

The application of knowledge management in disaster management: past, present and future trends

Muhammad Ashraf Fauzi, Biswajeet Pradhan, Noraina Mazuin Sapuan and Ratih Dyah Kusumastuti

Abstract

Purpose – The purpose of this study is to review the role of knowledge management (KM) in disaster management and crisis. Disaster causes many detrimental impacts on human lives through loss of life and damage to properties. KM has been shown to dampen the impact of the disaster on the utilization of knowledge among agencies involved and the local communities impacted by disasters.

Design/methodology/approach – Through a bibliometric methodology (co-citation, bibliographic coupling and co-word analysis), this study presents significant themes in the past, current and future predictions on the role of KM in disaster management. In this review paper, 437 publications were retrieved from the Web of Science and analyzed through VOSviewer software to visualize and explore the knowledge map on the subject domain.

Findings – Findings suggest that the significant themes derived are centralized to disaster preparedness during disaster and disaster postrecovery. This review presents a state-of-art bibliometric analysis of the crucial role of KM in building networks and interconnection among relevant players and stakeholders involved in disaster management.

Research limitations/implications – The main implication of this study is how the authorities, stakeholders and local community can integrate the KM system within the three stages of disasters and the crucial role of technologies and social media in facilitating disaster management.

Originality/value – To the best of the authors' knowledge, this is the first study to present a bibliometric analysis in mapping KM's past, present and future trends in disaster management.

Keywords Knowledge management, Disaster management, Emergency, Bibliometric, Web of Science

Paper type Literature review

(Information about the authors can be found at the end of this article.)

1. Introduction

Human lives are at risk due to natural disasters. Insufficient coping mechanisms and inefficiency to transform into life-saving due to lack of knowledge pose a high risk to communities in disaster-prone areas (Oktari *et al.*, 2020). The inability of agencies and authorities to use the knowledge capabilities contributes to people experiencing poor administrative disaster management practices. Over the years, knowledge management (KM) has been incorporated into disaster and emergency management (Caballero-Anthony *et al.*, 2021; Along *et al.*, 2022; Inan *et al.*, 2022). From the KM perspective, reusing past knowledge in dealing with future disasters is envisaged as the best approach (Inan *et al.*, 2022). Integrating KM within disaster risk reduction would enable the organization to infuse a structured knowledge management system (KMS) (Fauzi, 2022). Incorporation of KM has been shown to mitigate and prepare for different types of disasters, including earthquakes (Yates and Paquette, 2011; Pribadi *et al.*, 2021), drought (AhmadYousefi *et al.*, 2022), flood (Oktari *et al.*, 2020; Along *et al.*, 2022), tsunami (Koria, 2009), hurricane (Chua *et al.*, 2007) and volcano (Palma *et al.*, 2014).

Received 19 March 2023
Revised 10 June 2023
30 July 2023
Accepted 24 August 2023

Funding: This study is funded by Universiti Malaysia Pahang Al-Sultan Abdullah Fundamental Research Grant (UMPSA Grant no: RDU220357) and Universiti Malaysia Pahang Al-Sultan Abdullah Flagship Grant: Made in UMPSA (UMPSA Grant no: PDU213001-3).