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Faculty of Science, Chiang Mai University

Title : Thai Legal Knowledge Graph Construction

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ABSTRACT

This research aims to develop and evaluate the efficiency of a Thai Legal Knowledge Graph, focusing on linking the Civil and Commercial Code with Supreme Court decisions to address the problem of scattered and unstructured legal information. Two types of knowledge graphs were constructed: the Baseline Knowledge Graph, developed through the Ontology Engineering process, and the Knowledge Graph with Large Language Model (LLM), which utilizes a LLM to expand the ontology structure and enhance the relationships among legal information.

The performance evaluation of both graphs was conducted using the Best Matching 25 (BM25) ranking algorithm to measure textual similarity between cases, with Mean Average Precision (MAP) serving as the evaluation metric. A total of 312 Supreme Court decisions were used as query data. The experimental results indicate that the knowledge graph. constructed with the LLM achieved a higher MAP score than the baseline graph. This demonstrates the potential of integrating LLM with knowledge graphs to enhance the efficiency of legal

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information retrieval and management, as well as the possibility of extending this approach to other domains of law in the future.

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