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PROPOSAL TO STRENGTHEN THE CAPACITIES OF UNIVERSITY ACADEMIC STAFF IN SEARCHING FOR EXTERNAL FUNDING: PROJECT MANAGEMENT AND KNOWLEDGE TRANSFER

PROPUESTA PARA FORTALECER CAPACIDADES DE LOS ACADÉMICOS DE UNA UNIVERSIDAD EN LA BÚSQUEDA DE FONDOS EXTERNOS: LA GESTIÓN DE PROYECTOS Y LA TRANSFERENCIA DE CONOCIMIENTO

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ABSTRACT

A university in El Salvador has considered conducting research and projects that impact its community with external funding. As a result, a projective study was conducted to understand academics' perceptions of the measures adopted by the university to seek funding, their academic output, and their knowledge of the Sustainable Development Goals, enabling them to impact them through the implementation of projects in the community. The study is primarily based on the Resource-Capabilities Theory (Wernerfelt, 1984). The research methodology uses a non-experimental design with a convergent mixed-method approach. University academics participated by answering a survey and a Likert-scale instrument. The academics were found to have a low level of knowledge about impacting a particular community or population group through projects or research and thus contributing to the achievement of the Sustainable Development Goals (SDGs). They also perceive obtaining research funding as a difficult task. In light of this, the implementation of an R&D and project management system to impact the SDGs is proposed. This system seeks to strengthen human resource capabilities so that academics acquire a high level of knowledge of the SDGs that their work can impact and gain confidence in managing projects, based on increasing their knowledge of the process groups established in PMBOK®.

Palabras clave:
I+D, cooperación, calidad educativa, ODS.

RESUMEN

Una universidad de El Salvador se ha planteado realizar investigación y proyectos que impacten en su entorno con fondos externos. A raíz de ello se realizó una investigación proyectiva para conocer las percepciones de los académicos sobre las medidas adoptadas por la universidad para buscar financiamiento, la producción académica realizada y el conocimiento de los Objetivos de Desarrollo Sostenible para impactarlos a través de la ejecución de proyectos en la comunidad. El estudio se fundamenta

	principalmente en la Teoría de los recursos y capacidades (Wernerfelt, 1984). La metodología de investigación tiene un diseño no experimental con un enfoque mixto convergente. Participaron los académicos de la universidad respondiendo una encuesta y un instrumento con escala de Likert. Se encontró en los académicos bajo nivel de conocimiento para impactar a una comunidad o grupo poblacional en particular por medio de proyectos o investigación y así aportar al alcance de los Objetivos de Desarrollo Sostenible, ODS, también, que perciben que obtener fondos de investigación es una tarea difícil. Ante ello se propone la implementación de un sistema de gestión de la I+D y proyectos para impactar en los ODS, el cual busca que fortalecer las capacidades del recurso humano, para que los académicos adquieran un alto nivel de conocimiento de los ODS que pueden impactar con su quehacer y tengan confianza para gestionar proyectos, a partir de incrementar sus conocimientos sobre el manejo de los grupos de procesos establecidos en PMBOK®.

Introduction

The purpose of this article is to put forward a proposal to strengthen the capacities of academics in the search for external funds, project management and knowledge transfer, based on the results obtained in an investigation carried out at a university in El Salvador, which has proposed to finance part of the research and projects it carries out in its environment with contributions from cooperation, but does not know how this decision has been received by those involved and what their contribution could be to succeed in this mission; likewise, it does not know the potential of the professors to execute projects and impact the community and other sectors of society and the academic production carried out in the last two years.

In this sense, before formulating the proposal, a projective research was carried out to know the perceptions of academics on the measures adopted by the university to seek research funding from external funds, the academic production carried out and the knowledge of the Sustainable Development Goals to impact them through the implementation of projects in the community based on the professional experience of academics. The study is based mainly on the Theory of Resources and Capabilities (Wernerfelt, 1984), which focuses on how organizations can achieve competitive advantages by exploiting their resources, in this case intangible resources, such as the processes of creation, use and transfer of knowledge, and internal capabilities, which are the organizational skills derived from the corporate culture.

External financing for R&D, consulting or other types of intervention projects would allow the university to have more resources available, and at the same time, generate new knowledge and provide solutions to problems posed by social and productive sectors. In addition, this would open up the possibility for more professors to do research and also to intervene in society, which is a requirement for higher education institutions, since they should not only dedicate themselves to teaching.

Previous Research Related to the Subject

In this regard, Bojacá and Zacarías (2016) consider that "the relationship between teaching and research is key to strengthening educational quality, whatever the knowledge management model implemented" (p. 224). In view of this, research funding can not only allow progress in the search for new knowledge, but also have an impact on the entire academic work to provide quality in the training of new professionals.

