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BIBLIOMETRICS PROPOSAL AND THE ROLE OF THE LIBRARY AND INFORMATION CENTER IN VIETNAM NATIONAL UNIVERSITY, HANOI

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ABSTRACT

This paper presents an approach to evaluate the scientific work of the Vietnam National University, Hanoi, to meet the diversity of research fields within the organization. This proposal has implications assessment and classification of research activities of faculties and research staffs, and for ranking training organizations in the evaluation system, ranking of universities higher education in Vietnam.

Key Words:

Bibliometrics, Vietnam National University, Scientific Evaluation, Library and Information Center.

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INTRODUCTION

Vietnam National University, Hanoi (VNU) founded 1993 is a multidisciplinary university, multidisciplinary. Its predecessor is the University of Indochina, was established in 1906. The VNU has seven universities in which University of Science and University of Social Sciences and Humanities. The VNU has developed a database of scientific research works for building systems of science citation index [Magazine Vietnam National University, 2016]. The database has to use information from Library and Information Center (LIC) and the synthesis of the results of research and training of the staff and students of the VNU. The problem is that the formula used for more general assessment of research in the VNU should ensure relative fair levels to various disciplines of research. This will facilitate the integration of data in the database of quotations in line with the general trend (ACRL, 2016). Scientific activities in the field of social sciences and humanities is not the same with the field of natural sciences, so

the evaluation of research results of the staff of different organizations in the VNU should be different. The use of the H index or IF index alone is not an appropriate solution in the VNU. Main objective of the article is to propose a composite index to match the current state of research within the organizations of the VNU.

Scientific activities of the VNU

Scientific research work in the VNU is classified after (i) programs and projects, scientific research; (ii) development fund on science and technology; (iii) the products of science and technology, in the form of publications, intellectual property, product and technology. About the selection and identification of indicators for scientific publications, we want to follow the approach of the State Council of Professor Title of Vietnam (The State Council of Professor Title of Vietnam, 2016). The publications may be reflected in a number of parameters. The judgment was in favor of Prof. Nguyen HuuDuc, Deputy President of the VNU and Prof. Nguyen DuyHien, nuclear physics experts.

Scientific research team of the VNU is shown in the following table

Discipline/ specialty	Scientific title		Qualification	
	Professor	Associate Professor	Doctor	Master
Total	51	336	881	1,340
Mathematics	8	24	68	49
Physics, Engineering Physics and Nanotechnology	9	33	76	50
Chemistry and Pharmacology	3	28	77	44
Biology and Biomedicine	2	24	65	66
Earth Science and Environment	7	49	102	108
Information Technology	2	10	40	59
Electronics Telecommunications and Automation	0	8	23	20
Social Sciences and Humanities	8	98	212	250
Languages and International Studies	3	28	98	405
Economy	1	23	74	160
Jurisprudence	5	10	28	42
Education and Educational Administration	3	1	18	87

Some comments for Index

- *ISSN for magazines and ISBN code for books.* Once you have only the ISSN, the international magazine will be officially recognized and introduced on a global scale. But ISSN is not related to the protection of property rights, copyright protection or the title of a serial publication with other publishers. Unlike the selection and sorting by quality scientific journals of Institute for Scientific Information (ISI) or Scopus Elsevier Publisher, author index of a journal is not related to the scientific quality of the article published in it;
- *ISI Classification.* ISI has quality selection of magazines in the world a rigorous and thorough way to put into their databases. Although there are still no unified opinion, but the ISI remains one of very few classifications recognized and widely used when discussing the scientific quality of the research. The United Nations, governments and international organizations often use statistics from ISI in management and planning of science policy and technology. The statistics and evaluation of science, technology and engineering if not under ISI shall be different from international statistics;
- *Scopus Classification.* Besides classification ISI, many organizations world ranking, eg ranking of scientific research organization facilities SCIMAGO, university ranking organization... also use the database from the Scopus Elsevier. To be listed on the list of Scopus, the journals were selected strictly. The data from Scopus was SCIMAGO used to evaluate and rank scientific journals and educational institutions, scientific research. According to statistics, in the more than 2,800 strong research units in the world, Vietnam has named three units: Vietnam Academy of Science and Technology, National University of HCMC and VNU;
- *The H and IF.* When ranking (fairly accurately) scientific journals in the world people often rely on the quality indicators of scientific journals, eg influence index IF (Impact Factor) and H index (H-index). "It is very difficult to assess the quality of scientific research projects, because the scientific community has yet to agree a unified standard for all research areas" [2]. However, two indicators (related to each other) is often used to assess the quality of a scientific study is only the impact and number of citations.

