

Enseñanza basada en reproducibilidad

Evaluación Bibliométrica de Literatura Actualizada

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Curso en: **Tecnologías Reproducibles en la Enseñanza de la Metodología y la Estadística**



Objetivo del Curso

Comprender, a través del paquete **bibliometrix** y la herramienta interactiva **biblioshiny**, los beneficios de adoptar nuevas tecnologías reproducibles para la enseñanza de contenidos metodológicos y estadísticos orientados al análisis bibliométrico de literatura especializada en cualquier área del conocimiento.

Agenda

- 1 Justificación de la herramienta
 - 2 Requerimientos Técnicos
 - 3 biblioshiny: Tutorial paso-a-paso
 - 4 biblioshiny adaptado a literatura específica
 - Ejemplo blockchain
- Referencias

Justificación de la herramienta

<http://dx.doi.org/10.1016/j.joi.2017.08.007>

Regular article

bibliometrix: An R-tool for comprehensive science mapping analysis



CrossMark

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ARTICLE INFO

Article history:

Received 14 February 2017

Received in revised form 27 August 2017

Accepted 27 August 2017

Available online 12 September 2017

Keywords:

Bibliometrics

Science mapping

Workflow

Co-citation

Bibliographic coupling

R package

ABSTRACT

The use of bibliometrics is gradually extending to all disciplines. It is particularly suitable for science mapping at a time when the emphasis on empirical contributions is producing voluminous, fragmented, and controversial research streams. Science mapping is complex and unwieldy because it is multi-step and frequently requires numerous and diverse software tools, which are not all necessarily freeware. Although automated workflows that integrate these software tools into an organized data flow are emerging, in this paper we propose a unique open-source tool, designed by the authors, called *bibliometrix*, for performing comprehensive science mapping analysis. *bibliometrix* supports a recommended workflow to perform bibliometric analyses. As it is programmed in R, the proposed tool is flexible and can be rapidly upgraded and integrated with other statistical R-packages. It is therefore useful in a constantly changing science such as bibliometrics.

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(Aria y Cuccurullo, 2017)

Justificación de la Herramienta

“El número de publicaciones académicas aumenta a un ritmo vertiginoso y cada vez es más inviable permanecer actualizado con todo lo que se está publicando. Además, el énfasis en las contribuciones empíricas ha dado lugar a corrientes de investigación voluminosas y fragmentadas. Esto dificulta la capacidad de acumular conocimientos y recopilar de forma activa las evidencias en trabajos de investigación previos. De allí es que las revisiones de literatura están asumiendo cada vez más un papel crucial en la síntesis de los hallazgos de investigaciones para utilizar de manera efectiva la base de conocimientos existente, avanzar en una línea de investigación y proporcionar una visión basada en la evidencia sobre la práctica de ejercer y mantener el juicio y la experiencia profesional.”

(Aria y Cuccurullo, 2017, p. 959)

Requerimientos Técnicos

Para seguir el paso a paso de este tutorial, es necesario que usted haya instalado R y Rstudio en su computador. Acá tiene un video tutorial que le indica cómo hacerlo (<https://youtu.be/Bg2LzHmPZFY>).



biblioshiny

Tutorial Paso-a-Paso (En Rstudio Escritorio)



biblioshiny: Paso 1

Ingresamos a RStudio

R version 4.0.5 (2021-03-31) -- "Shake and Throw"
Copyright (C) 2021 The R Foundation for Statistical Computing
Platform: x86_64-pc-linux-gnu (64-bit)

R is free software and comes with ABSOLUTELY NO WARRANTY.
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Type 'license()' or 'licence()' for distribution details.

Natural language support but running in an English locale

R is a collaborative project with many contributors.
Type 'contributors()' for more information and
'citation()' on how to cite R or R packages in publications.

Type 'demo()' for some demos, 'help()' for on-line help, or
'?help.start()' for an HTML browser interface to help.
Type 'q()' to quit R.

> |

Environment is empty

Files	Plots	Packages	Help	Viewer
<input type="checkbox"/> Install	<input checked="" type="checkbox"/> Update			
Name		Description		Version
User Library				
<input type="checkbox"/> abind		Combine Multidimensional Arrays	1.4-5	<input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/> arsenal		An Arsenal of R Functions for Large-Scale Statistical Summaries	3.6.3	<input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/> askpass		Safe Password Entry for R, Git, and SSH	1.1	<input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/> assertthat		Easy Pre and Post Assertions	0.2.1	<input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/> backports		Reimplementations of Functions Introduced Since R-3.0.0	1.2.1	<input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/> base64enc		Tools for base64 encoding	0.1-3	<input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/> BayesFactor		Computation of Bayes Factors for Common Designs	0.9.12-4.2	<input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/> bayestestR		Understand and Describe Bayesian Models and Posterior Distributions	0.10.0	<input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/> BH		Boost C++ Header Files	1.75-0.0	<input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/> bibliometrix		Comprehensive Science Mapping Analysis	3.1.3	<input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/> bibliometrixData		Bibliometrix Example Datasets	0.1.0	<input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/> bitops		Bitwise Operations	1.0-7	<input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/> blob		A Simple S3 Class for Representing Vectors of Binary Data ('BLOBs')	1.2.1	<input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/> brew		Templating Framework for Report Generation	1.0-6	<input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/> bro		Basic R Input Output	1.1.2	<input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/> broom		Convert Statistical Objects into Tidy Tibbles	0.7.7	<input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/> bslib		Custom 'Bootstrap' 'Sass' Themes for 'shiny' and 'rmarkdown'	0.25.1	<input type="checkbox"/> <input type="checkbox"/>

biblioshiny: Paso 2

Vamos a la pestaña Packages

The screenshot shows the RStudio interface. On the left, the R console displays the standard R startup message. On the right, the 'Environment' tab is active, showing an 'Empty Environment'. A red arrow points to the 'Packages' tab in the navigation bar at the top of the main pane.

