncertainties, there is a notable lack of research on how the AEC sector can effectively integrate scenario planning as a tool within their business strategies. While scenario planning is extensively studied in strategic management, its utilisation in navigating organisational uncertainties within the AEC sector remains underdeveloped. Moreover, research on the role of AI in augmenting foresight and scenario generation in firms in AEC sector is limited. This research seeks to fill these knowledge gaps by examining how AEC firms can improve future preparedness through strategic foresight, scenario planning, and the integration of AI, contributing to the broader discourse on organisational agility and future preparedness.

FUTURE

- The research plan consists of several key activities and timelines that will allow us to engage with partners organisations, gather data, and develop a comprehensive understanding of strategic foresight and scenario planning in the AEC sector.
- Formalising research design and securing ethics approval.
 - Partner engagement and insights through interviews on perspectives on design scenarios and business scenarios.
 - Collaborative scenario development workshops with partner organisations and explore integration of AI into the business scenario planning process.
 - Individual partner workshops to develop initiatives and action plans to navigate future scenarios and enhance future preparedness.