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# An Analysis of Search Results from Institutional Repository: Econpapers\*

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## Abstract

*The goal of this research is to examine and explore information retrieval process of patrons who access institutional repositories. Repositories are generally hosted by public universities and run by volunteers which allow researchers to submit their draft versions of their manuscripts in pre-print forms. In this study, we analyze using search methods to sort out research papers classified according to their levels of relevance that are available from a repository, and report the pattern of search results as our findings. Our model employs search methods for searching Econpapers which utilize RePEc bibliographic data. Our analysis attempts to highlight how information seekers, scholars and researchers search relevant topics of their interest and how relevant such information is which is retrieved from an institutional repository. This could aid researchers to modify their search processes to obtain better search results from their queries. The goal is to obtain the most relevant documents from online search. We discuss about the methods employed to retrieve information which is most pertinent to the requirements of researchers. A broad implication could be better utilization of time and resources for efficient retrieval of the most relevant documents of interest that could be expected from searching institutional repositories.*

**Keywords:** Econpapers, E-print, Institutional Repositories, Bibliometrics

## 1 Introduction

Institutional repositories have proven to be excellent sources of a variety of research outputs including scholarly documents which a researcher may find useful for undertaking

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\*. This research is an effort to understand the dynamics of how institutional repositories retrieve results. Opinions and views expressed are those of the authors, and do not necessarily represent the views of Jadavpur University, Andhra University or any other entity.

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research work on a particular topic or theme. The concept of Institutional Repositories have, both in theory and practice, changed the way by which information is managed in the internet (Bhardwaj 2014). It has also given a new dimension to how information in its unrestricted form can be widely disseminated by ensuring that the published works of scholars is available even if such works are not freely accessible from the journal houses. It can hardly be denied today that researching for online materials have become the norm of scholarly endeavors for researchers and scholars who seek information for their research work. And so, it is hard to doubt that the concept of open access which has enabled people to access information for free– is challenging. Institutional repositories (IRs) are meant to be open access initiatives. In fact, open access repositories and open access journals have transformed the nature of scholarly communications worldwide. They promote and support open access principle (Abrizah 2010) in response to the imposed restrictions on free access to information by commercial publishers of journals (Gideon 2008). IRs being skillfully organized sources of information, they are not just the means and ways of dissemination and storage of scholarly documents, but they also exist as digital sources of a variety of research outputs which can be accessed online in electronic formats. Besides, IRs appear to be excellent depositories of research information related to science, arts, humanities and social sciences which contains metadata for scholarly output instrumental for bibliometric analysis (Veller et al. 2010).

In this paper, although we do not perform bibliometric analysis per se, however, we indeed attempt to understand how institutional repositories supporting open access initiatives could prove to be more helpful to researchers who undertake research works. Following online search using keywords and phrases, we try to decipher the pattern of information displayed and its relevance with regard to what is being required for conducting scholarly research. Our analysis uses simple search methods to retrieve, examine and explore the pattern of contents of working papers and articles hosted and archived in the primary databases of a repository. While it is obvious that the searched query would likely show up results which is expected to match the topics or themes under investigation, it is only by comparing the levels of relevance with regard to the research questions proposed in an investigation that one could in practice deduce the significance and utility of the search results. Furthermore, we examine the retrieval mechanism of information following step-by-step search process to investigate what is being retrieved in order to determine how efficiently the related information could be traced and accessed online. We conceive, on the other hand, to examine how effectual the search process is, and how relevant the retrieved results are to researchers who perform literature review on specific topics.

