

Research Management Model, I+D+i Model of UNAN Managua

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Introduction

Dear honorable members: Ramona Rodriguez Rector Magnificent Master UNAN-MANAGUA, fellow retirees General Omar Halleslevens, Vice President of the Republic of Nicaragua and president of CONYCIT, Dr. Telémaco Talavera, Rector of the UNA and President of the National University Council (CNU), Professor Raul Arevalo Cuadra Dean FAREM-CARAZO, students, professors, academic leaders, researchers, innovative, entrepreneurs, administrative workers, special guests, general public.

Today, UNAN-MANAGUA is really proud through this Congress about Research in Nicaragua. It is important to establish models, patterns, criteria, indicators, which will allow to do this university function among other things, a study method to be a transformed society. With regard to the social transformation, I quote the words expressed by the Vice President of Nicaragua in the opening ceremony of the **XIV Expo Science and Technology in 2014**: Addressing the present mainly young students said “...I invite students to continue the effort, being an example of his life and representing the university, strengthening education in Nicaragua...”. That university, then you have an obligation to train with quality, responsibility, forming critical men with social development vision.

The fellow comrade Vice-president, valued the National University Council (CNU) has in the formation of “*human resources needed by Nicaragua, that young man should have a suitable preparation to come to serve the interests of our beloved Nicaragua*”.

“*Being united is the slogan of Science and Technology, Sustainable for the Development Investment, I take pleasure in the context of this week’s science, to inaugurate this exhibition, which is the effort of men and women who come to present about 250 projects.*”

This Expo-science was a powerful symbol of what we want to promote to and from the UNAN-MANAGUA and other universities. Research, innovation and entrepreneurship. This way our patterns of production, our educational models, energy models that are leaders in wind to Latin American level technology will be changed, i.e. men and researchers, innovators and entrepreneurs women certainly change the way and quality of life of citizens in this case, our country.

This model should respond to the National Human Development Plan, created and promoted by the Government of Reconciliation and National Unity. It is a model of integration of the Nicaraguan family, so what **National Reconciliation**, collects and practice understanding, forgiveness, reunion among all of the national level. Because of the **National Unity**, everyone must be united in a single effort to move the country forward, quantitative and qualitative unit in social programs and projects, where everyone gets involved, participates, with the Christian obligation and the opportunity to contribute something to your community, your country, focused on solidarity, in the practice of christianity and a socialist approach, where everyone is favored.

It is important to know and to have present that at the World Conference on Higher Education held across the world, together with UNESCO; Ministers of Education, Rectors and Heads of States have received (some more than others) in their plans these challenges, Nicaragua has not been left behind, with coverage of education at all levels today there are more children and youth studying intercultural inclusion, social public good of higher education, a democratic co-existence, tolerance and foster a spirit of solidarity and cooperation; to build the continental identity, are among others the commitments made by the various key players.

The Challenges we face have a big importance, so if they are not treated timely and effectively, will deepen the differences, inequalities and contradictions that currently grows in Latin America and the Caribbean with equity, justice, sustainability and democracy for most of the countries that comprise it, it will be impeded. These are challenges and we must assume them as their own challenge, especially the research community, innovators, entrepreneurs, high school, college, business, the community in general.

Following, I mention some of the agreements, challenges and defiances to consider, described in the Regional Final Declaration of Higher Education in Latin America and the Caribbean, held in June 2008, in Cartagena de Indias City, Colombia.

