

THE IMPLICATIONS OF NEGLECTING BUILDING MAINTENANCE

Company: BRS Building Services Sdn Bhd | 17 June, 2023

Introduction

Building maintenance is a critical aspect of the lifecycle of a building, but it is often overlooked. Inadequate maintenance can lead to structural deterioration, safety hazards, increased maintenance and repair costs, and declining property values. Typically, building maintenance tends to be reactive rather than preventive, with owners addressing issues such as roof leaking, toilet leaking, wall cracks, or water intrusion only after they occur, rather than anticipating them. Many adhere to the saying, "if it ain't broke, why fix it?" because preventive measures such as PU injection, waterproofing repair, grouting, balcony repair, and engaging repair specialists or waterproofing contractors may seem tedious or costly, even though they can prevent more serious structural problems and expensive building repairs in the long run.

The importance of proactive building maintenance planning is generally acknowledged by experts in the building management industry ^[1]. In addition, it is of utmost importance to examine the consequences of neglecting building maintenance, with a focus on safety risks, financial impacts, environmental degradation, and legal liabilities. It also highlights modern techniques, such as polyurethane (PU) injection, carbon fibre strengthening, and advanced diagnostic scanning, that can help mitigate these negative outcomes.

1. Safety and Structural Hazards

Neglecting building maintenance jeopardises both structural safety and public health. Over time, undetected issues such as cracks, water intrusion, and corrosion can lead to significant damage. It is crucial to identify and address the important aspects in maintenance management such as staff competency, maintenance asset record, maintenance schedule, plan for maintenance operation and thorough review of the maintenance process in order to ensure long-term performance and occupant safety in buildings ^[2].

One of the important hazards to be addressed is water leaks, which often indicative of deeper problems within the building. Water leakage can be remedied using techniques such as polyurethane (PU) injection, thermoplastic membranes, and waterproof coatings, all of which are effective in mitigating moisture intrusion, in addition to addressing the source of water leakage from plumbing/ HVAC systems. Other than that, if the cracks in floors or structural walls are left unaddressed, they can worsen and compromise the building's structural integrity. These cracks are typically repaired through methods like epoxy injection or surface patching. In more serious cases, structural reinforcement may be necessary, utilising carbon fibre wraps or steel plate anchoring.

Professional building repair services typically utilise Non-Destructive Techniques (NDT) such as Ground Penetrating Radar (GPR) and ferro scanning to detect hidden weaknesses within concrete or steel reinforcements. This ensures that safety assessments are accurate, before destructive sampling is done for further assessment, allowing for early intervention before any catastrophic failure occurs.

2. Cost Escalation Due to Deferred Maintenance

In addition to safety hazards, deferred maintenance often results in higher long-term repair costs. Small issues, if left unresolved, can develop into larger and more expensive problems. It is proven that neglecting maintenance shortens the service life of building components and increases future repair expenses, which correlates to the famous saying "penny wise, pound foolish" ^[3].

Furthermore, the lack of preventive maintenance led to significant deterioration that required costly structural overhauls ^[4]. If proactive measures, such as scheduled inspections and early repairs, had been taken, repair costs could potentially have been greatly reduced.

In advanced stages of deterioration, ground stability may be compromised. In such cases, ground improvement methods like micro-piling, jet grouting, or soil stabilization may be necessary. These solutions are more complex and expensive than standard maintenance, further exaggerating the financial consequences of delaying maintenance activities.

3. Property Value and Occupant Satisfaction

A poorly maintained building loses its marketability. Visible signs of neglect, which include leaks, peeling finishes, stained walls, and malfunctioning systems, affects occupant confidence and reduces asset value. Unresolved maintenance issues contribute significantly towards user dissatisfaction, which even leads towards service charge defaults in shared/strata properties ^[5].

Furthermore, it is confirmed that tenant retention in Malaysia's residential and commercial sectors is closely tied to building upkeep ^[6]. Regular repairs and visible safety features improve trust and satisfaction, while neglected buildings suffer from higher vacancy and reduced rental income.

To restore confidence, some facilities management teams employ 3D scanning and ultrasonic pulse velocity (UPV) testing to identify internal flaws, allowing for non-invasive diagnostics. These technologies reduce guesswork and help preserve the property's value through informed interventions.

4. Environmental and Operational Efficiency

Poor maintenance significantly impacts environmental performance. Inefficiencies in HVAC systems, plumbing leaks, and broken windows can lead to increased energy consumption and higher carbon. In addition, design flaws, combined with insufficient maintenance, will incur higher utility costs and greater resource wastage in high-rise buildings ^[7].

Regular maintenance, such as cleaning filters, sealing cracks, and realigning ducts, can extend the lifespan of these systems and enhance energy efficiency. The design of various systems in the premises should emphasise the importance of integrating long-term serviceability into the design process ^[8]. By planning buildings with maintenance in mind, we can sustainably improve energy and environmental performance.

In addition, maintenance considerations should be defined in the early design phase to facilitate easier long-term asset preservation and minimise the need for retrofitting ^[1].

5. Legal Non-Compliance and Liability

In addition to technical and financial risks, failing to maintain buildings can lead to regulatory penalties and legal issues. In Malaysia, building owners are required to comply with safety codes, fire regulations, and maintenance protocols. Negligence, particularly in publicly accessible or strata-managed buildings, can result in fines, forced shutdowns, or civil lawsuits.

Professional inspections conducted by Professional Engineer (PE) are essential for maintaining compliance. These structural assessments ensure that buildings meet established codes and provide documented evidence of due diligence. Inspection tools such as ferro scanning, core testing, and ultrasonic pulse velocity (UPV) offer objective data that support inspection reports and help defend against liability claims.

On the other hand, most compliance failures occur not due to a lack of intention but rather from inadequate maintenance planning and a shortage of technical expertise ^[5]. Therefore, incorporating certified inspections and using modern diagnostic tools is not only best practice but also serves as a legal safeguard.

Conclusion

Neglecting building maintenance can lead to a series of problems, including safety hazards, rising costs, decreased property value, and potential legal issues. Fortunately, these negative outcomes are largely preventable through strategic planning, thoughtful design, and the use of modern repair technologies. By incorporating preventive maintenance techniques into maintenance processes, building management can become quicker, safer, and more cost-effective. Additionally, transitioning from a reactive to a preventive maintenance mindset promotes long-term performance and ensures compliance with safety regulations.

With regards to the Malaysian and global context, sustainable buildings are not just those built with green materials and techniques, but also those buildings that are maintained with care, foresight, and technical rigour.

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