In the article Situación de la educación superior en El Salvador, de López (2011) reflects on the state of higher education in the national context, also taking into account the perspective of global challenges; he mentions that research production "is at an initial stage, as well as the registration of patents for inventions and innovation, and that there is also no culture in which both the State and private enterprise actively collaborate with projects, spaces and resources" (p. 116).

Regarding the above, R&D expenditure of higher education institutions in El Salvador for the year 2023, according to CONACYT (2024) was $16,791,370, of which 82% comes from the institutions' own funds, 13% from government, 2% from private enterprise, 2% from non-governmental organizations and 1% from abroad; while in that same year 5 patents were applied for and 2 were granted. It is timely to mention that the amount of R&D spending still remains below the $18,885.94 (CONACYT, 2024, p. 37) reported in 2019, a year before the pandemic was declared by COVID-19.

It is worth mentioning that seeking external funds has been the alternative to finance the development of the research. An example of this type of case is that of a private university in Argentina, studied by Adrogué et al. (2019, p. 55) in his article Las universidades frente al aseguramiento de la calidad y las políticas de financiamiento de la investigación: estudios de caso en el sector privado argentino; in this article, he mentions that the university stopped conducting research exclusively with its funds and began to do so with funds obtained from negotiations. In the same article, the author points out that:

> The most proactive policies in terms of diversifying financial and human resources to strengthen the results within the research activity are observed in those private universities that either have an initial governance structure that values this activity or that form an internal group promoting change (p. 65).

Accordingly, allocating resources for fundraising is beneficial for diversifying the source of research funding. It should also be considered that to the extent that a university has more resources for research, professors will have more opportunities to conduct research, academic production and execute projects linked to the needs of social and productive sectors.

In turn, the article Transferencia del conocimiento y tecnología en universidades, by Vásquez (2017), makes a systemic analysis of the literature review, based on the theoretical currents on knowledge and technology transfer, as well as management models. The problem it raises is based on how the economic, social and technological context demands that institutions link with the productive sector to respond to the needs of society. This work was carried out through an analysis based on a review of the literature and the context of knowledge and technology transfer, the latter for the particular case of Mexico. The importance of transcending with research results to impact the socioeconomic environment through the transfer of knowledge is discussed.

Similarly, to learn about the Colombian context, in terms of the knowledge management model of Higher Education Institutions, HEIs, from the systemic integrations between the processes of research, teaching and social projection, Bojacá and Zacarías (2016) evaluated the quality of the integrations of the three pillars of higher education in the levels of comprehensive educational quality, based on the perceptions obtained from a group of managers of different Colombian institutions. They argue that the development of higher education cannot be separated from the development model of the countries, so it is important to achieve a balance between coverage and quality, which must be designed for the benefit of the bulk of the population.

Having said this, it is appropriate to take into account that in a globalized world, countries have unified criteria to work together to reduce social problems, and this is how the Sustainable Development Goals were created, which aim to be achieved by 2030, as an initiative of the United Nations; therefore, the various projects carried out by the government, non-governmental organizations, companies and universities highlight the contribution they make in line with these.

It is worth mentioning that the United Nations Organization in El Salvador signed a Cooperation Framework for Sustainable Development 2022-2026 with the government of El Salvador, which establishes support for the 2030 agenda of the Sustainable Development Goals, determining strategic priorities. The first consists of achieving well-being, the enjoyment of rights and social inclusion, with special emphasis on vulnerable populations; the second seeks economic transformation towards an inclusive, environmentally and socially sustainable, resilient and innovative model; and the third is

sustainable, inclusive and egalitarian peace for the exercise of democracy and the enjoyment of a safer and fairer society (United Nations in El Salvador, 2021).

Within this framework of cooperation between the United Nations and El Salvador, a resource mobility strategy was indicated for the execution of "promotional activities, research and studies, consultancies, program development, monitoring and evaluation, training activities and staff support" (United Nations in El Salvador, 2021, p. 88).

However, academics working in universities, whether teaching, research or social outreach, are specialists in their area of professional practice, but they have not necessarily been trained in project management. Research on this aspect in universities has been of interest to other researchers. Villarreal et al. (2019), in their article Factores que inciden en la gestión de proyectos de investigación científica, evaluated the level of project management of the Engineering Institute, with the purpose of knowing and explaining the most preponderant factors or causes that directly affect the management of the projects of the Camisea Socioeconomic Development Fund of the National University of Huancavelica. This is due to the lack of coherence between research objectives and the quarterly progress presented during the execution of the projects. The paper concludes that there is a positive influence of professional competencies and logistics management on the management of scientific research projects; it also proposes alternative solutions for researchers and the logistics office that will help to efficiently manage the projects for researchers and for the logistics office that will help to efficiently manage the projects.