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'citation()' on how to cite R or R packages in publications.

Type 'demo()' for some demos, 'help()' for on-line help, or
'help.start()' for an HTML browser interface to help.
Type 'q()' to quit R.

Clic en la pestaña Packages

Description	Version
Combine Multidimensional Arrays	1.4-5
An Arsenal of 'R' Functions for Large-Scale Statistical Summaries	3.6.3
Safe Password Entry for R, Git, and SSH	1.1
Easy Pre and Post Assertions	0.2.1
Reimplementations of Functions Introduced Since R-3.0.0	1.2.1
Tools for base64 encoding	0.1-3
Computation of Bayes Factors for Common Designs	0.9.12-4.2
Understand and Describe Bayesian Models and Posterior Distributions	0.10.0
Boost C++ Header Files	1.75.0-0
Comprehensive Science Mapping Analysis	3.1.3
Bibliometric Example Datasets	0.1.0
Bitwise Operations	1.0-7
A Simple S3 Class for Representing Vectors of Binary Data ('BLOBs')	1.2.1
Templating Framework for Report Generation	1.0-6
Basic R Input Output	1.1.2
Convert Statistical Objects into Tidy Tibbles	0.7.7
Custom 'Bootstrap' 'Sass' Themes for 'shiny' and 'rmarkdown'	0.25.1



biblioshiny: Paso 3

R version 4.0.5 (2021-03-31) -- "Shake and Throw"
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Natural language support but running in an English locale

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Type 'contributors()' for more information and
'citation()' on how to cite R or R packages in publications.

Type 'demo()' for some demos, 'help()' for on-line help, or
'help.start()' for an HTML browser interface to help.
Type 'q()' to quit R.

> |

Clic en el botón Install

User Library	Description	Version
abind	Combine Multidimensional Arrays	1.4-5
arsenal	An Arsenal of R Functions for Large-Scale Statistical Summaries	3.6.3
askpass	Safe Password Entry for R, Git, and SSH	1.1
assertthat	Easy Pre and Post Assertions	0.2.1
backports	Reimplementations of Functions Introduced Since R-3.0.0	1.2.1
base64enc	Tools for base64 encoding	0.1-3
BayesFactor	Computation of Bayes Factors for Common Designs	0.9.12-4.2
bayestestR	Understand and Describe Bayesian Models and Posterior Distributions	0.10.0
BH	Boost C++ Header Files	1.75.0-0
bibliometrix	Comprehensive Science Mapping Analysis	3.1.3
bibliometrixData	Bibliometric Example Datasets	0.1.0
bitops	Bitwise Operations	1.0-7
blob	A Simple S3 Class for Representing Vectors of Binary Data ('BLOBs')	1.2.1
brew	Templating Framework for Report Generation	1.0-6
brio	Basic R Input Output	1.1.2
broom	Convert Statistical Objects into Tidy Tibbles	0.7.7
bslib	Custom 'Bootstrap' 'Sass' Themes for 'shiny' and 'rmarkdown'	0.2.5.1



biblioshiny: Paso 4

R version 4.0.5 (2021-03-31) -- "Shake and Throw"
Copyright (C) 2021 The R Foundation for Statistical Computing
Platform: x86_64-pc-linux-gnu (64-bit)

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You are welcome to redistribute it under certain conditions.
Type 'license()' or 'licence()' for distribution details.

Natural language support but running in an English locale.

R is a collaborative project with many contributors.
Type 'contributors()' for more information and
'citation()' on how to cite R or R packages.
Type 'demo()' for some demos, 'help()' for on-line help,
'help.start()' for an HTML browser interface to help pages,
Type 'q()' to quit R.

Console Terminal < Jobs <
R 4.0.5 ~ /

Environment History Connections Tutorial
Import Dataset 192 MiB Global Environment

Project: (None)

Environment is empty

Install Packages

Install from: Repository (CRAN)

Packages (separate multiple with space or comma): **bibliometrix**

Install Cancel

Description	Version
Combine Multidimensional Arrays	1.4.5
An Arsenal of 'R' Functions for Large-Scale Statistical Summaries	3.6.3
Safe Password Entry for R, Git, and SSH	1.1
Easy Pre and Post Assertions	0.2.1
Reimplementations of Functions Introduced Since R-3.0.0	1.2.1
Tools for base64 encoding	0.1.3
Computation of Bayes Factors for Common Designs	0.9.12-4.2
Understand and Describe Bayesian Models and Posterior Distributions	0.10.0
Boost C++ Header Files	1.75.0-0
Comprehensive Science Mapping Analysis	3.1.3
Bibliometric Example Datasets	0.1.0
Bitwise Operations	1.0-7
A Simple S3 Class for Representing Vectors of	1.2.1

Escribir bibliometrix



biblioshiny: Paso 5

R version 4.0.5 (2021-03-31) -- "Shake and Throw"
Copyright (C) 2021 The R Foundation for Statistical Computing
Platform: x86_64-pc-linux-gnu (64-bit)

R is free software and comes with ABSOLUTELY NO WARRANTY.
You are welcome to redistribute it under certain conditions.
Type 'license()' or 'licence()' for distribution details.

