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Key competencies for identifying construction activities that produce recyclable materials: an exploratory study

Mazen M. Omer
Faculty of Civil Engineering Technology, Universiti Malaysia Pahang Al-Sultan Abdullah, Kuantan, Malaysia and Department of Civil Engineering, Higher Institute of Science and Technology, Tiji, Libya
Rahimi A. Rahman
Faculty of Civil Engineering Technology, Universiti Malaysia Pahang Al-Sultan Abdullah, Kuantan, Malaysia and Faculty of Graduate Studies, Daffodil International University, Dhaka, Bangladesh
Muhammad Ashraf Fauzi
Faculty of Industrial Management, Universiti Malaysia Pahang Al-Sultan Abdullah, Kuantan, Malaysia, and
Saud Almutairi
Unaizah College of Engineering, Qassim University, Buraydah, Saudi Arabia

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Abstract

Purpose – Construction activities generate overwhelming waste that is typically disposed of in landfills, which has significant environmental consequences and hinders national progress. However, with the appropriate competencies, there is an opportunity to identify construction activities that produce recyclable materials, offering a path to a sustainable future. This study aims to assess the competencies for identifying construction activities that produce recyclable materials. To attain that aim, the study seeks to identify the key competencies and assess the index level of the competencies.

Design/methodology/approach – A systematic literature review was conducted, and 20 competencies were identified and categorized into knowledge, skills, and abilities. A questionnaire survey was developed based on the competencies and completed by 101 individuals. The collected data were analyzed using normalized mean analysis, confirmatory factor analysis, and fuzzy synthetic evaluation (FSE).

Findings – The results revealed that the key competencies are problem-solving skills, communication skills, skills in providing vocational training, and knowledge of the environmental impacts of construction activities. The FSE ranks the constructs in order of skills, knowledge, and abilities. Also, the FSE illustrated that the overall index level is inclined to be important.

Practical implications – This study leads to saving natural resources, using raw materials efficiently, protecting from environmental pollution, and mitigating resource depletion by providing the index level of the competencies.

Originality/value – The findings can guide professionals in effective waste management, policymakers in creating new policies and regulations, and researchers in compiling a list of competencies for identifying construction activities that produce recyclable materials.

Keywords Exploratory study, Construction waste, Key competencies, Construction activities, Recyclable materials

Paper type Research paper

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