Regarding scientific production, Martelo et al. (2018) measured and formulated strategies to increase the scientific production of faculty members of the faculty of engineering at the University of Cartagena, Colombia, with the purpose of improving the position of the institution in the SIR ranking. The results obtained in the research were evaluated with the MULTIPOL technique, which, by means of criteria and policies, allowed an assessment of the actions or strategies to be carried out. It was determined that the most relevant strategies for the university are to establish research requirements for faculty hiring and to increase the impact of scientific products. This work is related to ongoing research as it presents strategic proposals that can be taken into account to increase scientific production.

Importance of this Work

The present projective research provided elements of analysis to take advantage of the potential of university academics to seek funding for research or intervention projects in the community linked to social and economic aspects and to increase academic production. This generated new knowledge with which the proposal was elaborated.

In addition, this is articulated with El Salvador's plans for research and technological development, since it seeks not only to increase knowledge through research, but also to transfer it to society, as proposed in the Law for Scientific and Technological Development; which is monitored annually through the National Observatory of Science and Technology, which for this activity takes as a basis the Frascati Manual 2015, used by the Network of Science and Technology Indicators - Iberoamerican and Inter-American, RICYT.

Similarly, the social relevance of this research is the generation of new knowledge for the solution of problems and favors the intellectual production of academics and thus strengthens the institutional capacity of the university where the research was conducted, in terms of scientific production and innovation. At the same time, with this, the higher education institution to which the academic research subjects belong will be able to

transfer knowledge and contribute to the development of the communities through social projection.

On the other hand, the practical implication of this research is to make decisions to obtain external funding, strengthen the installed capacity and competencies of teachers to conduct quality research, as well as intervention projects with entities in their environment. At the same time opening the opportunity for more academics to do research.

Method

Type of Research

The present research is of a projective type. Mousalli-Kayat (2015, p. 25) argues that "projective research is associated with the elaboration of a model, plan, proposal as a solution to a problem detected by the researcher". For Hurtado (1998) "projective research transcends the field of how things are, to enter into how they could be or how they should be, in terms of needs, preferences or decisions of certain human groups" (p. 332). This is why, as a result of the findings, a project will be developed to intervene in the problem.

Research Design

By design, the research will be a non-experimental investigation, since the results will be obtained without manipulation or alteration of conditions. Sousa et al. state that "non-experimental designs do not have randomized determination, manipulation of variables or comparison groups. The researcher observes what happens naturally, without intervening in any way" (2007, p. 3).

Population and Sample Size

For the present research, the population will be full-time faculty and members of the research department of the university under study. This population is composed of:

- 19 full-time teachers
- 5 members of the research department.

Since the population is small, access will be provided to all members of the population:

- 19 full-time teachers
- 5 members of the research department:

For Arias-Gómez et al. (2016, p. 202) "The study population is a defined, limited and accessible set of cases, which will form the referent for the choice of the sample, and which meets a set of predetermined criteria". The same authors add that it is important to specify the study population because "by concluding the research from a sample of this population, it will be possible to generalize or extrapolate the results obtained from the study to the rest of the population or universe".

Data Collection Techniques

The data collection technique used in this research was the survey.

According to López and Fachelli (2021, p. 8) the survey is "a data collection technique through the interrogation of subjects whose purpose is to systematically obtain measures on the concepts derived from a previously constructed research problem".

Data Collection Instruments

In the present study, the data collection instruments were two:

- The questionnaire
- The Likert scale

The questionnaire, for Lopez and Fachelli (2021, p. 17) is:

> The data collection instrument where the questions are stated in a systematic and orderly manner, and where the answers are recorded by means of a simple registration system. The questionnaire is a rigid instrument that seeks to collect information from respondents based on the formulation of the same questions in an attempt to guarantee the same standardized psychological situation in the formulation of the questions and to ensure the comparability of the responses.

In this research, the questionnaire was composed of open and closed questions with multiple choice answers. It was prepared by the author of this work and validated by expert judgment. Through this survey, academics were asked about the level of knowledge of the Sustainable Development Goals that they can impact with their work in society, considering the level of knowledge about community problems, the SDGs themselves, the SDGs that they can impact with their academic work, interest in carrying out activities in the community to impact the SDGs and ways to transfer new knowledge to society; in addition, the level of knowledge that academics have about the management of research projects, taking into account the level of knowledge of the process of initiation, planning, execution, monitoring and control and closure; the academic production carried out in the last two years was also identified in the academics, addressing the number of academics with participation in book publications, articles in scientific journals and interest in making academic production.