“In a world where the knowledge, science and technology, play a prime order role, the development and strengthening of the higher education” (pag. 220)

“The answers of the higher education to society’s demands, have to be based on the reflective, rigorous, and critical capacity of the university community” (pag.221)

“We vindicate the humanitarian character of the higher education, in conformity with it; this should be oriented to the integral formation of people” (pag.225)

“The institutions of higher education ought to advance in the configuration of the most active relation with their contexts. Quality is connected to pertinence and responsibility with the sustained development of society. That requires of the motivation of an academic model, characterized by the inquiry of the problems in their contexts...” (pag.225)

“The new converging technologies become part of the contemporaneous dynamic, the scientific-technologic, which will transform the next decades’ societies. Our countries first have to avoid new and difficult challenges to be able to generate this knowledge and prompt it and adapt it to social and economic goals” (pag. 226)

“It is necessary to create the new continent”. (pag. 299)

“The participants of the CRES 2008 ratified the compromise to assure this task. We have the obligation and responsibility to create an own future. These are our challenges and defiances for the development of the country and region.” (pag. 230)

Why did the model suggested by Dr. Pedroza of management I+D+i come out?

We have realized that UNAN practices research, innovation and entrepreneurship done, but in isolation, without strategic planning; it has been the result of individual initiatives rather than institutional, we have realized that there are no indicators that qualify and/or quantify these actions, and until last year we did not have a financial background to manage these variables to implement.

We have not enhanced the strengths we have as an institution, we have not taken advantage of the relations between the university and the state research sector, as the INTA, MAGFOR, MARENA, MINSA, Energy and Mines, as happened to us with the business sector (Private Sector), We have not taken the Internationalization for effects of globalization. I think that these weaknesses have given way to this conceptual model proposed by Pedroza, whose strategy I join to advance the Quality, advance conceive it as a system for advancing inter, multi and trans-disciplinary practice and above all: WITH SOCIAL IMPACT AND WITH A HUMAN FACE.

Before going into details the most important variables that we will discuss today in this conference is exposed, so defined; Model Management, Research and University, for educational reasons are set separately, but as noted Pedroza, this model should be seen as a systemic phenomenon, circular, integral

A Model is an abstraction of reality. It is a simplification of the process (processes) or event (s) under consideration, to represent - understand complex situations and predicting phenomena System. (Peter Drucker, the B.M, PNDH)

Model, one of the meanings refers to that which is referenced to try to produce something similar. In this case, the model is an archetype. (RAE)

Within the field of economics and politics, we talk about model to refer to the process carried out by a government to control and organize production activities: "The neoliberal model has failed", "The success of the model can be seen through all kinds of statistics"

Management

Latin **gestio**, management concept refers to the action and the consequence administers or manages something. In this regard, it has to be said that managing is to take steps which make possible the realization of a commercial operation or a desire.

Research

Research is a disciplined process and accessible inquiry. The process described here is essentially generic and should be framed and designed by a discipline and subject area.

The Castilian term research derives from the Latin *in-vestigium*, which means "look for footprint" or whatever is left when something has happened and you can playback from the knowledge of those remnants. To do this you use and apply the scientific method researchers

University

Institution responsible for providing technical and vocational training at a higher level. Higher education institution with a mission to train technicians and competitive professionals with ethical and professional values

What is the management model R+D+i UNAN-MANAGUA about?

The model is based on the Mission, Vision and Values of the UNAN-MANAGUA, which promotes integration-institutional coordination of the processes of teaching and research, postgraduate and university extension. The model establishes as its fundamental principles the “Anthropocentric and Systemic Research Methods” it approaches to promote a continuous and interactive process between research, innovation and entrepreneurship.

