

Cost of Delays Due to Inclement Weather in the UK Construction Industry

Introduction:

- Construction projects in the UK are increasingly vulnerable to weather-related delays, affecting productivity and project costs.
- This study investigates the financial implications of inclement weather and explores practical mitigation strategies to reduce these costs and maintain project timelines.

Daniel Griffiths
ACBA5024
Research Proposal Presentation

Conclusion:

- The findings will provide practical insights into minimizing financial and operational disruptions caused by inclement weather in UK construction.
- Implementation of effective mitigation strategies can enhance project resilience, reduce financial losses, and improve overall project performance.

Aims & Objectives:

- To analyse the financial impact that inclement weather has on the UK construction industry.
- To evaluate the existing mitigation measures that are currently in place, in the UK construction industry.
- To assess the role that technology and automation can play in reducing delays due to inclement weather.
- To find and propose innovative approaches to reduce the costs associated with inclement weather in the UK construction industry.

Expected Outcomes:

- Detailed cost analysis of weather delays.
- Mitigation strategies: forecasting tools, flexible scheduling, protective measures.
- Recommendations for integrating weather data with project management tools.

Literature Review:

- Aggreko (2024) reports that 70% of UK construction managers experienced significant weather-related delays, primarily due to heavy rain and wind.
- Burns (2024) emphasizes the importance of region-specific weather analysis, as Northern UK faces more severe winter conditions.
- Met Office (2025) provides detailed downtime data that can be used to quantify weather-related delays, aiding in compensation claims under NEC and JCT contracts.
- Pablo Ballesteros-Pérez (2018) suggests that temporary shelters and weather-resistant materials can significantly reduce project downtime.

Research Design & Methodology:

- Mixed methods approach:
 - Quantitative: Surveys targeting 100 UK construction professionals, analysing frequency and cost of weather delays, current mitigation measures, and perceived effectiveness.
 - Qualitative: Semi-structured interviews with 15-25 key stakeholders, including project managers, site supervisors, and construction directors to gather in-depth insights.
- Case Studies: Analysis of three ongoing or recently completed projects affected by severe weather, examining financial impacts and mitigation strategies employed.

Data Collection & Analysis:

- Quantitative data: Descriptive statistics, correlation analysis, and cost-benefit analysis using SPSS.
- Qualitative data: Thematic analysis to identify key themes and strategies from interview transcripts and case study reports.
- Integration of weather data: Comparison of Met Office reports with project delays to assess accuracy and predictive value.

What role can technology improvements play in reducing the impact of inclement weather on the UK construction industry's budgets and schedules.

What financial implications has inclement weather had on construction projects?

Currently how well is the UK construction industry managing inclement weather delays?

What alternative construction methods can be used to mitigate inclement weather-related delay and the costs associated with these methods?

TIMELINE

Months 1-2: Literature review, survey design

Months 3-4: Data collection.

Months 5-6: Data analysis.

Month 7: Draft proposal.

Month 8: Review and submission

Bibliography

Aggreko. (2024). *Building in resilience - Weather proofing European construction in a changing climate*. N/a: Aggreko.

Burns, J. (2024, December 13). *Winter weather and the impact on UK construction projects*. Retrieved from cornerstoneprojects.co.uk: <https://www.cornerstoneprojects.co.uk/blog/winter-weather-and-the-impact-on-uk-construction-projects/>

Pablo Ballesteros-Pérez, S. T.-P. (2018). Incorporating the effect of weather in construction scheduling and management with sine wave curves: application in the United Kingdom . *Construction Management and Economics*, 4.