Natural language support but running in an English locale

R is a collaborative project with many contributors.
Type 'contributors()' for more information and
'citation()' on how to cite R or R packages in publications.

Type 'demo()' for some demos, 'help()' for on-line help,
'help.start()' for an HTML browser interface
Type 'q()' to quit R.

> |

Install Packages

Install from: Repository (CRAN) Configuring Repositories

Packages (separate multiple with space or comma): ShinyItemAnalysis

Install to Library: /home/juan/R/x86_64-pc-linux-gnu-library/4.0 [Default]

Install dependencies

Install Cancel

Environment is empty

Environment History Connections Tutorial

Project: (None)

Global Environment

Files Plots Packages Help Viewer

Install Update

Name	Description	Version
abind	Combine Multidimensional Arrays	1.4-5
arsenal	An Arsenal of 'R' Functions for Large-Scale Statistical Summaries	3.6.3
askpass	Safe Password Entry for R, Git, and SSH	1.1
assertthat	Easy Pre and Post Assertions	0.2.1
backports	Reimplementations of Functions Introduced Since R-3.0.0	1.2.1
base64enc	Tools for base64 encoding	0.1-3
BayesFactor	Computation of Bayes Factors for Common Designs	0.9.12-4.2
bayestestR	Understand and Describe Bayesian Models and Posterior Distributions	0.10.0
BH	Boost C++ Header Files	1.75.0-0
bibliometrix	Comprehensive Science Mapping Analysis	3.1.3
bibliometrixData	Bibliometrix Example Datasets	0.1.0
bitops	Bitwise Operations	1.0-7
blob	A Simple S3 Class for Representing Vectors of Binary Data ('BLOBs')	1.2.1
brew	Templating Framework for Report Generation	1.0-6
brio	Basic R Input Output	1.1.2
broom	Convert Statistical Objects into Tidy Tibbles	0.7.7
bslib	Custom 'Bootstrap' 'Sass' Themes for 'shiny' and 'rmarkdown'	0.25.1

Clic en Install



biblioshiny: Paso 6

Apariencia de la Consola mientras se instala el paquete.

The screenshot shows the RStudio interface during the installation of the 'bibliometrix' package. The console window displays the command and its execution:

```
> install.packages("bibliometrix")
Installing package into ‘/home/juan/R/x86_64-pc-linux-gnu-library/4.0’
(as ‘lib’ is unspecified)
trying URL 'https://cran.rstudio.com/src/contrib/bibliometrix_3.1.3.tar.gz'
Content type 'application/x-gzip' length 490678 bytes (479 KB)
=====
downloaded 479 KB

* installing *source* package ‘bibliometrix’ ...
** package ‘bibliometrix’ successfully unpacked and MD5 sums checked
** using staged installation
** R
** data
** inst
** byte-compile and prepare package for lazy loading
** help
*** installing help indices
** building package indices
** testing if installed package can be loaded from temporary location
** testing if installed package can be loaded from final location
```

The Environment pane shows that the environment is empty. The Packages pane lists the User Library with the following packages:

Name	Description	Version
abind	Combine Multidimensional Arrays	1.4-5
arsenal	An Arsenal of R Functions for Large-Scale Statistical Summaries	3.6.3
askpass	Safe Password Entry for R, Git, and SSH	1.1
assertthat	Easy Pre and Post Assertions	0.2.1
backports	Reimplementations of Functions Introduced Since R-3.0.0	1.2.1
base64enc	Tools for base64 encoding	0.1-3
BayesFactor	Computation of Bayes Factors for Common Designs	0.9.12-4.2
bayestestR	Understand and Describe Bayesian Models and Posterior Distributions	0.10.0
BH	Boost C++ Header Files	1.75-0.0
bibliometrix	Comprehensive Science Mapping Analysis	3.1.3
bibliometrixData	Bibliometrix Example Datasets	0.1.0
bitops	Bitwise Operations	1.0-7
blob	A Simple S3 Class for Representing Vectors of	1.2.1



biblioshiny: Paso 7

Apariencia de la Consola en Rstudio luego de la instalación exitosa del paquete.

The screenshot shows the RStudio interface with the following details:

- Console:** Displays the command `install.packages("bibliometrix")` and its output, which includes the package being unpacked, MD5 sums checked, and staged installation details. A red box highlights the message *** DONE (bibliometrix)**.
Output:

```
R 4.0.5 - m7
R 4.0.5 - m7
ar.gz'
Content type 'application/x-gzip' length 490678 bytes (479 KB)
=====
downloaded 479 KB

* installing *source* package 'bibliometrix' ...
** package 'bibliometrix' successfully unpacked and MD5 sums checked
** using staged installation
** R
** data
** inst
** byte-compile and prepare package for lazy loading
** help
*** installing help indices
** building package indices
** testing if installed package can be loaded from temporary location
** testing if installed package can be loaded from final location
** testing if installed package keeps a record of temporary installat
=====
* DONE (bibliometrix)

The downloaded source packages are in
  '/tmp/Rtmpmn726S/downloaded_packages'
```
- Environment:** Shows the Global Environment tab with the message "Environment is empty".
- File Browser:** Shows the User Library section with a list of available packages, their descriptions, and versions. The packages listed include abind, arsenal, askpass, assertthat, backports, base64enc, BayesFactor, bayestestR, BH, bibliometrix, bibliometrixData, bitops, and blob.

