Package: TopSisWM (via r-universe)

August 30, 2024

Title Multi-Criteria Method for Decision (TOPSIS)

Version 1.0.2

Description Assists in the TOPSIS analysis process, designed to return
at the end of the answer of the TOPSIS multicriteria analysis,
a ranking table with the best option as the analysis proposes.
TOPSIS is basically a technique developed by Hwang and Yoon in
1981, starting from the point that the best alternative should
be closest to the positive ideal solution and farthest from the
negative one, based on several criteria to result in the best
benefit. (LIU, H. et al., 2019)
<doi:10.1016/j.agwat.2019.105787>.

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Encoding UTF-8

RoxygenNote 7.2.1

Depends R (>= 2.10)

LazyData true

NeedsCompilation no

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Date/Publication 2022-09-01 12:20:02 UTC

Repository https://wagnnerms97.r-universe.dev

RemoteUrl https://github.com/cran/TopSisWM

RemoteRef HEAD

RemoteSha 783b6f9c775c42eb0d16271120270ab3732d4910

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Description

Assists in the TOPSIS analysis process, designed to return at the end of the answer of the TOPSIS multicriteria analysis, a ranking table with the best option as the analysis proposes. TOPSIS is basically a technique developed by Hwang and Yoon in 1981, starting from the point that the best alternative should be closest to the positive ideal solution and farthest from the negative one, based on several criteria to result in the best benefit. (LIU, H. et al., 2019) doi:10.1016/j.agwat.2019.105787.

Usage

TopSisWM(TabTo,P.Pesos,solpo)

Arguments

TabTo	A table or matrix containing row and column names, containing only numeric values.
P.Pesos	A vector containing the weights assigned to each criterion, where there must be a weight for each column of the table and the sum of the weights must be equal to 1.
solpo	A vector containing the information if the respective criterion must be ideal, a maximum or minimum value, with ("+") for maximum and ("-") for minimum, must have a definition for each column.

Value

returns a table with the results of TOPSIS.

Author(s)

Wagner Martins dos Santos

References

LIU, H. et al.(2019). Optimizing irrigation frequency and amount to balance yield, fruit quality and water use efficiency of greenhouse tomato. Agricultural Water Management, v. 226, 1-11.

Examples

```
data(Topex1)
Tabela <- Topex1
Pesos <- c(0.5,0.3,0.2)
solucao <- c("-","-","+")
TopSisWM(Tabela,Pesos,solucao)

#Important to use the parameter row.names = 1 when importing local data
#Tabela <- read.csv("file.csv",sep=";", h=T,row.names=1)
#Tabela <- read.table("Tabela.txt", h=T,row.names=1)
#row.names = 1 ensures import of data with row names as fact names.
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