In early 2017, the University of Natural Sciences of the VNU ended round quality accreditation education standards Network of Southeast Asian Universities (AUN-QA). They used the

quality evaluation criteria AUN University includes 25 standards and 111 criteria divided into 4 groups: (i) quality assurance strategies (Strategic QA); (ii) quality assurance system (systemic QA); (iii) ensure implementation strategy (Functional QA); and (iv) results.

Proposal for index reflecting scientific publications in the VNU

With many diverse activities, in various fields, using a general evaluation of the publication in the VNU is not feasible. An article in natural sciences is different to ones in social sciences and humanity.

Therefore we propose

1. Either each specialized uses special rating system, corresponding to assessments of international organizations. In this case, the reference to the assessment of the State Council of Professor Title of Vietnam is needed;
2. Or constructing a common formula for evaluation of articles to all activities of VNU.

For both approaches, the magazine's prestigious publication is always a problem to consider. The fact is that the difficulties of the international publication in various journals are not the same. Therefore efforts of publishing in prestigious journals are recognized.

With general comments about Vietnamese situation, based on the main activities of VNU, we propose to evaluate the scientific publications at VNU by:

$$X = a * (b * c * IF * H + d).$$

where :

- X is the index for evaluation of scientific publications Y ;
- a is a factor affecting the classification of the prestigious magazine. This coefficient is a positive integer, with values 1.10. So if the magazine published by Y has subject ISI, a is a high coefficient;
- b are coefficients balancing assessment H index for publication Y . The coefficient b are real numbers taking values in the range (0, 1). This coefficient is determined for each specialty, such as biology often use indices H, can be obtained $b = 0.95$ and impact indicators take $c = 1 - b = 0.05$;

- c is symmetrical coefficients evaluated IF. Same as b , c receive value in the range (0, 1). Here $c = 1-b$;
- d is the adjustment coefficient assess the scale of the H index and evaluated in the impact index IF.

Thus each of the specialized scientific activities of the VNU takes the (a , b , c , d) of their own.

Comments on this proposal

1. Approach of assessment by a common formula allows a comparison of different published in VNU;
2. Each specialized has parameter (a , b , c , d). The coefficients are determined by expert opinion;
3. The common formula is according to the assessment indicators H and impact indicators IF.

Under the current conditions in the VNU, the evaluation of research results by criteria as common criteria is popular. However, to use the mixed-review formulation, there is a need for experiments that allow compare criteria at various institutions in the VNU. This paper only proposes a formula to solve the above problem, based on the analysis and survey of the actual situation.

Concluding remarks

LIC is served in the VNU organization, is responsible for organizing and providing information and materials for the learning process, research staffs and students of the VNU. Based on the assessment and the related work that LIC is involved, it is necessary to do some ways in which the research libraries can support the evaluation process research (Maccoll, 2010). Specific proposals are as follows:

- The LIC should be a source of knowledge about the standards and practices of the research results for their organizations. Each branch has its own unique form of output includes essays, monographs, research papers, conference reports and magazines specializing in different types;
- The LIC should seek to maintain the environment in which the branch can develop while coexisting with the provisions of the legislation. A balance needs to be struck between research for specialized treatment process and research to national economic development;

- The LIC need data management results in large-scale national and international. While the research assessment system requires data from a range of different organizations (eg, level financial data, the number of students ...), the LIC should express a strong role in the management of these systems;
- The LIC shall be responsible for the effective operation of the repository research findings. The LIC contacts both in the organization of the LIC and cooperation with the outside. The LIC should play a leading role in the development and maintenance of information technology equipment for data storing, for different branches of research in the VNU, at a lot of level of information network;
- The LIC should provide computing solutions, bibliometrics. A number of research evaluation mode combines measures of bibliometrics, substantial extent appropriate;
- The LIC must provide proof of use. Consider how the LIC can provide more data to the assessment process to help the assessment system to be more objective. Digital libraries can be used in evaluation measure (for example in concerning to management, circulation of information resources);
- The LIC should have special privileges. The LIC should get authorization for proposing tasks and solutions for assessment of research results in the VNU.

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