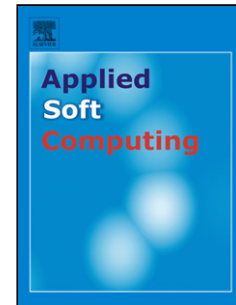


Accepted Manuscript

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PII: S1568-4946(18)30431-9
DOI: <https://doi.org/10.1016/j.asoc.2018.07.043>
Reference: ASOC 5011

To appear in: *Applied Soft Computing*

Received date: 26-2-2018
Revised date: 22-6-2018
Accepted date: 22-7-2018

Please cite this article as: Qi K, Wang Q, Duan Q, Gong L, Sun J, Liew KM, Jiang L, A multi criteria comprehensive evaluation approach for emergency response capacity with interval 2-tuple linguistic information, *Applied Soft Computing Journal* (2018), <https://doi.org/10.1016/j.asoc.2018.07.043>

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A multi criteria comprehensive evaluation approach for emergency response capacity with interval 2-tuple linguistic information

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Highlights

- This study proposes a multi criteria comprehensive evaluation approach for ERCE.
- Diversity and uncertainty of DMs' assessments are modeled by interval 2-tuples.
- The developed ITL-AHP is utilized to determine criteria weights.
- Evaluation results are yielded by interval weighted aggregation operators.
- The new method is more effective to evaluate emergency response capability.

Abstract

Emergency response capacity evaluation (ERCE) is an important and challenging issue in emergency management with the frequent occurrence of emergency events. Because of their different backgrounds and preferences, decision makers (DMs) often prefer to use linguistic variables from different linguistic term sets to express their decision information about the importance and the ratings of multi criteria involved in ERCE issue, some of which may be imprecise and uncertain. Therefore, this paper proposes a multi criteria comprehensive evaluation (MCCE) approach for ERCE with interval 2-tuple linguistic information. First, a new method for comparison between interval 2-tuples is

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