## 2 Literature Review

How relevant are institutional repositories for researchers? In what way repositories support researchers in their research works? In academic research, literature review forms an integral component of scholarly effort (Branly 2004, Ridley 2012, Hart 2018). While performing Literature review, the traditional tendency, has been, in general, involved strenuous efforts on the part of the researchers using manual methods of searching printed materials from academic libraries for their research purposes (Hart 2018). However, the internet technology has changed the ways and means by which we access information (Lynn 2015). With the evolution of digital technology, literature review, too, has now become much less strenuous. This is the result of the availability of information on the web. Online

search engines and institutional repositories nowadays allow authors to search for relevant literature some of which are open and free to access. This is an improvement, rather a reformation which is revolutionary in its own sense. One could avail most recent digital copies of articles and research papers when such is available freely on the internet. Digital repositories in this sense are proving to be helpful as they are important for bibliometric and citation analyses as well. Bibliometric analysis of research outputs, too, have become more advanced with the aid of digital technology. Many authors have analyzed the benefits of online academic literature review (Hart 2018, Ridley 2018) using repositories run by volunteers and hosted by universities or institutes. Repositories serve as good sources of research materials some of which are yet-to-be published. Such research documents are widely disseminated and could be accessed by anyone from anywhere. However, not many studies were undertaken to measure the levels of efficiency and usefulness of searching for relevant literature using institutional repositories. This study, in particular, undertakes this initiative to analyze in what way institutional repositories prove to be useful to researchers in obtaining relevant information. Most institutional repositories allow online submission of and access to the pre-print version(s) of a completed manuscript. Authors are permitted to submit their yet-to-be published papers as pre-print versions (working paper) which are generally of scholarly in nature, and which are archived as online versions so that these could be accessed and downloaded for free. In this paper, we describe our experience with Econpapers hosted by RePEc site. Econpapers is an institutional repository hosted by the Örebro University School of Business. This site uses the RePEc bibliographic and author data to provide access to one of the largest collections of online scholarly documents on economics (Orazbayev 2017) and its related sub-disciplines. Our analysis involves searching the site using specific keywords and phrases correlated to our research theme. The content retrieved insofar from this institutional repository tells about the vast number of documents related to the domain of economics some of which proved to be useful to our research.

### 3 Research Questions

Division of phrases yields keywords that are one of the most important ingredients of a successful online search process. Online search for research documents require specific keywords or phrases related to the theme of research. To successfully accomplish a research project, it is vital that the researcher should know about what has been done in the past or how much work remains to be done on a particular field. Therefore, doing literature review is one of the most vital aspects of conducting a good research. The goal of this paper is to answer several questions about the significance of and the nature of information being retrieved from IRs following online search for relevant materials.

- **RQ1:** What is the pattern of response received from searching <https://econpapers.repec.org> site using keywords?
- **RQ2:** How far such retrieved materials are relevant to our research?
- **RQ3:** How can the quality of result retrieved from searching the site be improved and how it can be related to the findings of our research goal?

Our research, therefore, revolves around these three questions which we attempt to answer

in this short paper.

## 4 Methodology

For our analysis, we chose Econpapers site for performing search functions to understand the mechanism of information retrieval from repositories. Our model of search involves simple query processes about the topic of interest on a particular domain related to economics. Econpapers(<https://econpapers.repec.org>) more or less works as a scholarly search engine which runs on powerful algorithms with hardware support from the Örebro University. Our search query involves keywords followed by the whole phrase and then with parts of a phrase relevant to our research. Following this, we reexamine the efficiency of the search processes and behavior of algorithms behind the search engine which helps to retrieve relevant information on the topic of interest based on keyword search. The data obtained is used to compare between different kinds of search processes employed in this research and report the most efficient and useful method that could retrieve the most closely matched/relevant information on specific topics.

We begin by accessing the Econpapers.repec.org website which is part of RePEc and therefore, all the search results that could be retrieved are part of RePEc dataset. It fetches the contributed works of authors registered with the RePEc service only, and it does not fetch any information outside the RePEc domain. On the left panel of Econpapers, there is a search button which allows users to type in keywords or phrases to search for relevant topics.