Verifique la presencia del siguiente mensaje en la Consola
*** DONE (bibliometrix)**



biblioshiny: Paso 8

Activamos el paquete **bibliometrix** (haciendo clic en el recuadro al lado izquierdo)

The screenshot shows the RStudio interface. The top menu bar includes File, Edit, Code, View, Data, Session, Build, Debug, Profile, Tools, Help, and a Project dropdown set to '(None)'. Below the menu is a toolbar with various icons. The main workspace has tabs for Console, Terminal, and Jobs. In the Console tab, the R session starts with 'R 4.0.5 · -> <' followed by the command 'library(bibliometrix)'. A note below it says 'To cite bibliometrix in publications, please use:'. The citation information is as follows:

Aria, M. & Cuccurullo, C. (2017) bibliometrix: An R-tool for comprehensive science mapping analysis,
Journal of Informetrics, 11(4), pp 9
59-975, Elsevier.

The URL <https://www.bibliometrix.org> is also displayed in the console.

Below the console, there is a message: 'For information and bug reports:' followed by two bullet points:

- Send an email to info@bibliometrix.org
- Write a post on <https://github.com/massimoaria/bibliometrix/issues>

Further down, there is a message: 'Help us to keep Bibliometrix free to download and use by contributing with a small donation to support our research team (<https://bibliometrix.org/donate.html>)'

At the bottom, there is a message: 'To start with the shiny web-interface, please digit: biblioshiny()'

The right side of the interface shows the 'Environment' tab, which states 'Environment is empty'. Below it is the 'Packages' tab, which lists several packages. The 'bibliometrix' package is highlighted with a red border and checked in the 'Install' column. The table data is as follows:

Name	Description	Version
bayesestim	Understand and Use Bayesian Models and Posterior Distributions	0.1.0.0
bibliometrix	Comprehensive Science Mapping Analysis	3.1.3
bibliometrixData	Bibliometrix Example Datasets	0.1.0
blob	A Simple S3 Class for Representing Vectors of Binary Data ('BLOBs')	1.2.1
brew	Templating Framework for Report Generation	1.0-6
brio	Basic R Input Output	1.1.2
broom	Convert Statistical Objects into Tidy Tibbles	0.7.7
bslib	Custom 'Bootstrap' 'Sass' Themes for 'shiny' and 'markdown'	0.2.5.1
BWTest	Baumgartner Weiss Schindler Test of Equal Distributions	0.2.2
cachem	Cache R Objects with Automatic Pruning	1.0.5
calculus	High Dimensional Numerical and Symbolic Calculus	0.3.1
callr	Call R from R	3.7.0



biblioshiny: Paso 9

Vamos a ingresar a la herramienta biblioshiny escribiendo el código `biblioshiny()`

The screenshot shows the RStudio interface with the following details:

- Console:** Displays the command `> biblioshiny()` and its output:

```
R 4.0.5 · 7:33 PM
[1] "Starting in an RStudio session, please use:
Aria, M. & Cuccurullo, C. (2017) bibliometrix: An R-tool for comprehensive science mapping analysis,
Journal of Informetrics, 11(4), pp 9
59-975, Elsevier.

https://www.bibliometrix.org

For information and bug reports:
- Send an email to info@bibliometrix.org
- Write a post on https://github.com/massimoaria/bibliometrix/issues

Help us to keep Bibliometrix free to download and use by contributing
with a small donation to support our research team (https://bibliometrix.org/donate.html)

To start with the shiny web-interface, please digit:
biblioshiny()

> biblioshiny()
```
- Environment:** Shows the message "Environment is empty".
- Packages:** A table listing available packages, including `bibliometrix` (version 0.1.0) which is checked.

A large red arrow points from the text "To start with the shiny web-interface, please digit: `biblioshiny()`" in the console output towards the input field where `> biblioshiny()` is typed.



biblioshiny: Paso 10

Apariencia de la herramienta biblioshiny dentro de su navegador de Internet

The screenshot shows the 'biblioshiny for bibliometrix' application running in a web browser. The top navigation bar includes links for Welcome, Data, Filter, Dataset, Sources, Authors, Documents, Clustering, Conceptual Structure, Intellectual Structure, Social Structure, and Quit. The main content area displays the title 'biblioshiny: The shiny app for bibliometrix' and a subtitle 'bibliometric: An R-tool for comprehensive science mapping analysis'. Below this is a citation: 'Aria, M., & Cuccurullo, C. (2017). bibliometric: An R-tool for comprehensive science mapping analysis. *Journal of Informetrics*, 11(4), 959-975.' A large logo in the center features a stylized blue and grey '3' shape inside a hexagon, with the word 'bibliometrix' written below it. At the bottom left, there is a 'Features' link. The bottom right corner of the slide contains a small logo consisting of overlapping red, green, and blue squares.

biblioshiny: Paso 11

Seleccione los datos que se incluyen de muestra.

The screenshot shows the top navigation bar of the biblioshiny application. The 'Data' menu item is highlighted with a red box. Below the navigation bar, there is a section titled 'Import or Load' with a sub-section 'Import or Load files'. A large red arrow points from the text 'Clic y seleccionar la opción "Use a sample collection"' to the 'Import or Load files' button. The rest of the interface includes fields for 'Please, choose what to do', 'Conversion results' (Number of Documents: 0), and 'Export a bibliometrix file' (Save as: dropdown).

