Package 'bibliorefer'

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Type Package

Title Generator of Main Scientific References

Version 0.1.0

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Description Generates a list, with a size defined by the user, containing the main scientific references and the frequency distribution of authors and journals in the list obtained.
The database is a dataframe with academic production metadata made available by bibliographic collections such as Scopus, Web of Science, etc.
The temporal evolution of scientific production on a given topic is presented and ordered lists of articles are constructed by number of citations and of authors and journals by level of productivity.
Massimo Aria, Corrado Cuccurullo. (2017) <doi:10.1016/j.joi.2017.08.007>.
Caibo Zhou, Wenyan Song. (2021) <doi:10.1016/j.jclepro.2021.126943>.

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RoxygenNote 7.3.1

Imports stats

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R topics documented:

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auxinf_autr   *Function with information about scientific partnerships*

Description

This function generates quantitative information about the partnerships of researchers in the development of scientific production on the topic covered. The function returns a list containing 5 dataframes with information about the number of authors who wrote the articles and the number of articles written by each author, both in the general database and in the list of main references.

Usage

```
auxinf_autr(input_date, input_tam)
```

Arguments

input_date	is a dataframe with the scientific production database
input_tam	is the length of the dataframe to be generated with the main articles, authors and journals

Value

The function returns a list containing 5 dataframes with information about the number of authors who wrote the articles and the number of articles written by each author, both in the general database and in the list of main references.

References

Digitalization as a way forward: A bibliometric analysis of 20 Years of servitization research Zhou, C., Song, W. Journal of Cleaner Production, 300, 2021.

Examples

```
file_db <- system.file("extdata","example_database.csv",package = "bibliorefer")
separator <- ","
input_date <- example_database(file_db, separator)
input_tam <- 100
extra_inf <- auxinf_autr(input_date,input_tam)
extra_inf
```

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crit_quant   *Function of quantitative validation criteria*

Description

This function quantitatively validates the list of main scientific references obtained. The function input is a list object with the two dataframes generated by the principal_lister function. The crit_quant function returns a list of two dataframes with the quantitative criteria that validate the list of main scientific references obtained.

Usage

```
crit_quant(input_ent)
```

Arguments

input_ent   input_ent is a dataframe with the list of main scientifics references generated by the principal_listr function

Value

The function return a list object with two dataframes with quantitative criteria that validate the list of main scientifics references

References

1 - Asymptotic Theory of Statistics and Probability. Anirban DasGupta. New York: Springer Science+Business Media, LLC, 2008.

2 - Quantitative science studies should be framed with middle-range theories and concepts from the social sciences Heinze, T., Jappe, A. Quantitative Science Studies, 1(3), pp. 983–992, 2020

Examples

```
#Call the principal_lister function
input_tam <- 100
file_db <- system.file("extdata","example_database.csv", package = "bibliorefer")
separator <- ","
input_date <- example_database(file_db, separator)
principal_refer <- principal_lister(input_date,input_tam)

#Call the crit_quant function
quant_validation <- crit_quant(principal_refer)
quant_validation[[1]]
quant_validation[[2]]
```

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example_database   *Function that generates the test database*

Description

The example_database function reads a csv file available on the computer system and returns a dataframe as an example of a database to be used by the functions of the bibliorefer package

Usage

```
example_database(path_date, separator)
```

Arguments

path_date   is a directory path containing the csv file

separator   is the separator for files in csv format

Value

This function return is a dataframe with database

References

Aria, M. & Cuccurullo, C. (2017) bibliometrix: An R-tool for comprehensive science mapping analysis, Journal of Informetrics, 11(4), pp 959-975, Elsevier

Examples

```
#Call the example_database function

file_db <- system.file("extdata","example_database.csv", package = "bibliorefer")
separator <- ","
date_sreference <- example_database(file_db, separator)
date_sreference
```

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principal_lister   *Function of principal scientifics references*

Description

This function generates a list, with a size defined by the user, with the main scientific references and also generates quantitative parameters about authors and journals.

Usage

```
principal_lister(input_date, input_tam)
```

Arguments

`input_date`	is a dataframe with the scientific production database
`input_tam`	is the length of the dataframe to be generated with the main articles, authors and journals

Value

This function returns a list object with two dataframes. The first dataframe, with a length defined by the user, containing the list of articles ordered by the number of citations crossed with the lists of authors and journals ordered by the number of articles published. The second dataframe contains quantitative parameters about authors and journals that are necessary to create the quantitative validation criterion for the list obtained.

References

A bibliometric analysis of Journal of Higher Education Management (JHEM) from 2007 to 2016. Antia-Obong, S.E., Casselden, B., Pickard, A. Library Philosophy and Practice, 2019.

Examples

```
#Call the principal_lister function

# Example 1
input_tam <- 80
file_db <- system.file("extdata","example_database.csv", package = "bibliorefer")
separator <- ","
input_date <- example_database(file_db, separator)
principal_refer <- principal_lister(input_date,input_tam)
principal_refer[[1]]

# Example 2
input_tam <- 40
file_db <- system.file("extdata","example_database.csv", package = "bibliorefer")
separator <- ","
input_date <- example_database(file_db, separator)
principal_refer <- principal_lister(input_date,input_tam)
principal_refer[[1]]
```

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produc_cientific　　　　　　　　*Function of annual scientific production*

Description

This function shows the evolution of scientific production. The function receives a dataframe with scientific production data and returns a dataframe with the dates and number of articles published on each date

Usage

```
produc_cientific(input_date)
```

Arguments

input_date　　　　is a dataframe with the scientific production database

Value

The function return a dataframe with the dates and the number of articles published in each of them

References

Evolution of number of citations per article in Materials Science: possible causes and effect on the impact factor of journals. Ariza-Guerrero, A.M, Blázquez, J.S. Scientometrics, 128(12), pp. 6589–6609. 2023.

Examples

```
#Call the produc_cientific function
file_db <- system.file("extdata","example_database.csv", package = "bibliorefer")
separator <- ","
input_date <- example_database(file_db, separator)
prod_ct <- produc_cientific(input_date)
prod_ct
```

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tabel_gera   *Function of scientific information*

Description

This function receives a dataframe with scientific production data and returns a list object with information about articles, authors and journals.

Usage

```
tabel_gera(input_date)
```

Arguments

input_date   is a dataframe with the scientific production database

Value

The function return a list object containing three dataframes with ordered lists of articles, authors and journals.

References

Aria, M. & Cuccurullo, C. (2017) bibliometrix: An R-tool for comprehensive science mapping analysis, Journal of Informetrics, 11(4), pp 959-975, Elsevier

Examples

```
#Call the tabel_gera function
file_db <- system.file("extdata","example_database.csv",package = "bibliorefer")
separator <- ","
input_date <- example_database(file_db, separator)
scientific_inf <- tabel_gera(input_date)
scientific_inf
```

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