


Scientific production of the thesis advisors of a Peruvian public university

Producción científica de los asesores de tesis de una universidad pública de peruana

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Abstract

The objective of this research was to analyze the scientific production of the thesis advisors of a public university in the Peruvian Amazon. The research was bibliographical, retrospective and descriptive that included 70 teachers who were advisors of theses concluded during the period 2020-2022. The scientific production of these advisors was identified through the search of their registered publications in the Scopus and Web of Science databases. According to the results, 64.3% did not have any publication in Scopus and 35.7% did have at least one publication. On the other hand, 68.6% did not have any publication in Web of Science and only 31.4% had at least one publication. Likewise, it was identified that the main types of publications were original and review articles. It was concluded that the scientific production of the thesis advisors in Scopus and Web of Science was low, so it is necessary for the university to develop policies aimed at developing their research skills so that the research they carry out is increased and can be published in journals. quality and high impact scientific articles, indexed mainly in Scopus and Web of Science.

Key Words: Scientific production, thesis advisor, research, scientific publication, university education, bibliometrics, teachers.

Resumen

El objetivo de la presente investigación fue analizar la producción científica de los asesores de tesis de una universidad pública de la Amazonía peruana. La investigación fue bibliográfica, retrospectiva y descriptiva que incluyó a 70 docentes que fueron asesores de tesis concluidas durante el periodo 2020-2022. La producción científica de dichos asesores fue identificada a través de la búsqueda de sus publicaciones registradas en las bases de datos Scopus y Web of Science. De acuerdo a los resultados, el 64,3% no contaban con ninguna publicación en Scopus y el 35,7% sí tenía al menos una publicación. Por otro lado, el 68,6% no contaba con ninguna publicación en Web of Science y solo el 31,4% contaban con al menos una publicación. Asimismo, se identificó que los principales tipos de publicaciones fueron los artículos originales y de revisión. Se concluyó que la producción científica de los asesores de tesis en Scopus y Web of Science fue baja, por lo que es necesario que la universidad desarrolle políticas orientadas al desarrollo de sus competencias investigativas para que se incrementen las investigaciones que realizan y puedan publicarse en revistas científicas de calidad y alto impacto, indexadas principalmente en Scopus y Web of Science.

Palabras clave: Producción científica, asesor de tesis, investigación, publicación científica, educación universitaria, Bibliometría, docentes.

Currently, universities are the main scenario to develop research, since their purpose is the generation and transmission of knowledge¹. However, in Latin America, the reality of research is still not what was expected, because despite the increase in the number of scientists and research policies, science has not been able to consolidate itself as an engine of the economy, which translates into a limited scientific production. This term refers to the expression of knowledge, the product of research in certain areas², and, although scientific production has grown in Latin America, it is still insufficient compared to countries such as China, the United States, UK, India and Germany³. As is known, the results of the research carried out can be part of the new knowledge if they are published in a scientific journal, which has to meet quality and impact indicators and must be indexed in important and demanding databases such as Scopus and Web of Science⁴.

In the Peruvian context, since 2014 the University Law 30220 was enacted, which establishes that scientific research is an essential and mandatory task that must be addressed by teachers, students and graduates, so that universities must promote a culture research⁵. It is then from this law that the universities had to readjust and optimize their research policies and from 2014 they began to promote the development of scientific research and scientific production, since it plays a preponderant role in the progress of a country to through the promotion of the generation of new knowledge for problem solving⁶. Now, although scientific production is a fundamental part of the activity of the university teacher as part of the research and dissemination of scientific knowledge⁷, there are many limitations from a quantitative and qualitative perspective because there are few university professors who investigate.

In universities, a leading role in the field of research and scientific production is played by thesis advisors, who must be assigned by the deans of each faculty based on their suitability and investigative skills with the purpose of supporting students during their studies. the development of their thesis until its academic defense, therefore, they are considered a key piece during this said process⁸. However, guiding a thesis is not an easy task, since during its preparation process the development of basic knowledge and skills for scientific research, critical thinking and problem solving are required, qualities inherent to research advisors⁹. Additionally, they must know how to listen and attend, be competent, maintain good spirits, have a clear and precise methodology and, above all, show commitment to the training of researchers for the country, a necessary aspect in times where the thesis is mostly conceived as a requirement. more to qualify than as a contribution to scientific knowledge¹⁰.

There are some studies that determined that the methodological quality of the theses supported, approved and stored in university institutional repositories was fair or poor¹¹⁻¹³, which would imply that the thesis advisors would be performing inadequately and probably would not have the investigative and didactic skills to guide the research work of their advisees. Likewise, other studies found low scientific production^{2,9,14,15},

which would reflect the little or no experience in publication and production scientific.