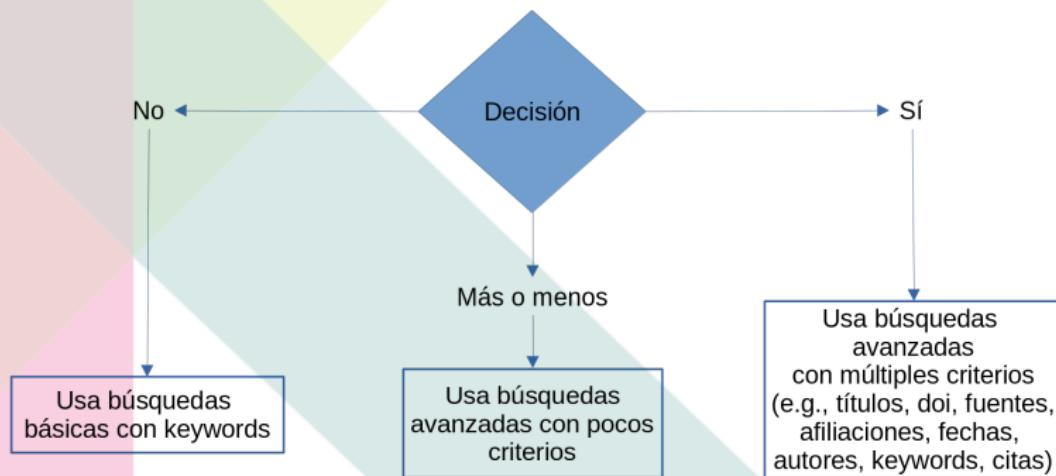
Clic y seleccionar la opción
"Use a sample collection"



biblioshiny adaptado a literatura específica

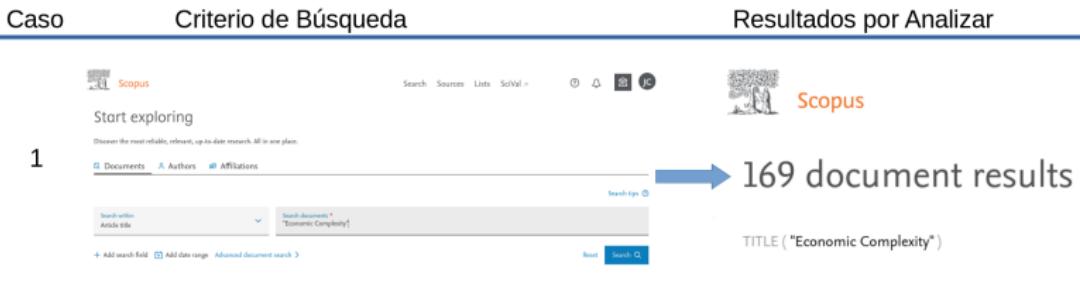
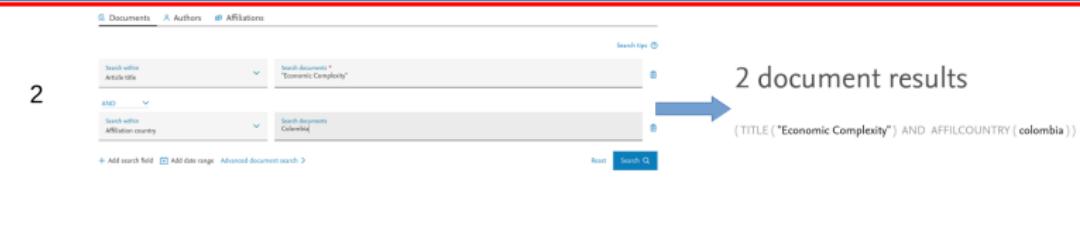
Antes de usar biblioshiny para analizar literatura actualizada y altamente especializada es necesario saber cómo buscar esta información.

¿Es usted un experto especializado en el tema?



biblioshiny adaptado a literatura específica

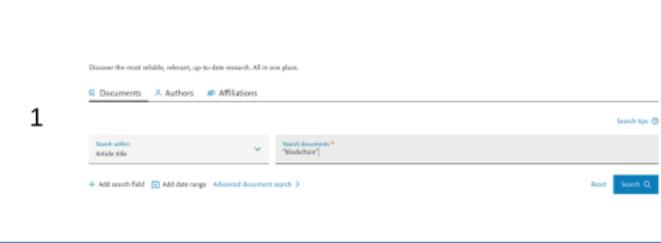
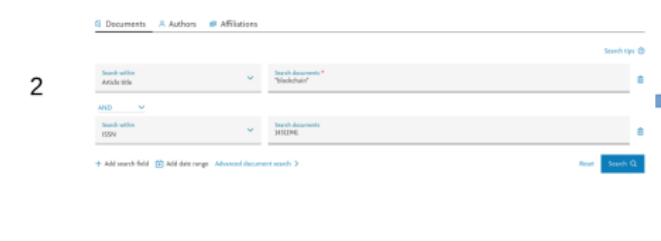
El caso 1 muestra 169 documentos que cumplen con el criterio de búsqueda. El caso 2 muestra 2 documentos que cumplen con los dos criterios de búsqueda. ¿Cuál usar?

