

An exploration of the impact of poor maintenance in commercial buildings and the risk during property acquisition

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Abstract

The fundamental purpose of this research study is to examine the impact of poor maintenance in commercial buildings and the exponential risk during property acquisition. By leveraging innovative solutions, implementing proactive maintenance strategies, and fostering stakeholder collaboration, property stakeholders can navigate the complexities of maintenance challenges, ensure long-term sustainability, and reduce the risk when acquiring commercial real estate assets in Australia's dynamic market landscape. The research findings indicate that the Australian property market is not immune to similar globally experienced exponential risks when commercial buildings are exchanged or acquired, and a research gap remains to be addressed. Further research is required to evaluate the effect of maintenance deficiencies on property valuation as the research should involve exploring the role of emerging technologies such as maintenance systems, building automation and BIM, and how these emerging technologies mitigate risks during property acquisition as this area represents a promising field for future research in the commercial real estate market. The discussion regarding the identification of poor maintenance during the property acquisition phase highlights the repercussion risks, including decreased property value, increased due diligence costs, elevated transactional risks, tenant dissatisfaction, and long-term operational financial implications.

Keywords: Asset Management, Lifecycle Assessment, Maintenance Management

1. INTRODUCTION

The importance of maintaining public buildings cannot be overstated. Neglecting this crucial aspect diminishes their value and escalates the cost of addressing untreated maintenance issues. This includes allocating larger budgets for emergency repairs and compensating for the lack of proper provision and delivery of public services (Matse et

al., 2022). Conversely, a debate could be said that the exponential rise in property acquisition risks is limited to poor maintenance practices during the property's operation and encompasses other challenges, such as product selection, original artistry, generalised construction specifications or insufficient quality assessment during hand-over. Failing to address these issues results in financial losses, delays, and even the cancellation of acquisition activities. Effective mitigation strategies encompass comprehensive technical due diligence reporting, seeking expert advice, and ensuring strict compliance with regulations to support a sound acquisition strategy (Ward, 2024). This is essential to mitigate and minimise risks associated with asset defects and faults during the acquisition phase of a commercial property.

Considering the case of commercial buildings in Australia, it has been observed that poor maintenance can lead to increased asset replacement costs, shorter asset lifecycle and significantly increased risk of building malfunction and rent abatements. Statistics suggest that building defects often cost around 4% of the total construction cost. A leading cause of these defects is poor workmanship, with incomplete work being a common issue (Sandanayake et al., 2021). Adopting modern and emerging technology to manage individual asset maintenance strategies and developing a systematic approach to enhancing the quality control process is critical to address these challenges. This paper, therefore, aims to explore the impact of poor maintenance on commercial buildings and the exponential risk during property acquisition.

1.1. Literature Review

In Australia's dynamic commercial real estate landscape, the maintenance of commercial buildings, poor maintenance continues to impact the sector by posing multifaceted challenges for property owners, investors, and industry stakeholders. The implications of neglecting maintenance extend beyond aesthetic concerns, encompassing structural integrity, tenant satisfaction, and financial performance. Failing to conduct thorough due diligence and assess the maintenance status of prospective acquisitions can lead to unforeseen risks and liabilities that jeopardise investment returns and erode asset value (Ullah and Sepasgozar, 2020).

Jarvis (2015) found that poor maintenance directly affects property acquisition in Australia, influencing investment decisions, transactional outcomes, and long-term asset performance. When evaluating potential acquisitions, investors and developers carefully consider the maintenance status of commercial properties. Not paying attention can lead to unforeseen risks and financial implications (Jarvis, 2015). Supporting this argument, Ziersch et al. (2018) said that property valuation is the primary impact of poor maintenance on property acquisition. Maintenance deficiencies such as structural deterioration, outdated infrastructure, and neglect of essential systems can diminish the perceived value of a commercial property. This can also complicate negotiations between buyers and sellers because discrepancies in perceived value may arise based on differing assessments of maintenance needs. Consequently, attracting buyers willing to pay the desired price may be difficult when a property has poor maintenance records, leading to prolonged listing periods and potential price reductions

(Ziersch et al., 2018).

Similarly, Webb and Webber (2017) pointed out how the impact of poor maintenance on property acquisition extends beyond financial considerations and encompasses broader risks and liabilities. Acquiring a property with unresolved maintenance issues exposes buyers to legal and regulatory risks, as they may inherit liabilities related to noncompliance with building codes, safety regulations, and environmental standards. Furthermore, poor maintenance can undermine a property's overall appeal and marketability while diminishing its competitive advantage and potential for generating rental income. Consequently, investors and developers must weigh the risks and rewards of acquiring properties with known maintenance deficiencies by balancing short-term cost savings with long-term asset performance and value preservation (Webb and Webber, 2017). Unresolved maintenance issues expose buyers to risks and liabilities, including unexpected repair costs, operational disruptions, and legal or regulatory compliance issues. These risks can undermine the financial viability and success of the acquisition and highlight the importance of proactive maintenance management in commercial property transactions (Webb and Webber, 2017; Nguyen and Macchion, 2023; Tularam and Attili, 2012).

