

OPTION2

Research on BEP/EIR formulation methodology

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Abstract

This research is centered on the adoption and evolution of Building Information Modeling Execution Plans (BEPs) and Employer's Information Requirements (EIRs) within the Japanese construction sector. Presently, these pivotal documents have not been comprehensively integrated into the Japanese industry, lacking a uniform standard. Addressing this gap, our study investigates the development of an automated system designed to generate optimal BEPs and EIRs, informed by project summaries and survey data. The system's development leverages insights from successful international BEP and EIR models, adapting these to align with the specific requirements of Japanese construction projects. It is tailored to facilitate key processes, including the assessment of BIM-capable personnel and the elucidation of BIM objectives within these projects. The objective of this research is to formulate actionable guidelines and tools that advance the implementation and effectiveness of BIM in Japan. By streamlining the generation of BEPs and EIRs, the system is expected to enrich BIM comprehension and application in the national construction landscape. This initiative not only serves the immediate needs of the local industry but also harmonizes global BIM methodologies with Japanese practices. In sum, this study contributes significantly to the refinement of BIM practices in Japan, promoting a more knowledgeable and efficient approach to construction project management.

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1. INTRODUCTION

Internationally, the significance of Building Information Modeling (BIM) Execution Plans (BEP) and Employer's Information Requirements (EIR) is well-recognized[1]. However, there are specific challenges to implement these BIM components in Japan. Due to a lack of standardization and understanding, crucial documents at various construction project stages remain ambiguously defined in Japan. So, in this research developed a system to standardize EIRs and BEPs, based on international formats. Also, aims to enhance project management efficiency and effectiveness in the construction sector.

2. RESEARCH METHOD and RESEARCH RESULT

The methodology for developing BEP and EIR systems in this study begins with referencing both domestic and international examples. The aim is to tailor the development of BEP and EIR to suit various environments and requirements. Especially in projects where international collaboration is crucial, BEPs and EIRs play a central role. For EIR, there is a focus on organizing the employer's decision-making content and deadlines to prevent project reversion. The BEP process involves compiling around 30 BIM usage objectives and conducting surveys with experienced practitioners to determine project-specific priorities. Identified priorities include high-importance items like interference checks and 5D utilization, as well as lower-priority items like disaster simulations. This leads to the formulation of BEPs and EIRs that cater to the specific needs of projects, promoting smooth project progression with appropriate levels of BIM detail and project member selection.

3. CONCLUSION

This research reveals that in Japan, the development of BEP and EIR is mainly conducted by construction companies, with limited initiation from project owners. The presence of varied templates suggests a lack of standardized approaches. The research aims to integrate global best practices and expert feedback, enhancing BIM's effective implementation in Japan's construction industry. The expected outcome is to improve information management and contribute to more efficient and transparent project processes, aiding in establishing standardized guidelines for BEPs and EIRs in Japan.

REFERENCES

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