



Management

## RESEARCH MANAGEMENT IN THE FACULTY OF SCIENCES

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### Abstract

Research is considered a function aimed at obtaining new knowledge and its application for the solution to problems or questions of a scientific nature. Management is defined as the set of actions aimed at the development and fulfillment of an activity. Thus, research management is conceptualized as the institutional activity oriented to search, study, knowledge of reality, systematization of this knowledge and its transfer to meet needs and contribute to solving society's problems.

University research management must have a continuous improvement approach based on methodologies that although they are different have as a common denominator: the identification, characterization, evaluation and improvement of the process. The objective of this work is to characterize the management of research in the Faculty of Medical Sciences of an Ecuadorian university.

**Keywords:** Research Management; Scientific Activity; Scientific Production.

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### 1. Introduction

To achieve quality in higher education it is necessary to experience major changes in the institutions that lead to transformations in their academic, administrative and financial processes. Currently, major changes in university systems are happening worldwide. Already experts in the field of higher education have affirmed that the 21st century will be the period of highest growth in higher education in the history of education, with important changes in the system, so universities will be obliged to make adjustments in order to fit with the financial public sector management systems.<sup>1</sup>

Research is considered a university function aimed at obtaining new knowledge and its application for the solution to problems or questions of a scientific nature. Management is defined as the set of actions aimed at the development and fulfillment of an activity. Thus, research management is conceptualized as the institutional activity oriented to search, study, knowledge of reality, systematization of this knowledge and its transfer to meet needs and contribute to solving society's problems.<sup>2</sup>

To achieve quality management, research development policies at the University must comply with national policies aimed at strengthening scientific and technological research, although the university can formulate its own proposals. Higher education institutions must develop research programs, which identify the priority lines that will work through the centers of excellence, and / or Research Departments of their academic units.<sup>3,4,5</sup>

These lines must be related to state policies, with the main problems of society identified, as well as with the Vision and Mission of the University and the faculties, and therefore contribute to the institutional development and the broad social project to contribute to the development of the country.

It is a necessity nowadays to carry out a quality research management that promotes scientific collaboration processes between universities, research centers, national government, local governments and the productive sector, to unify criteria and efforts that allow the development of basic, applied and technological research. .6.7. The objective of this work is to characterize the management of research in the Faculty of Medical Sciences of an Ecuadorian university

## 2. Material and Method

This is a non-experimental descriptive study carried out at the Faculty of Medical Sciences of the University of Guayaquil, with the objective of characterizing research management in this institution. Methods of the theoretical and empirical level were used.<sup>8</sup> The sample consisted of 28 academic authorities to whom a questionnaire validated by the experts with closed questions regarding the management of the research was applied. The variables analyzed were the information was processed in the SPSS statistical package, the results are presented in tables.

## 3. Results

Table 1: Operation of the guidelines and policies governing the investigation

Ítems	Number of authorities	Percent
Strongly agree	16	57,1
Agree	7	25,0
Indifferent	3	10,7
Disagree	2	7,1
Strongly disagree	-	-
TOTAL	28	100

The operation of the guidelines and policies that govern the investigation are shown in Table 1. When analyzing the results of the instruments applied to the authorities to verify the investigation

management, it was found that 57.1% strongly agreed that There are policies and regulations that govern research, however, 25% said they agree only.

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Table 2: Operation of the research process plan

Ítems	Número de autoridades	Por ciento
Strongly agree	17	60,7
Agree	5	17,9
Indifferent	1	3,6
Disagree	5	17,9
Strongly Disagree	-	-
Total	28	100

Regarding the operation of the research process plan (table 2), 60.7% of the authorities say that it works properly. On the other hand, it was obtained as a result that 3.6% of the authorities were indifferent.

Table 3: Existence of the investigation procedures manual

Ítems	Número de autoridades	Por ciento
Strongly agree	18	64,3
Agree	5	17,9
Indifferent	2	7,1
Disagree	3	10,7
Strongly disagree	-	-
TOTAL	28	100

Table 3 shows the opinion of the authorities in relation to the existence of the procedures manual for the investigation, 64.3 percent strongly agree with the existence of this document that regulates all the procedures that govern the investigation in an institution.

Table 4: Academic structure is based on research.

Ítems	Número de autoridades	Por ciento
Strongly agree	13	46,4
Agree	7	25,0
Indifferent	3	10,7
Disagree	5	17,9
Strongly disagree	-	-
TOTAL	28	100

Table 4 shows that 46.4 percent of respondents stated that the academic structure is a function of research, that is, there are areas that manage research in the faculty. However, or 17.9 percent of the sample expressed disagreement with this indicator.