This literature review focuses on commercial building maintenance in Australia. The research assignment required cataloguing and identifying fundamental corresponding themes related to property acquisition risk, poor maintenance, and this impact during the acquisition phase of commercial buildings. A thematic analysis was developed, which resulted in four overarching themes being identified throughout this process.

Theme 1: Maintenance Challenges and Complexity—Commercial buildings are often affected by the wear and tear of ageing infrastructure, exemplified by heritage buildings and older office complexes (Sandanayake et al., 2022). Preserving historical significance adds complexity while demanding innovative solutions to maintain structural integrity and honour the building's heritage. Furthermore, the Australian Commercial Real Estate market is shifting its usage patterns driven by changing tenant preferences and technological advancements (Nguyen et al., 2013). The emergence of coworking spaces and collaborative environments necessitates flexible maintenance strategies that adapt to evolving needs while integrating sustainability measures and advanced technologies to enhance occupant experience.

Theme 2: Transactional Financial Implications of Poor Maintenance - The consequences of poor maintenance extend beyond financial implications to impact transactional processes. Discrepancies in perceived property values, post-acquisition shocks, and increased due diligence costs can impede transaction negotiations (Jarvis, 2015). This increases the listing period and deters potential buyers, leading to adverse transactional outcomes and decreased investor confidence. Poor maintenance practices significantly diminish the perceived value of commercial properties (Ziersch et al., 2018). Structural deterioration, outdated infrastructure, and unresolved maintenance

issues undermine property valuations, leading to prolonged listing periods, reduced buyer interest, and diminished property values. An article published by Safetyline Jalousie (2022) highlighted that non-compliance is a significant issue in the Australian building sector and impacts property values.

Theme 3: Due Diligence and Risk Management - Thorough due diligence is paramount to uncover hidden deficiencies (Islam et al., 2021). Advanced inspection techniques and expert and comprehensive risk assessments are essential in identifying potential maintenance issues and mitigating post-acquisition risks.

Theme 4: Effective Maintenance Strategies - Preventive maintenance programs are crucial for proactively addressing maintenance issues before they escalate (Nguyen and Macchion, 2023). Regular inspections, predictive maintenance techniques, and proactive maintenance planning are integral to developing effective preventive maintenance strategies. Implementing timely remedial actions is essential for addressing maintenance issues and restoring property value. Structural repairs, system upgrades, and cosmetic enhancements tailored to specific maintenance concerns can improve asset conditions and mitigate the risks associated with deferred maintenance (Tularam and Attili, 2012).

1.2. Research Methodology

This research assignment used a detailed secondary literature review covering more than one hundred published relevant journals, publications, and industry reports to cover various aspects of contemporary building maintenance techniques comprehensively. Our review used reliable academic databases such as Scopus, Web of Science, Jstor, and Google Scholar. Search terms used were “building maintenance strategies”, “commercial building maintenance,” maintenance risk”, “poor maintenance”, and “property acquisition risk”. An emphasis was placed on peer-reviewed journals and publications found in Taylor and Francis, Sage, Emerald, Frontiers, Springer, Direct Science, etc., with additional scrutiny focused on recent publications and those published in English as a primary data pool of approximately thirty relevant peer-reviewed publications were consolidated to form the final research literature pool. Figure 1 graphically represents the process adopted to screen, analyse and review the different literature publications utilised in achieving this research assignment outcomes.