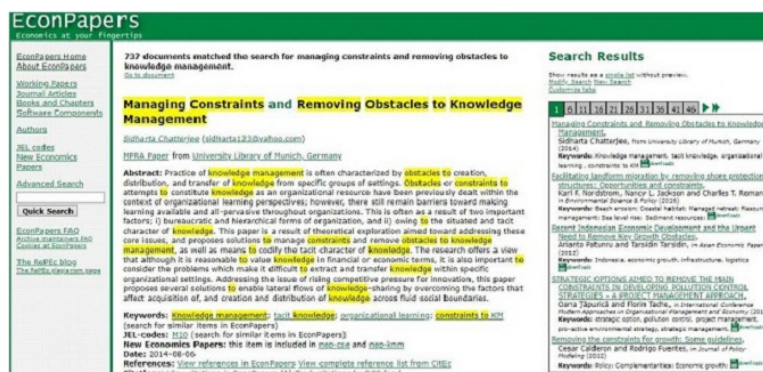


Figure 1.

We use this search function as well as the advanced search option to seek for information related to our topics of interest. On typing the keywords and pressing the quick search button, a page is displayed which shows the search results by retrieving information (working papers and articles) that most closely matches the keywords. The first page shows the article which exactly matches the title of the paper.



Figure 2.

On the right hand panel, search results which closely match the key phrases of the title are depicted listing the retrieved information which is sourced from the RePEc database. Using the advanced search options, users could further modify keywords and type in search phrases related to the main title of the paper. Special options for keyword search is provided to search for similar topics which could yield more information on related documents. We perform another search using the title of the paper written by Amartya Sen, “Hunger in the contemporary world”, to derive similar, but relevant research done on poverty and welfare economics. The search has yielded 180123 documents (Fig 3) which matched the title, but not all are relevant works. However, searching with the keyword *Hunger* alone does help to retrieve documents that are most relevant to the topic and theme of this domain of economics.

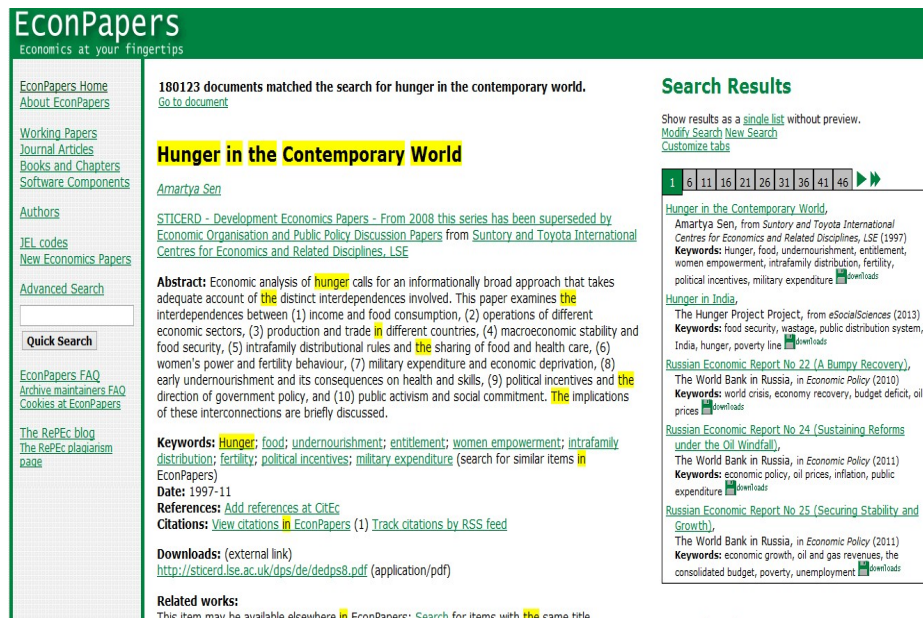


Figure 3.

About 2427 documents were retrieved which very closely matched with the main theme of the search. A similar search with the keyword *Hunger* in Ideas RePEc database (<https://ideas.repec.org/>) has yielded 2276 results for the keyword *Hunger* which shows

(we assume) that there might be slightly different algorithms that are operating behind these research databases—Econpapers and RePEc. However, both these searches yielded almost similar documents of relevance to the main theme of *Hunger*.