In recent years, the subject of scientific production of thesis advisors has been investigated in some professional careers, however, an institutional analysis has not yet been reported or in universities of the Peruvian Amazon. Therefore, the objective of this research was to analyze the scientific production of the thesis advisors of a public university in the Peruvian Amazon.

Materials and methods

The research was characterized by being of a bibliometric, retrospective and descriptive type¹⁶, where the scientific production of the thesis advisors completed during the 2020-2022 period of the Universidad Nacional Amazónica de Madre de Dios (UNAMAD) was described in the Scopus and Web of Science databases. It is necessary to specify that these databases were chosen because they have a broad and multidisciplinary coverage of journals, standardized impact registration and bibliometric tools that allow quick and efficient filtering and analysis¹⁷.

Table 1 shows that, of the total advisors, 70% were men and 30% were women. Regarding the faculty, 41.4% were from Education, 35.7% from Engineering and 22.9% from Ecotourism. Regarding the highest level of studies achieved, 47.3% had a doctorate, 41.4% a master's degree and 11.4% only had a professional degree. Regarding their status as researchers, 85.7% were not qualified as RENACYT researchers and only 14.3% were qualified. Finally, regarding employment status, 75.7% were appointed teachers and 24.3% hired teachers.

Table 1. Sociodemographic and academic characteristics of the sample.

Sociodemographic and academic characteristics		n= 70	%
Gender	Male	49	70.0
	Female	21	30.0
Faculty	Engineering	25	35.7
	Ecotourism	16	22.9
	Education	29	41.4
Highest level of studies achieved	Doctorate	33	47.2
	Master's degree	29	41.4
	Job title	8	11.4
Qualified as a RENACYT investigator	Yes	10	14.3
	No	60	85.7
Labor condition	Hired	17	24.3
	Appointed	53	75.7

To identify the scientific production of the advisors, they were initially identified by each faculty. Subsequently, a search was made for their publications in the Scopus and Web of Science databases, where the number and types of indexed articles were determined. To perform the descriptive statistical analysis, it was necessary to use the Microsoft Excel and SPSS programs, in which the data were systematized and the tables and figures were prepared for a better interpretation. On

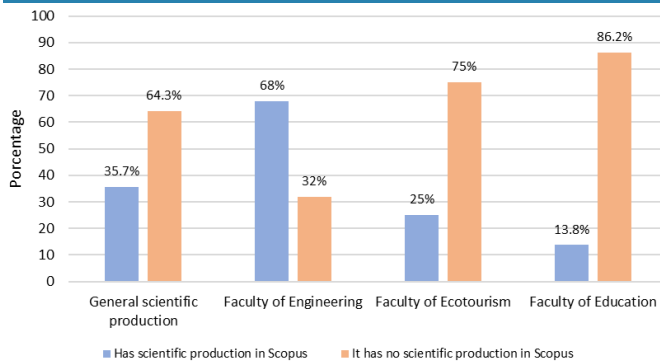
the other hand, for the inferential analysis, the non-parametric Chi Square test (X^2) was used in order to determine if the scientific production in Scopus and Web of Science was significantly associated with some sociodemographic and academic characteristics of the advisors.

In the present investigation there was a minimal risk, since no intervention was carried out, no patient data or biological samples were obtained and the information retrieved is in the public domain, for which it was not necessary to request the authorization of an Institutional Ethics Committee. Finally, the authors guarantee the confidentiality of the information obtained, which will not be used for purposes other than the development of this work.

Results

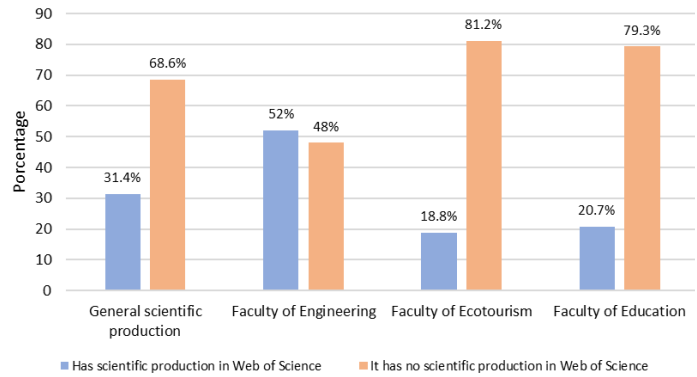
Figure 1 shows that, at a general level, 64.3% of the UNAMAD professors who had been appointed thesis advisors did not have any publication in the Scopus database and 35.7% did have at least one publication least one post. When carrying out the specific analysis, it can be seen that in the Faculty of Engineering, 68% of advisors had publications while 32% had none. In the Faculty of Ecotourism, 25% of advisors had publications and 75% did not have publications. Finally, it is seen that the Faculty of Education was the one with the least scientific production, since only 13.8% of the advisors had publications indexed in Scopus and 86.2% did not have any.

