

# THE EFFECTIVENESS OF BUILDING INFORMATION MODELLING (BIM) ON PROJECT MANAGEMENT IN THE UK CONSTRUCTION INDUSTRY

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## AIM

To Evaluate the impact of BIM on project management performance, focusing on time, cost, quality and communication, collaboration.

## OBJECTIVES

- Assess BIM's impact on time, cost and quality.
- Evaluate Stakeholders collaboration and communication.
- Identify SME specific adoption barriers.
- Investigate BIM's role in risk reduction and sustainability

## RESEARCH QUESTIONS

1. How does BIM improve project time, cost, quality, and collaboration?
2. Which project management metrics benefit most from BIM?
3. What are the key barriers to BIM adoption in SMEs?
4. How can BIM support risk management and sustainability?

## METHODOLOGY

Approach: Mixed Methods (Quantitative + Qualitative)

Tools:

Survey (40–50 professionals): Closed-ended questions.

Interviews (12–15 professionals): Semi-structured.

Analysis:

Quantitative: Descriptive & inferential stats (t-test, ANOVA).

Qualitative: Thematic analysis using NVivo  
Triangulation for data validity.

## TIMELINE OVERVIEW

Weeks 1–2: Ethics & pilot design

Weeks 3–5: Data collection

Weeks 6–7: Data analysis

Weeks 8–10: Writing, integration, review

## LITERATURE INSIGHTS

Benefits: Enhanced coordination, 5–7% cost/time savings, improved quality through clash detection.

SME Challenges: Financial constraints, lack of training, tech complexity.

Underused Potential: Sustainability modelling, digital twins, risk forecasting.

## EXPECTED OUTCOMES

- Evidence of BIM enhancing efficiency (esp. cost, time, quality).
- Insights into real-world SME challenges.
- Practical strategies to boost BIM adoption.
- Clarification of BIM's contribution to risk mitigation and sustainability.

## CONCLUSION

BIM has clear potential to transform UK construction project management, especially when SMEs are empowered through training, support, and targeted policies. This study delivers critical, evidence-based guidance for industry-wide digital advancement.