Table 5: Annual planning of national and international events

Ítems	Número de autoridades	Porciento
Strongly agree	17	60,7
Agree	5	17,9
Indifferent	5	17,9
Disagree	1	3,6
Strongly disagree	-	-
Strongly agree	28	100
TOTAL		

Table 5 shows the planning of scientific events in the faculty of medical sciences, 60.7% of respondents said they strongly agree with this activity. It is necessary to emphasize that the realization of events increased in the last year, being a very important space for the dissemination of scientific results.

Table 6: Management of external funds for research development

Ítems	Número de autoridades	Porciento
Strongly agree	3	10,7
Agree	8	28,6
Indifferent	5	17,9
Disagree	12	42,9
Strongly disagree	.	.
TOTAL	28	100

Regarding the management of external funds for research, 12 of the respondents said they disagree, which represents 42.9 percent, this is an aspect of great importance in the management of research since without the necessary resources it is too difficult to carry conduct a quality scientific activity (table 6). These results are similar to those obtained by Bascó, 9 who concluded in his study entitled Diagnosis of student scientific activity in the medical career of the National University of Chimborazo that there is no adequate process of research management that potentiates the participation of all actors in the research activity

Table 7: Management of scholarships for training and research at national and international level

Ítems	Número de autoridades	Porciento
Strongly agree	27	96,4
Agree	11	39,3
Indifferent	3	10,7
Disagree	2	7,1
Strongly disagree	1	3,6
TOTAL	28	100

Table 7 shows how the majority of respondents strongly agree on the management of scholarships for training at national and international level, it is necessary to note that the university has established its scholarship programs through the Vice-Rectorate for Internationalization, which offers the opportunities to their teachers for training in research and other topics.

#### 4. Discussion

If one takes into account that scientific research is a process articulated to the programs of formation, training and linkage with the community, the guidelines and policies that govern scientific activity in an institution must be well established and in proper functioning.<sup>10,11</sup>

The governing body of institutional research is the Vice-Rectorate for Research, which is governed by criteria that the University privileges and based on which research strategies have been established that are summarized in strengthening the institutional structure for the promotion of research and Develop joint projects with other institutions.

The process plan is documented information that specifies what work procedures and resources are associated and should be applied in the process, who are the people who should apply them and when they have to be applied to a project, product or process. So it must be prepared in all research units for greater assurance that the processes are under control.

The academic structure is fundamental for the operation of research in every educational institution by providing administrative and academic support that facilitates the operation of research processes.

Research along with teaching and linking are the fundamental pillars of the University worldwide, you cannot conceive of an institution of higher education without the management of these three elementary processes that rectify the construction of knowledge and social change. Regarding research, in Ecuador the quality assurance system requires HEIs as a government policy that research should be considered as a necessary element in their curricular structures.<sup>12</sup>

Within the research process, scientific production plays a very important role if one takes into account that it is the way to transfer the results of an entire research process. The essence of science is to create or produce; towards the search for new knowledge and putting them at the service of the scientific community and society.<sup>13,14,15</sup> The impact of science is measured according to an index that refers to the number of times a scientific article is cited by other researchers in other publications, after two years of its appearance. It is no less true that it is necessary to increase scientific production in Ecuador, especially in universities and increase its impact factor.

In the evaluation of research management in the university it is necessary to take into account the following aspects:<sup>14</sup>

Presence of vocation and previous knowledge in those involved.

- Adequate institutional climate, adequate resources, decent working conditions, participation in decision-making bodies, among others.

- There is a clear dialogic relationship between the university and the global context in which it is inserted.
- There is transparency of organizational goals.
- The system is interested in measuring how research activity influences individuals, the institution itself, scientific knowledge and the political and social environment.

## 5. Conclusions and Recommendations

The university management of research must have a continuous improvement approach based on methodologies that although they are different have as a common denominator: the identification, characterization, evaluation and improvement of the process <sup>16</sup>. It is currently a necessity to conduct a quality research management that promotes scientific collaboration processes between universities, research centers, national government, local governments and the productive sector, to unify criteria and efforts to develop basic, applied and technological research.

Higher education institutions must develop research programs, which identify the priority lines that will work through the centers of excellence, and / or Research Departments of their academic units. The construction of strategic alliances to promote research in a more planned and systematic way is a necessity of higher education. The strategic alliances will propitiate the opening to new horizons of knowledge, it will also favor the construction of a research more articulated to teaching and linked to the community, to the requirements of the productive sectors, governmental and non-governmental development agencies and to national development institutions <sup>17</sup>

Research management must guarantee adequate physical infrastructure to the types of research in which higher education institutions specialize, as well as the allocation of economic resources, managed by transparent procedures, that foster scientific and technological excellence; and obtaining results that impact the social, economic and cultural environment. It is essential to create networks of research supply and demand, and connect them with international knowledge networks

## Confidentiality

The authors declare not to have any interest conflicts

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