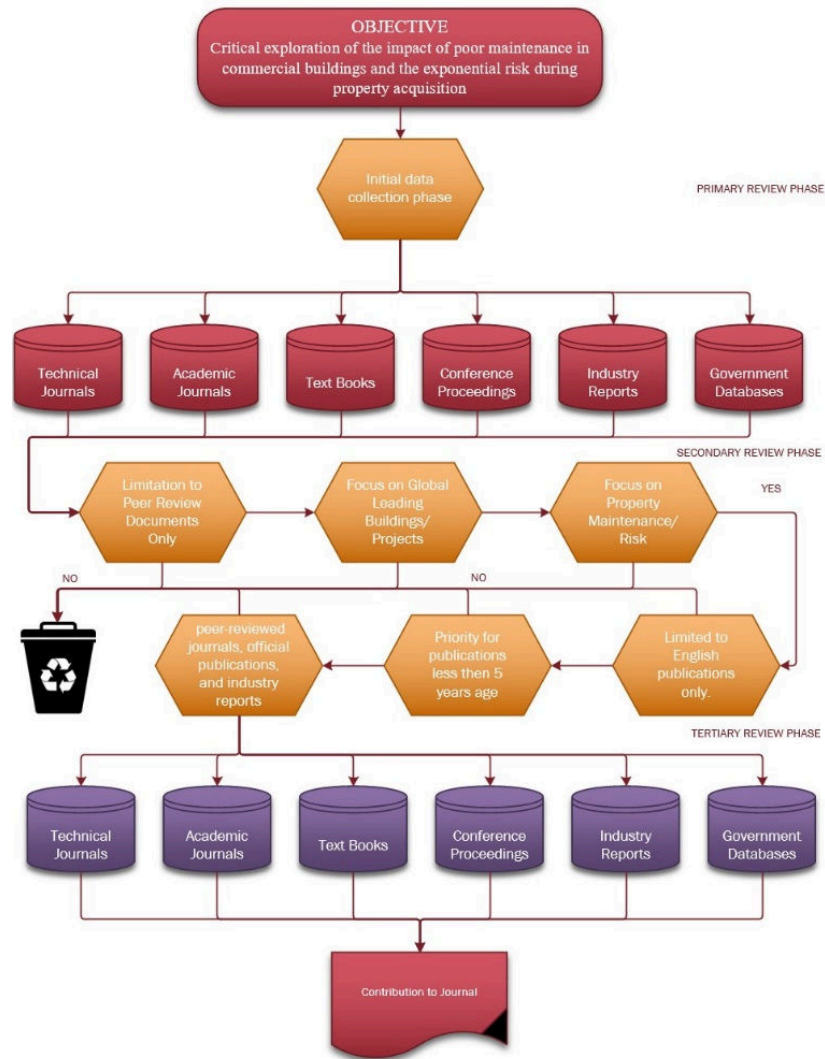


Figure 1 – Flexogram of Research Methodology

1.3. Summary and Research Gap

Despite a comprehensive examination of the issues, a research gap remains to be addressed. Further quantitative research is required to assess the financial impact of poor maintenance on property acquisition transactions in Australia. This includes evaluating the effect of maintenance deficiencies on property valuation, negotiation outcomes, and overall investment returns. In addition, a more in-depth analysis of the effectiveness of different mitigation strategies and best practices to mitigate the impact of poor maintenance on property acquisition is required, as well as whether emerging technologies could assist in mitigating the risk of acquiring properties with outstanding or significant maintenance issues. This could involve exploring computer-aided management systems, BIM, CMMS, and other software packages that catalogue and simultaneously manage the art maintenance strategies. Furthermore, it is essential to update continuously. Document maintenance practices as new buildings continue to be built and renovated. The broader built environment/ engineering discipline requires

current and recent reference literature regarding emerging trends, industry best practices and how emerging technologies support improved maintenance practices and property valuations while reducing acquisition risk as properties are transacted.

1.4. Conclusion and Recommendation

Synthesising thematic analysis with this research assignment underscores the importance of integrated approaches to maintenance management in Australian commercial properties. The dynamics of our buildings are changing as tenant requirements evolve with the emergence of coworking spaces and collaborative environments. In parallel, the building's maintenance strategies must adapt to these changes as a growing need to optimise operating costs, integrate sustainability measures and maintain assets to ensure safety compliance are all simultaneously achieved. Three main focus areas could be considered for adoption to address these concerns, as they are

- a) Investing in Predictive Maintenance Technologies - Property managers can gain real-time insights into equipment performance and asset health by leveraging advanced data analytics, Internet of Things (IoT) sensors, and predictive algorithms.
- b) Enhancing Collaboration and Knowledge Sharing - Property managers should consider facilitating knowledge sharing among property stakeholders, fostering innovation and driving continuous improvement in maintenance practices.
- c) Implementing Robust Compliance Monitoring Systems - Property managers must develop robust compliance monitoring systems to ensure adherence to building codes, safety regulations, and environmental standards throughout the property's lifecycle.

The consequences of poor maintenance extend beyond financial implications to impact transactional processes. Poor maintenance practices significantly diminish the perceived value of commercial properties (Ziersch et al., 2018). Structural deterioration, outdated infrastructure, and unresolved maintenance issues undermine property valuations, leading to prolonged listing periods, reduced buyer interest, and diminished property values. The discussion on the impact of poor maintenance during the property acquisition phase has highlighted some of the implications that the industry experiences. A more in-depth analysis of the effectiveness of different asset maintenance strategies and best practices should be performed to mitigate the impact of poor maintenance on property acquisition.

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