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A Feasibility Study of Crowdsourcing Data Collection for Facility Maintenance Management

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Abstract : An effective facility maintenance management (FMM) system plays a crucial role in improving the quality of services and maintaining the facility in good condition. Current FMM heavily relies on the quality of the data collection function of the FMM systems, at times resulting in inefficient FMM decision-making. The new technology-based crowdsourcing provides great potential to improve the current FMM practices, especially in terms of timeliness and quality of data. This research aims to investigate the feasibility of using new technology-driven crowdsourcing for FMM and highlight its opportunities and challenges. A survey was carried out to understand the human, data, system, geospatial, and automation characteristics of crowdsourcing for an educational campus FMM via social networks. The survey results were analyzed to reveal the challenges and recommendations for the implementation of crowdsourcing for FMM. This research contributes to the body of knowledge by synthesizing the challenges and opportunities of using crowdsourcing for facility maintenance and providing a road map for applying crowdsourcing technology in FMM. In future work, a conceptual framework will be proposed to support data-driven FMM using social networks.

Keywords : crowdsourcing, facility maintenance management, social networks
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