Package ‘ahptopsis2n’

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**Type**  Package

**Title**  Hybrid Method for Multiple Criteria Decision-Making (MCDM)

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**Description**  Implementation of a hybrid MCDM method build from the AHP (Analytic Hierarchy Process) and TOPSIS-2N (Technique for Order of Preference by Similarity to Ideal Solution - with two normalizations). This method is described in Souza et al. (2018) <doi: 10.1142/S0219622018500207>.

**License**  GPL-3

**Encoding**  UTF-8

**LazyData**  true

**Suggests**  knitr, rmarkdown

**VignetteBuilder**  knitr

**NeedsCompilation**  no

**Repository**  CRAN

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**R topics documented:**

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AHP-TOPSIS-2N method

Description

AHP-TOPSIS-2N is a hybrid multi-criteria decision-making method build from the AHP (Analytic Hierarchy Process) and TOPSIS-2N (Technique for Order of Preference by Similarity to Ideal Solution - with two normalizations).

Usage

ahptopsis2n(decision, criteria, minmax)

Arguments

decision  a matrix where rows correspond to the alternatives and columns correspond to criteria.
criteria  a matrix with pairwise comparison of criteria as in Analytic Hierarchy Process method.
minmax  a vector with objectives, minimize or maximize, to each criteria.

details

criteria must be in the same order on the arguments.

Value

a list with consistency ratio and two dataframes with priority sorting of the alternatives.

Author(s)

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References


Examples

decision<-matrix(c(64, 48, 1400,
                   128,64, 1900,
                   64, 32, 1100), ncol=3, byrow=TRUE)

rownames(decision)<- c("A1", "A2", "A3")
```r
criteria<-matrix(c(1, 3, 1/3,
                    1/3, 1, 1/5,
                    3, 5, 1), ncol=3, byrow=TRUE)

minmax<-c("max", "max", "min")

ahptopsis2n(decision=decision, criteria=criteria, minmax=minmax)
```
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