

**UNIVERSITI TEKNOLOGI MARA**

**AN ASSESSMENT OF RISK  
MANAGEMENT PRACTICES BY  
TBM MAINTENANCE FOR  
ENHANCING PROJECT  
PERFORMANCE**

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## **ABSTRACT**

This study comprehensively examines the risk management practices employed in THB Maintenance Road projects, focusing on identifying critical risk factors and developing effective risk response strategies. To gather primary data, a questionnaire survey was conducted among THB employees, who possess valuable insights and experience in road maintenance operations. The collected data was analyzed using descriptive statistics, revealing that delayed payment emerged as the most significant risk factor, with a mean score of 4.65. This finding highlights the profound impact financial delays can have on project execution and overall success. In addition to delayed payments, the study identifies other prominent risk factors, including material shortages and equipment failures, which can further complicate project timelines and budgets.

To address these challenges, the study underscores the necessity of implementing robust risk management strategies tailored to the specific needs of THB Maintenance Road projects. Key recommendations include establishing a dedicated risk management unit tasked with the continuous monitoring and assessment of risks and creating a comprehensive risk management handbook to guide project teams in identifying and mitigating risks effectively. The proposed risk response framework is a proactive approach, equipping project managers with the tools needed to anticipate potential issues and respond swiftly. By adopting these strategies, THB can enhance its capacity to manage risks effectively, ensuring the successful implementation of road maintenance initiatives and ultimately contributing to improved infrastructure quality and stakeholder satisfaction.

**Keywords:** Risk Management, THB Maintenance Road projects, Critical Risk Factors, Risk Response Strategies.

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# CHAPTER ONE

## INTRODUCTION

### 1.1 Research Background

The construction industry in Malaysia is a significant economic activity that includes all enterprises or organisations involved in the construction process, from those offering consultancy services to those carrying out execution work on-site. The features of the industry are different in developing and developed countries. Repair and maintenance capacity have become essential in developed countries. In contrast, the industry's capacity for new buildings and the development of capacity for repair and maintenance is a significant focus of developing countries (Pheng & Hou, 2019). Ongoing research investigates the viability and practicability of implementing performance-based maintenance contracting for road maintenance in Malaysia. The construction industry is also transforming, and the industry needs to drive this transformation. The government must also encourage and support this transformation through regulation, policies, and public procurement (Manogaran et al., 2021).

Malaysia's road construction industry has experienced significant growth in recent years, thanks to an expanding population and increased urban development. Research journals have documented the country's commitment in creating a well-developed and efficient transportation infrastructure system. The Malaysian Road network includes federal, state, and municipal roads, highways, and expressways. Road maintenance must be efficient and effective to protect and improve the benefits of road infrastructure. However, a backlog of unfinished maintenance has resulted in irreversible road network deterioration, increasing expenses and a significant financial impact on the economy and citizens. Delays in road-building projects owing to various factors are a big issue for construction experts. The lack of equipment is a significant issue in the implementation of road projects in all developing nations, including Malaysia. The adequacy of the contractor's equipment was not adequately examined during the procurement process, resulting in a lack of road maintenance equipment (Rivera et al., 2020).

In the domain of road maintenance, risk identification plays a significant role in ensuring smooth, efficient, and safe transportation systems. Risk identification is crucial for developing mitigation strategies and providing effective risk management.