The Likert scale allows us to know people's attitude towards a situation. According to Matas (2018, p. 39) this type of instrument consists of:

> a collection of items, half expressing a position in agreement with the attitude to be measured and the other half against. Each item was accompanied by an ordinal rating scale. This scale included a neutral midpoint, as well as left and right points, originally disagreement and agreement, with numerical response options from 1 to 5.

The Likert scale implemented in the research was from 1 to 5; 1, strongly disagree; 2, disagree; 3, neutral; 4, agree; and 5, strongly agree. The attitude towards project financing was identified, considering the level of perception towards the search for project financing, the suitability to seek financing, the motivation to participate in the university's strategy to participate in calls for proposals, and finally the interest in seeking funds. The instrument was developed by the author of the research and validated by expert judgment.

The academics who participated as research subjects agreed to do so voluntarily, after being informed of the purpose of the research, as well as that the handling of their information would be confidential and that at no time would the results be linked to a particular person.

Research Approach

The present research will be conducted under the mixed research approach, since from the quantitative part numerical data will be collected; while from the qualitative

approach data without numerical measurement identified in scales will be obtained. With the mixed approach, a better analysis will be made of the factors involved in the management of research projects of the university under study to increase its external funding and impact on society. The quantitative and qualitative parts will be given equal importance, so this mixed research will have a convergent approach. "In the convergent approach, quantitative and qualitative data are collected separately and integrated at a later stage of the research process" (Medina et al., 2023, p. 28).

Results and Proposal

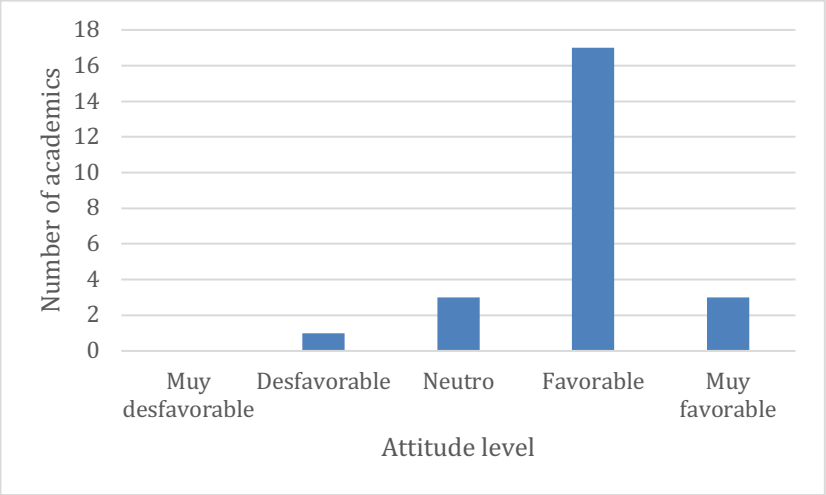
This section first presents the results obtained in the research, and then the proposal is presented.

Research Results

The results obtained with respect to the objective to identify the attitude that academics have towards the search for external funding for research projects it was found that 20 of the 24 academics surveyed have a favorable or very favorable attitude towards seeking external funding for research projects. Three have a neutral position and one reflected having an unfavorable attitude, as shown in Figure 1.

Figure 1

Attitude of teachers towards the search for financing



In addition, it is worth noting that 14 people considered that seeking funding for research projects makes them more committed academics, since they stated that they agreed or strongly agreed with this statement; nine were neutral and one strongly disagreed.

On the other hand, only 5 academics had a favorable attitude towards the fact that obtaining funds for the execution of projects is their responsibility; 16 had a neutral position, and 3 had an unfavorable position.

Regarding the statement "Obtaining external funds for research strengthens the university" in the study, 18 academics agree with it, while 2 maintain a neutral position, and 4 are against it.

As to whether funding for research is necessary, 20 academics said they agreed, three maintained a neutral position and one was against. In this sense, it was identified that respondents recognize the importance of seeking funds to finance projects.

On the other hand, 11 academics, almost half of the total, consider that they have the ability to obtain funding for research projects; another 11 have an intermediate or neutral position, and two consider that they do not have the ability to obtain funding for research projects.

In addition, when asked whether they are competent to obtain research funds, 8 respondents indicated a favorable position, while the rest indicated a neutral or unfavorable position. Eleven academics have the perception that obtaining funds for research projects is a difficult task; on the other hand, 13 showed a neutral position in this regard. In this sense, there is not a favorable position of the majority regarding the suitability and capabilities to seek financing.