## 5 Results and Discussion

Our analysis has brought forth several interesting facts on the search process which would effectually help researchers to search and explore Econpapers more efficiently. On the top of the page, it shows that the search function has yielded 737 documents which matched the search process and that which has been displayed within the right hand panel that closely matches the keywords/key phrases used from the title of our previously published paper, “Managing constraints and removing obstacles to knowledge management”. Search results with a preview is shown in the customized tab which can be modified to display more information retrieved and the user is given the option to customize the search outputs of the tab as well.



Figure 4.

It could be observed that from the second page onwards, any paper with keywords or phrases like “Removing Constraints to” or articles which contain the word “obstacle” has been pulled up in the search and displayed in the customizable tab. As one moves further, the matching and relevance levels typically diminishes and only the keyword “constraints” in articles shows up displaying the working papers/articles which contain this word out of the main title which we have used for searching insofar. Further down the line, the articles being displayed containing the key phrase(s) seems to have little semblance or relevance at all with our parent title/research theme. One reason which might seem to be reasonable is that, that there has been much less research undertaken on this particular topic related to Knowledge management (KM). On the advanced search page, however, there are several options to modify the search process which allows further flexibility in searching for relevant documents. Not all and everything that came out of our search processes were relevant to our research; i.e., the search results following use of relevant keywords revealed many documents not related to our research as well. Domain specific repositories provide variable amount of flexibility in search outputs when compared to other search engines like Google

Scholar, but they offer more specific results to be retrieved on a specific topic than a general search engine would do. Repositories—furthermore, are sometimes poor sources of historical literature on a research topic although they offer a fair ground for conducting literature review.

We now compare our search results with RePEc database using the same title and keywords. As depicted above within the methodology section, we have performed keyword search with the topic *Hunger* to compare and contrast the search results obtained from these linked databases. Herein, following our search process, the results are displayed which is depicted below and which yielded less retrieved materials when compared to the Econpapers site (Fig 5).

**Search Results**

Show results as a [single list](#) without preview.  
[Modify Search](#) [New Search](#)  
[Customize tabs](#)

1 6 11 16 21 26 31 36 41 46 ▶▶

[Causes of hunger,](#)  
 Marc J. Cohen and Don Reeves, from *International Food Policy Research Institute (IFPRI)* (1995)  
**Keywords:** Food production ,Hunger Prevention ,Nutrition ,  
 downloads

[Arms and Hunger,](#)  
 Willy Brandt, from *The MIT Press* (1987)  
**Keywords:** arms, hunger, global poverty, famine, conflict

[The statistics of hunger,](#)  
 Roger W. Hay, in *Food Policy* (1978) downloads

[A Hunger for Plenty,](#)  
 Frank H. Golay, in *Challenge* (1959) downloads

[The Typology of Hunger,](#)  
 David Bigman, from *Hebrew University of Jerusalem, Center for Agricultural Economic Research* (1982)  
**Keywords:** Agricultural and Food Policy downloads

Figure 5.

## 6 Conclusion

Before concluding our analysis, we must mention about the limitations of this research. This research has been performed using a limited amount of dataset and involving only two institutional repositories—Econpapers and RePEc sites. We have not compared our results by examining other publicly available academic repositories like social science research network (<https://ssrn.com>) or ageconsearch (<https://ageconsearch.umn.edu/?ln=en>). It seems hard to resist coming to a conclusion that these repositories are excellent sources of information on a research topic, but the results are less discrete and one must complement such search activities using standard search engines like Google Scholar, Scopus, and other institutional repositories like Medline, PubMed, etc. However, the search processes definitely yielded materials (documents) of relevance some of which can be downloaded for free. It is evident, therefore, that IRs could complement the search process to retrieve documents which could be useful to researchers pursuing research work. Skilfully organized sources of information like these institutional repositories are turning out to be hallmark of open access initiatives owing much to the efforts of volunteer groups and institutional support which they enjoy. More research on this theme needs to be done to understand and study the patterns of content delivery process of these IRs and consequently, would likely shed more light on improving search processes to derive better results.



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