Caso	Criterio de Búsqueda	Resultados por Analizar
1		169 document results TITLE ("Economic Complexity")
2	 A red box highlights the search interface for Case 2.	2 document results (TITLE ("Economic Complexity") AND AFFILCOUNTRY (colombia))



Ejemplo blockchain

El caso 1 muestra 13.089 documentos que cumplen con el criterio de búsqueda. El caso 2 muestra que al añadir el ISSN de una revista específica, el resultado cambia en tres órdenes de magnitud (i.e., solo 13 documentos). ¿Cuál usar?

Caso	Criterio de Búsqueda	Resultados por Analizar
1		13,089 document results TITLE ("blockchain")
2		13 document results (TITLE ("blockchain") AND ISSN (14311941))



Ejemplo blockchain

Veamos qué podemos hacer en biblioshiny para analizar lo publicado sobre blockchain únicamente en el año 2021 por parte de investigadores afiliados a instituciones de China.

716 document results

Export document settings ⓘ
You have chosen to export 716 documents
Select your method of export

MENDLEY EndNote RefWorks RIS Format CSV BibTeX Plain Text

EndNote, Reference Manager Excel ASCII in HTML

(TITLE ("blockchain") AND AFFILCOUNTRY (china)) AND (LIMIT-TO (PUBYEAR, 2021))

What information do you want to export?

Citation information	Bibliographical information	Abstract & keywords	Funding details	Other information
<input checked="" type="checkbox"/> Author(s)	<input checked="" type="checkbox"/> Affiliations	<input checked="" type="checkbox"/> Abstract	<input type="checkbox"/> Number	<input type="checkbox"/> Tradenames & manufacturers
<input checked="" type="checkbox"/> Author(s) ID	<input type="checkbox"/> Serial identifiers (e.g. ISSN)	<input checked="" type="checkbox"/> Author keywords	<input type="checkbox"/> Acronym	<input type="checkbox"/> Accession numbers & chemicals
<input checked="" type="checkbox"/> Document title	<input type="checkbox"/> PubMed ID	<input checked="" type="checkbox"/> Index keywords	<input type="checkbox"/> Sponsor	<input type="checkbox"/> Conference information
<input checked="" type="checkbox"/> Year	<input type="checkbox"/> Publisher		<input type="checkbox"/> Funding text	<input checked="" type="checkbox"/> Include references
<input type="checkbox"/> EID	<input type="checkbox"/> Editor(s)			
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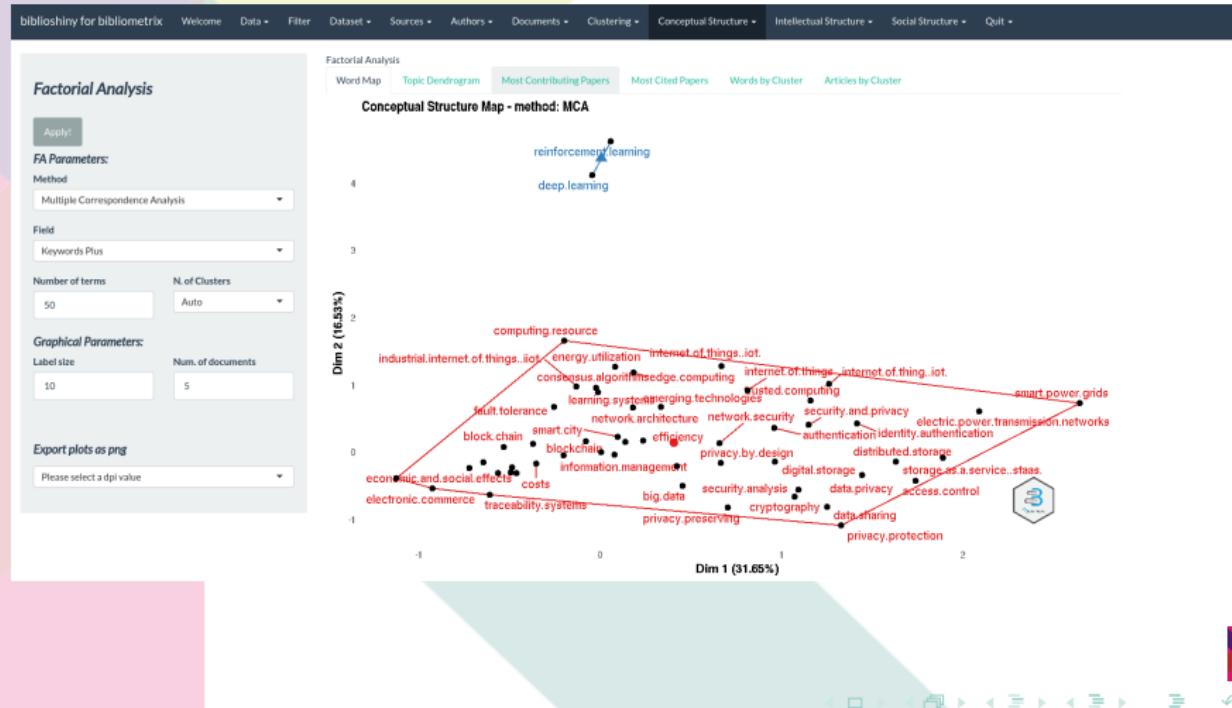
Ejemplo blockchain

Apariencia de biblioshiny luego de haber abierto los datos exitosamente, previamente descargados desde Scopus.