Continuing with the attitude that the academics have towards obtaining funds, it can be mentioned that 8 of them expressed a favorable position with respect to knowing the strategy that the university has for participating in calls for external financing of projects, the rest presented a neutral (10) or unfavorable (6) position. Only 4 academics agreed that the aforementioned strategy motivates them, 14 are neutral and 6 are unfavorable

On the other hand, 13 of the participants had a neutral attitude towards the statement of motivation that there is a possibility of creating a proposal to respond to a call for external financing; 10 indicated a favorable position and one was against.

A similar attitude was recorded for the statement "I have always been interested in seeking funding for research projects", with 14 neutral, 5 favorable and 5 unfavorable. Regarding the item "I am motivated to seek funding for research projects because as an academic I would make a better contribution to society" 9 academics agreed, 12 had a neutral position, while three were against.

Likewise, in response to the statement "I am motivated to seek funding for research projects because as an academic I would achieve professional recognition", it can be seen that 6 academics have a favorable position, 13 indicated the neutral option and 5 unfavorable.

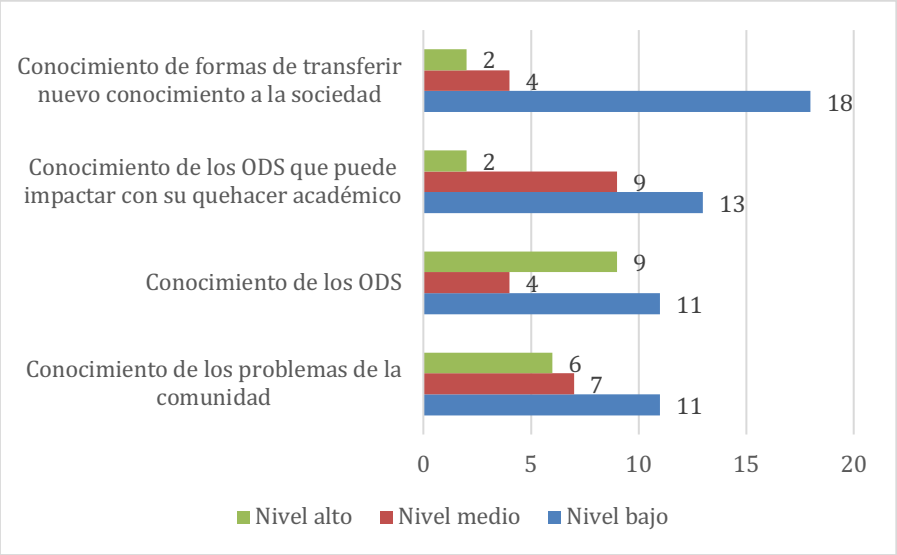
Another of the objectives of the projective research was to find out among academics the level of knowledge of the Sustainable Development Goals, which they can impact with their work in society.

The level of knowledge of the ways to transfer new knowledge to society was one of the aspects least handled by academics. Regarding the level of knowledge of the SDGs that academics can impact with their work, most were at a medium and low level; only two reached a high level.

Regarding knowledge of the Sustainable Development Goals, nine academics had a high level of knowledge; however, more obtained a low level.

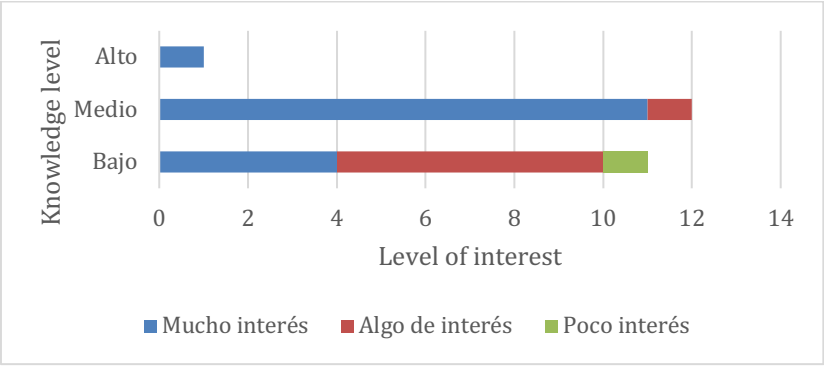
In the category of knowledge of community problems that academics can address from their specialty, the majority obtained a low level of knowledge, while the medium and high level was achieved by 7 and 6 academics, respectively, as can be seen in Figure 2.

Figure 2
Number of academics by level of knowledge of SDGs and how to impact society



The level of interest in carrying out activities in the community to impact the SDGs, when crossed with the level of knowledge of the SDGs, can be observed regardless of whether or not they know how to do it, they are interested that it can be achieved (see Figure 3).