Figure 1. Scientific production of the thesis advisors in Scopus



The data shown in Figure 2 indicate, at a general level, that only 31.4% of the thesis advisors had at least one publication in the Web of Science database while 68.6% had none publication. The faculty with the highest productivity was Engineering, where 52% of the assigned advisors had published and 32% had not published. Regarding the Faculty of Ecotourism, 25% of advisors had publications and 75% did not have any. In relation to the Faculty of Education, it was also characterized by the fact that the advisors had the lowest scientific productivity, since only 13.8% had publications and 79.3% did not have any.

Figure 2. Scientific production of the thesis advisors in Web of Science



According to Table 2, 98.6% of the scientific publications of the UNAMAD thesis advisors in the Scopus database were of the original article type while 1.4% were of the review article type. When performing the analysis by faculties, we can observe that only 1 review article was published in Engineering, while only original articles were published in the other faculties.

Table 2. Types of publication in Scopus at a general level and by faculties

Types of publication	General		Faculty					
			Engineering		Ecotourism		Education	
	n	%	n	%	n	%	n	%
Original article	68	98.6	48	98.0	11	100.0	9	100.0
Review article	1	1.4	1	2.0	0	0.0	0	0.0
Total	69	100.0	49	100.0	11	100.0	0	100.0

The picture seems to be similar with respect to Web of Science publications. Table 3 shows that, at UNAMAD, 96.9% of advisors published original articles and 3.1% published review articles in said database. When looking at the scientific productivity by faculties, it can be seen that only 1 review article was published in Engineering and only original articles were published in Ecotourism and Education.

Table 3. Types of publication in Web of Science at a general level and by faculties

Types of publication	General		Faculty					
			Engineering		Ecotourism		Education	
	n	%	n	%	n	%	n	%
Original article	32	96.9	16	94.1	3	100.0	13	100.0
Review article	1	3.1	1	5.9	0	0.0	0	0.0
Total	33	100.0	17	100.0	3	100.0	13	100.0

Table 4 shows that the variables Faculty and qualification as a RENACYT researcher were significantly associated with scientific production in Scopus ($p < 0.05$). In this sense, the thesis advisors of the Faculty of Engineering and who had been qualified as RENACYT researchers presented greater scientific productivity in the Scopus database compared to the advisors of the other faculties and who were not qualified as researchers.

According to Table 5, the variables gender, Faculty and qualification as a RENACYT researcher were significantly associated with scientific production in the Web of Science ($p < 0.05$). In that order of ideas, the male advisors, belonging to the Faculty of En-

gineering and who had been qualified as RENACYT researchers, presented greater scientific productivity in the Web of Science database compared to the women, belonging to the other faculties and who did not. They were qualified as investigators.

Table 4. Association between the characteristics of the advisors and the scientific production in Scopus

Sociodemographic and academic characteristics		Scientific production in Scopus		X ²	p-value
		Yes	No		
Gender	Male	18 (36.7%)	31 (63.3%)	1.113	0.291
	Female	5 (23.8%)	16 (76.2%)		
Faculty	Engineering	14 (56.0%)	11 (44.0%)	9.723	0.008
	Ecotourism	4 (25.0%)	12 (75.0%)		
	Education	5 (17.2%)	24 (82.8%)		
Highest level of studies achieved	Doctorate	13 (39.4%)	20 (60.6%)	2.186	0.335
	Master's degree	9 (31.0%)	20 (69.0%)		
	Job title	1 (12.5%)	7 (87.5%)		
Qualified as a RENACYT investigator	Yes	8 (80.0%)	2 (20.0%)	11.753	0.001
	No	15 (25.0%)	45 (75.0%)		
Labor condition	Hired	3 (17.6%)	14 (82.4%)	2.355	0.125
	Appointed	20 (37.7%)	33 (62.3%)		

Table 5. Association between the characteristics of the advisors and scientific production in Web of Science

Sociodemographic and academic characteristics		Scientific production in Scopus		X ²	p-value
		Yes	No		
Gender	Male	19 (38.8%)	30 (61.2%)	4.091	0.043
	Female	3 (14.3%)	18 (85.7%)		
Faculty	Engineering	13 (52.0%)	12 (48.0%)	7.654	0.022
	Ecotourism	3 (18.8%)	13 (81.2%)		
	Education	6 (20.7%)	23 (79.3%)		
Highest level of studies achieved	Doctorate	13 (39.4%)	20 (60.6%)	1.840	0.398
	Master's degree	7 (24.1%)	22 (75.9%)		
	Job title	2 (25.0%)	6 (75.0%)		
Qualified as a RENACYT investigator	Yes	8 (80.0%)	2 (20.0%)	12.771	0.000
	No	14 (23.3%)	46 (76.7%)		
Labor condition	Hired	5 (29.4%)	12 (70.6%)	0.042	0.837
	Appointed	17 (32.1%)	36 (67.9%)		