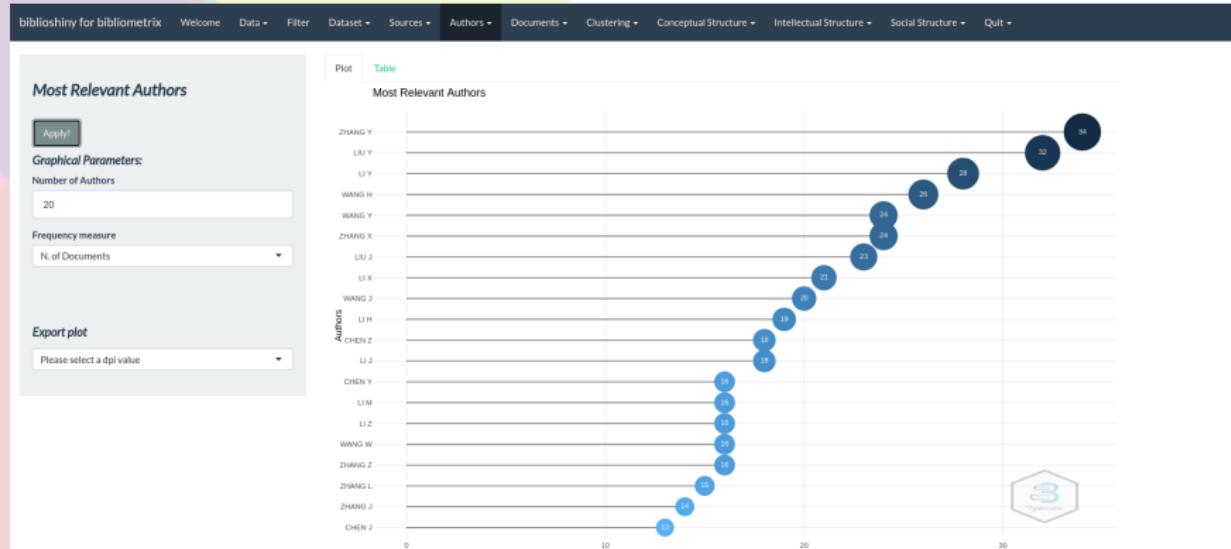
Ejemplo blockchain

Algunos resultados



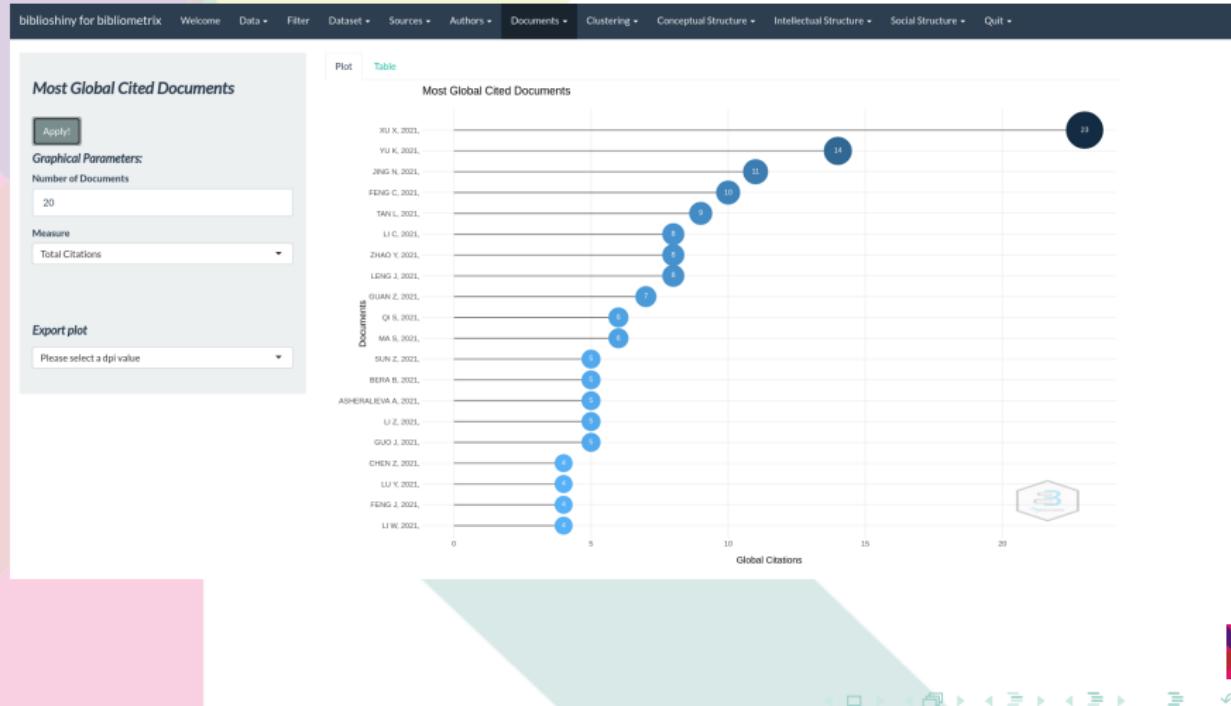
Ejemplo blockchain

Algunos resultados



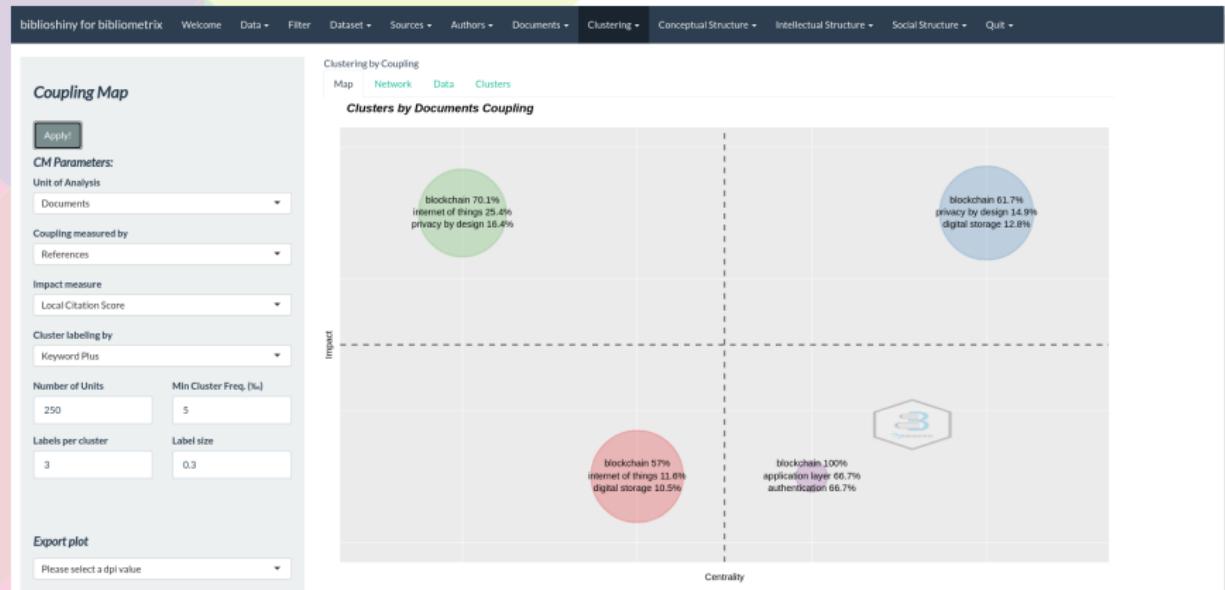