Figure 3
Knowledge and interest in carrying out activities in the community to impact the SDGs



Regarding the research objective to verify among the academics the level of knowledge they have about the management of research projects it was verified that almost all the academics who participated in the research have a low level of knowledge about the management of research projects. Of the research project management processes, the academics demonstrated greater knowledge of the initiation process.

On the other hand, the results obtained with respect to the objective of to identify the academic production of the academics in the last two years, 3 of the academics have been the sole author of books; the activity from which the book has been generated corresponds to research. Also, the number of academics who have co-authored a book is twice as high as when they are sole authors. When there is co-authorship, the production of books also incorporates the teaching task, and ceases to be exclusively research.

In this same objective, the results show that 5 of the academics have been the sole author of papers in the last two years, which originates exclusively from research work. Three of the academicians have co-authored papers.

21 of the academics are interested in academic production, most of them (12) wish to do so as a result of their work in teaching and 9 in research; three indicated that they have no interest in producing.

Proposal for a Program to Strengthen the Capacities of Academics

The low level of knowledge to impact a particular community or population group and thus contribute to the achievement of the Sustainable Development Goals, as well as the perception that academics have that obtaining research funds is a difficult task could interfere in academics designing proposals to present to potential project funders or to attend calls for proposals launched by them.

This puts at risk the achievement of the university's strategic plan goal related to obtaining funding to carry out research or any other type of project. In this sense, we propose a management system for R&D and projects to impact the SDGs with funding from outside the university, which seeks to increase the possibility of success in obtaining funds from donors.

It has been analyzed that there are no contradictions in the requirements of the different actors involved to receive this proposal; the first phase of this system would incorporate the strengthening of knowledge about the SDGs and the problems that can be impacted by academic work, as well as the mastery of project management processes.

The system, in addition to focusing on attracting funding, would allow academics to develop new knowledge to enrich their professorships and link the institution with society, also generating academic production.

For its operation, the system will have a second phase, which will monitor calls for funding research projects (R&D) and those focused on the creation of new products, processes or services through the application of existing knowledge that can be for a specific implementation according to the university's training areas and will be managed according to the processes established by the PMBOK® guide: initiation, planning, execution, monitoring and control and closure (PMI, 2017). Through academic production and knowledge transfer, we will end up impacting the community.

The main human resource to be trained will be the university's researchers and teachers.

Figure 4
Diagram of the operation of the proposal in its phase 1

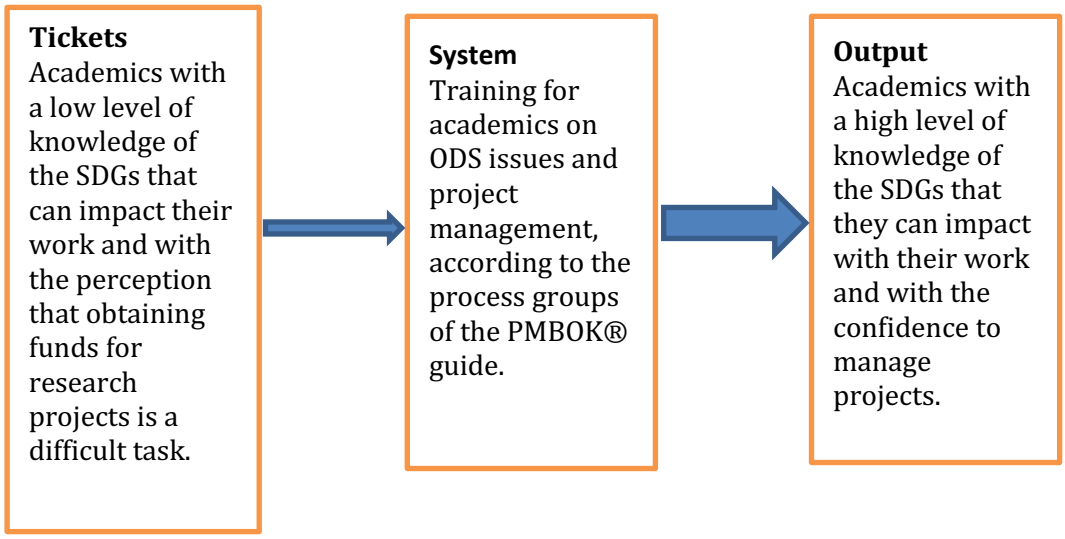
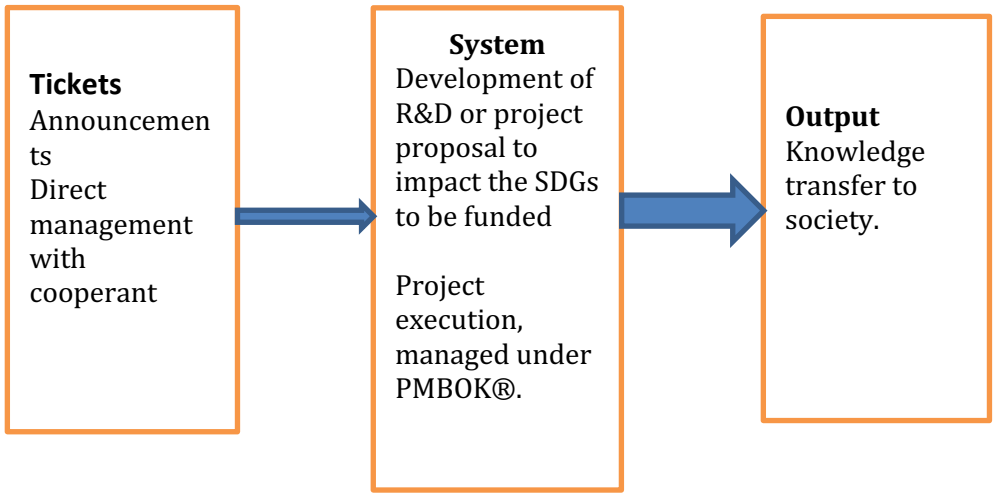