Discussion

Scientific research is considered a fundamental activity for development, since it promotes the generation of new knowledge that can be applied in solving the problems that affect society. Currently, Peruvian universities are developing scientifically and academically from the enactment of University Law 30220 and the consequent establishment of the National Superintendence of Higher University Education - SUNEDU. So, to contribute to the development of research and increase scientific production, the participation of all members of the university educational community is necessary. In this sense, in the present investigation the scientific production of the thesis advisors of a public university in the Peruvian Amazon was analyzed.

A first result shows that the scientific production of the thesis advisors was low, both in Scopus and in Web of Science, databases with the greatest impact worldwide. At a general level, it was found that 64.3% of the advisors did not have

any publication in Scopus, while in Web of Science the figure reached 68.6%. The exposed data is very worrying, since they must be highly competent professionals and have a theoretical, methodological and analytical domain in order to provide timely guidance so that their advisees carry out quality research work and successfully complete said process. However, at UNAMAD there were very few who demonstrated the aforementioned skills through scientific production, which would happen because they do not have the investigative or didactic skills that allow them to write and publish.

Several investigations reported similar results to the one exposed, so the problem of low scientific production in thesis advisors occurs recurrently until today in the Peruvian context. Thus, a study focused on identifying the frequency of scientific publication of nursing thesis advisors from three public universities was carried out and they determined that said frequency was low and worrying because only 16.7%

published at some time in their life and only 6.1% in the last 3 years; Of this group, 4 managed to disseminate in Scielo and 1 in Scopus¹⁵. Likewise, another investigation was developed with the purpose of evaluating the frequency of scientific publication of the thesis advisors of a Faculty of Medicine of a public university and they determined that it was very low, since only half of them published, at least once, in his life, a scientific article¹⁴. A study was also carried out to identify the scientific publication of undergraduate thesis advisers in a School of Medicine in Cusco and it was determined that less than half of the thesis advisers had published a scientific article in the Scielo, Medline and Scopus databases at some time in their lives and only one in eight had done so in the last 3 years².

Another result found shows that almost all the publications in the Scopus and Web of Science databases were original articles and only 1 publication was of the review article type. The exposed result coincides with that reported by a study carried out in Peru, where it was sought to evaluate the scientific production of the Universidad de San Martín de Porres between the period 1995-2020 and it was determined that 67.7% of the publications indexed in Scopus were original articles while 18.6% were letters to the editor¹⁸. In the same way, it coincides with another study also carried out in Peru, whose purpose was to analyze the scientific production of the rectors of licensed Peruvian universities and determined that 66.7% of the scientific production corresponded to original articles, while 20% to congress articles¹⁹.

When analyzing the scientific production and the sociodemographic and academic characteristics of the thesis advisors, it was determined that there was a significant association between scientific production and the faculty, as well as the qualification of RENACYT researcher ($p < 0.05$). In this sense, it was determined that Engineering was the most productive faculty in both databases, while Education was the one with the fewest publications. This would happen because a third of the thesis advisors of the Faculty of Engineering were designated as researchers by the National Council of Science, Technology and Technological Innovation (CONCYTEC). As is known, research professors are qualified and designated, after an evaluation of their academic and scientific production, in the National Scientific, Technological and Technological Innovation Registry – RENACYT²⁰. Then, the aforementioned factor would lead to the Faculty of Engineering having greater scientific production, since these teachers usually publish regularly.

Based on the information presented, it is necessary that the universities consider at the time of the selection of the thesis advisors, that they have knowledge and experience in research, not only theoretical, but also practical, and that this is reflected in their scientific production. in journals indexed in quality databases.

Conclusion

In the present investigation it was determined that the scientific production of the UNAMAD thesis advisors in the Scopus and Web of Science databases was low. Of the 3 faculties that make up the aforementioned university, Engineering was the one with the largest number of publications, followed by Ecotourism and Education. Likewise, of the total publications of the advisors, almost all were original articles and only 1 was a review article.

On the other hand, it was determined that the male advisors, who belonged to the Faculty of Engineering and who had been qualified as RENACYT researchers, presented greater scientific productivity, both in Scopus and in Web of Science, compared to the women, who belonged to the other faculties and who were not qualified as researchers. By virtue of the foregoing, it is recommended that the university develop policies aimed at developing the investigative skills of the thesis advisors so that the research they carry out is increased and can be published in quality and high-impact scientific journals, indexed mainly in databases data such as Scopus and Web of Science.

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