Ejemplo blockchain

Algunos resultados



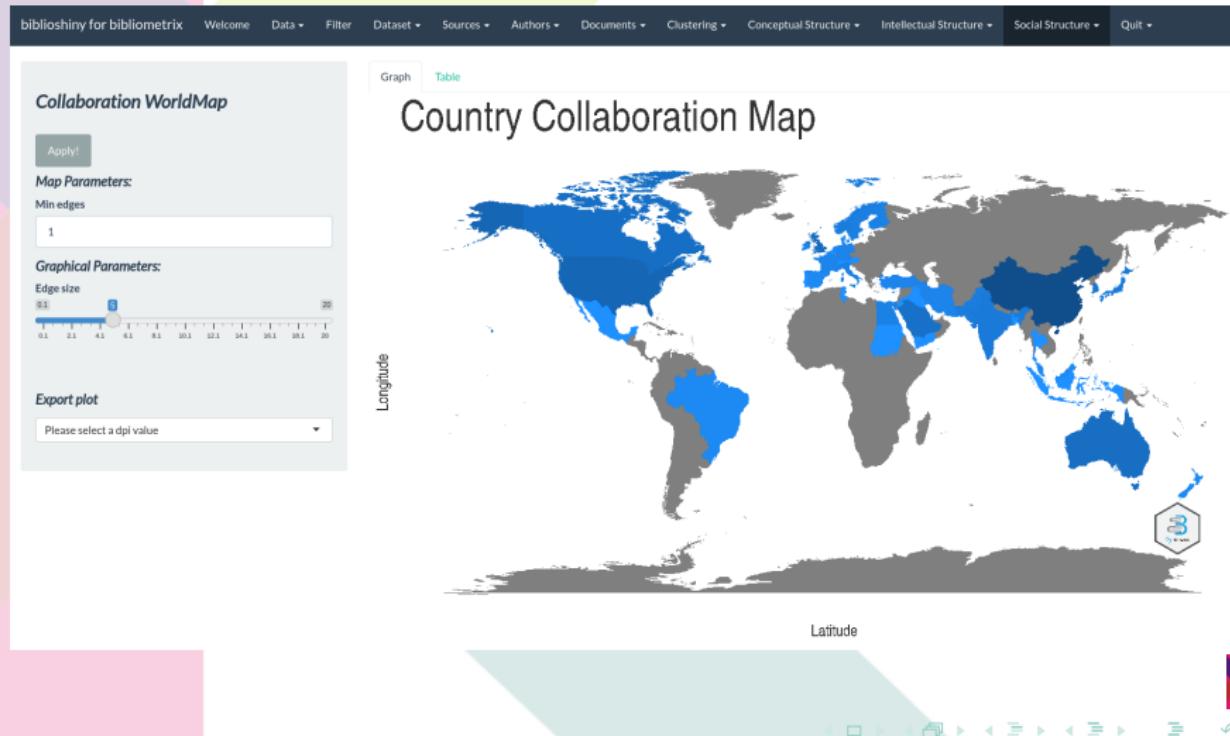
Ejemplo blockchain

Algunos resultados



Ejemplo blockchain

Algunos resultados



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