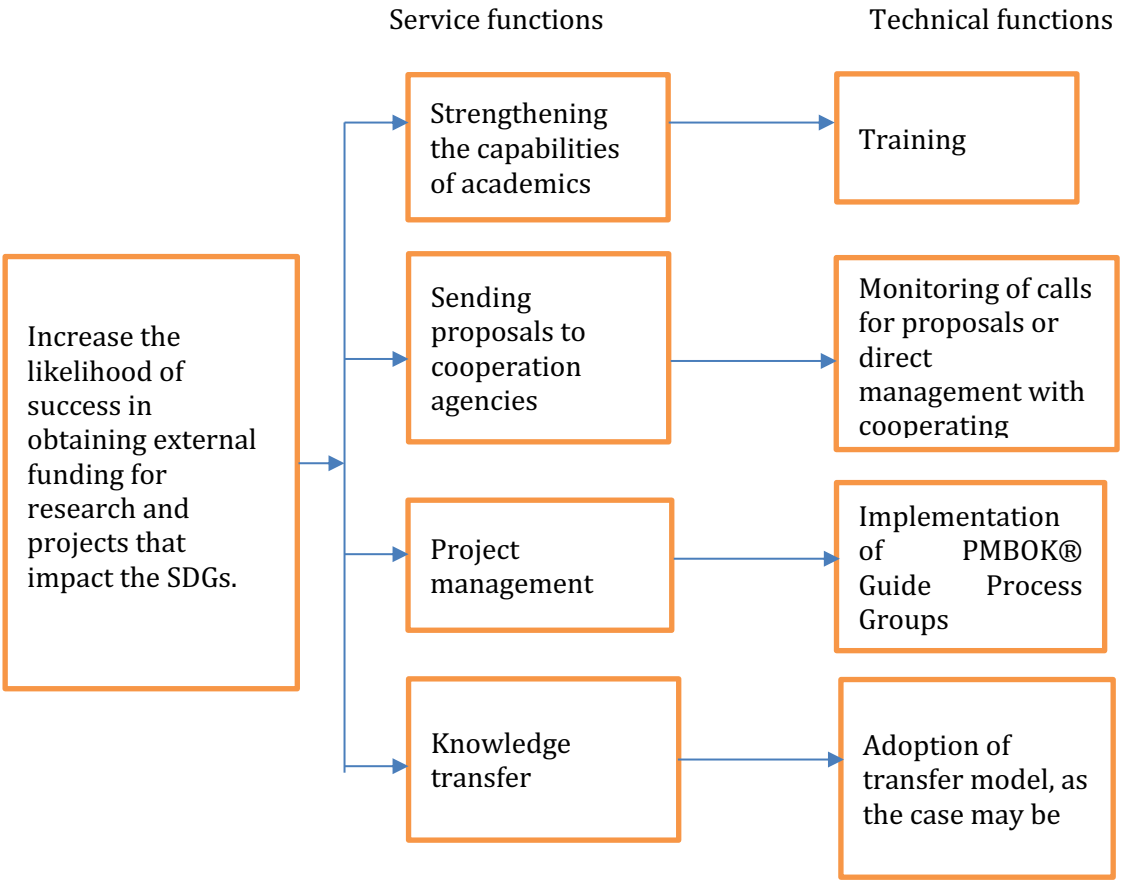
Figure 5
Diagram of the operation of the proposal in its phase 2



It should be clarified that in order to transfer knowledge to society, a model will have to be adopted according to the needs and interests of the university that implements it, for which a tree of services is presented in Figure 6.

Figure 6

Service tree



To increase the possibility of success in obtaining external funding for research, a system will be developed to monitor calls for funding research projects (R&D) that can be for a specific implementation, or to support the work of the lines of research established by the university, whose projects will be governed under the classifications of the Frascati manual, and will be managed according to the processes established by the PMBOK® guide, in order to end up impacting the community through academic production or the transfer of knowledge.

This involves the participation of UNASA academics grouped by the areas of training offered by the university. Prior to this, academics will be trained in project management and knowledge transfer to society, and their level of knowledge will be re-evaluated in order to identify those who are capable of generating proposals or those who are lacking in this area, and support them in this respect.

The system will be used to manage all research projects focused on generating new knowledge or solving a problem.

Academics will benefit, since their work will have an impact on society and will be transferred to society; people in the community, companies and their clients will also benefit from the work resulting from the research; as well as the university, since it will receive other sources of income to conduct research.

Discussion and Conclusions

From the findings it is established that the academics of the researched university have a low level of knowledge about the Sustainable Development Goals and the management of research projects, so they have a low academic production, in contrast to the interest in obtaining funding for research projects and transferring new knowledge to society.

As a general rule, this reflects that their practice is more oriented to the training of students than to linking with the community, which does not coincide with the mission of higher education institutions, since in addition to providing knowledge to their students, academics must train critical people through research and sensitize them to social problems. This should be the case, even when the cut of the higher education institution is professionalistic.

These results reflect that there is an opportunity to project initiatives that stimulate academics to link with society, meaning the surrounding community, the public sector and private companies, to address their problems and thus contribute to national development; incidentally, this opens the door to academic production.

To achieve this, teachers and researchers must strengthen their capacities in the formulation of project proposals capable of having an impact on the community and in the knowledge of the processes to manage them.

In the research study Factores que inciden en la gestión de proyectos de investigación científica, its authors, Villarreal et al. (2019) found that there is a positive influence of professional competencies and logistics management on the management of scientific research projects. In that sense, the results found in the present research indicate that having a low level of knowledge in project management would affect the execution of research projects.

Even if the results had been different, this would not guarantee that doing research would end up having an impact on society by the mere fact of generating new knowledge. Vasquez (2017), in his study Knowledge and Technology Transfer in Universities, concludes that, although most universities in Mexico have quality researchers and students who manage to create, store and retrieve knowledge in a form of technology, in most cases it does not get transferred and applied in industry because there is no adequate understanding between researchers and entrepreneurs.

Based on this, it is evident that it would be useless to have the capacity to conduct research or carry out projects that have an impact on the community, to manage its processes correctly and to produce academic output if what is researched is not transferred to society through an adequate understanding between academics and businessmen.

This research identified that there is a low level of knowledge among academics on how to transfer knowledge; for this reason, it is necessary to strengthen them, and also to design a strategy that articulates academia with society.

This approach coincides with what Vasquez (2017) proposes, who points out that when there is a lack of trained personnel to help achieve understanding with the industry, a model is needed to articulate towards the same direction the parties that integrate the transfer of knowledge and technology up to its application.

The results obtained in the research confirm that the academics surveyed have a favorable or very favorable attitude towards seeking funding for research projects, and that they are interested in impacting the community with their academic work. Therefore, in order for these intentions to become a reality, they need a system that improves the capabilities of human resources to formulate proposals before international cooperation

agencies and thus impact society by transferring knowledge, so in addition to training, they must also define management processes and transfer models.

Paradoxically, the research shows that a good part of the academics surveyed consider that seeking funds to finance research is not their responsibility, in that sense, this aspect should be taken into account, so that the operation of the system does not have a connotation of obligatory nature, but rather as an opportunity for development in the academic career of teachers and researchers.

After this research, future projections should be to measure, every two years, the level of knowledge of teachers regarding societal issues, knowledge transfer and project management, as well as academic production, in order to compare the data; this would serve to measure the impact of the system proposed after this research.

Likewise, it will be necessary to analyze the attitude towards the search for external financing funds, in order to know if this action is becoming part of the culture of the university's academics

Based on the analysis carried out, the implementation of an R&D management system is proposed, which will strengthen the competencies of academics with respect to research findings, determine the project management processes, based on the PMBOK® guide, and establish the knowledge transfer models, which will generate the necessary conditions to increase the possibility of obtaining international cooperation funding for research.

Given that the university does not pursue profit, and that it must conduct research on an annual basis, the implementation of the R&D management system and projects to impact the SDGs will not be seen as an expense, but rather as a tool that can make research self-sustaining, which would allow the university to invest the funds it currently allocates to research in improving the resources used to train students.

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