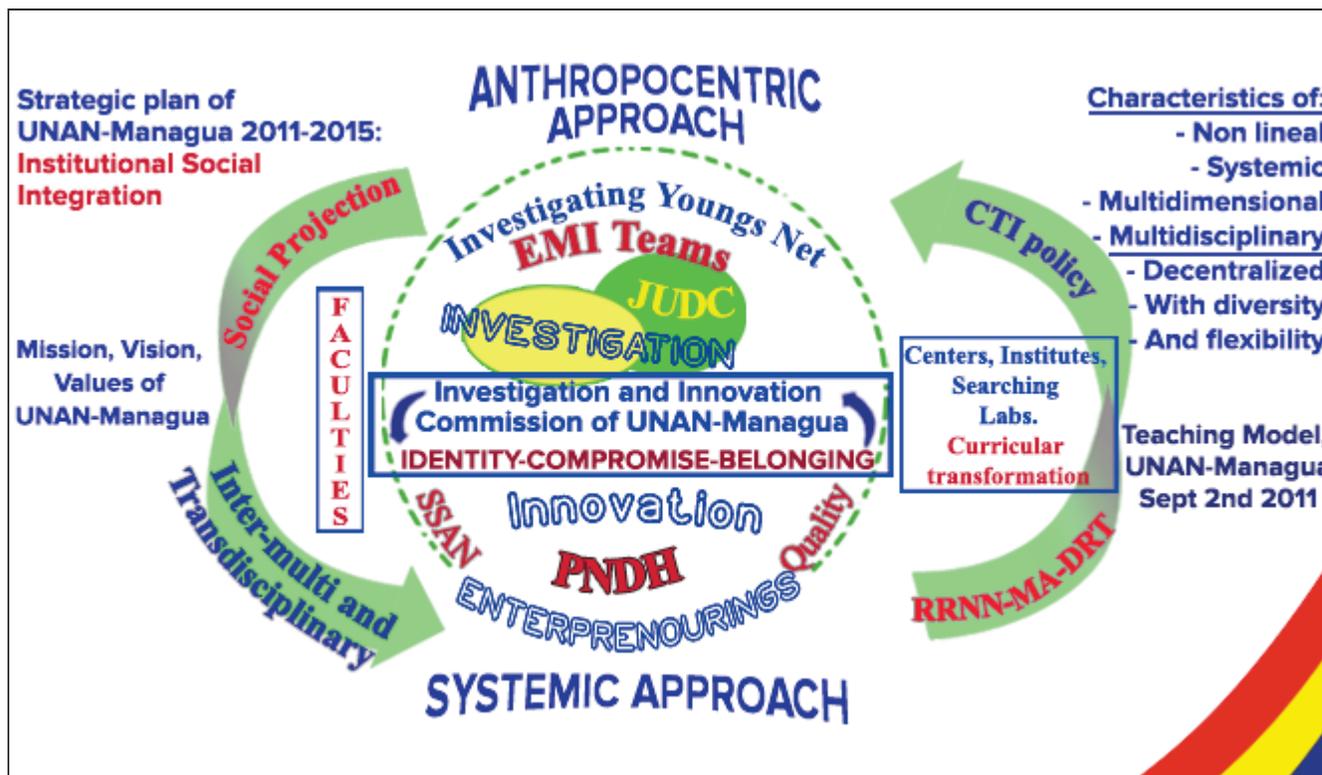


Image No. 1. The R+D+i Model of UNAN-Managua

The Management Research Model, *Model R+D+i* of the UNAN-MANAGUA, a conceptual model is represented by a *dynamic, non-linear, but systemic objective circular image*. It represents the prospective vision of the processes of scientific research of UNAN-MANAGUA, what you want to do and how it intends to achieve, articulated innovation processes, technological, socio-productive, organizational and educational.

Pedroza, in his: ***The learning and skills training***, to state the following: The model I+D+i is a system in itself and takes place in four stages. First stage: ***investigation*** based on observation, defining and solving real-world problems research. Second stage: ***innovation*** is the new knowledge generated from research to develop new prototypes that apply to a particular system of production. Third stage: ***the management of scientific research***, it promotes competitive R+D+i. Fourth stage: it ***start-ups initiatives*** implemented by the university extension. This is the path to real and effective process of research, innovation and entrepreneurship. This model represents the vision of *what you want to do? And how you propose to meet the goals of scientific productivity of the UNAN-MANAGUA?*

I want to clarify that there is no model that solves everything. Models respond to needs that arise in the social, economic, cultural, political and technically scientific dynamic. We must strengthen this model by appropriating it, to influence our students, in groups of teachers in the

country. I believe we are taking the first steps. Now it is to promote the development and growth of these actions

Achievements and progress of the implementation of the Model R+D+i in UNAN-MANAGUA

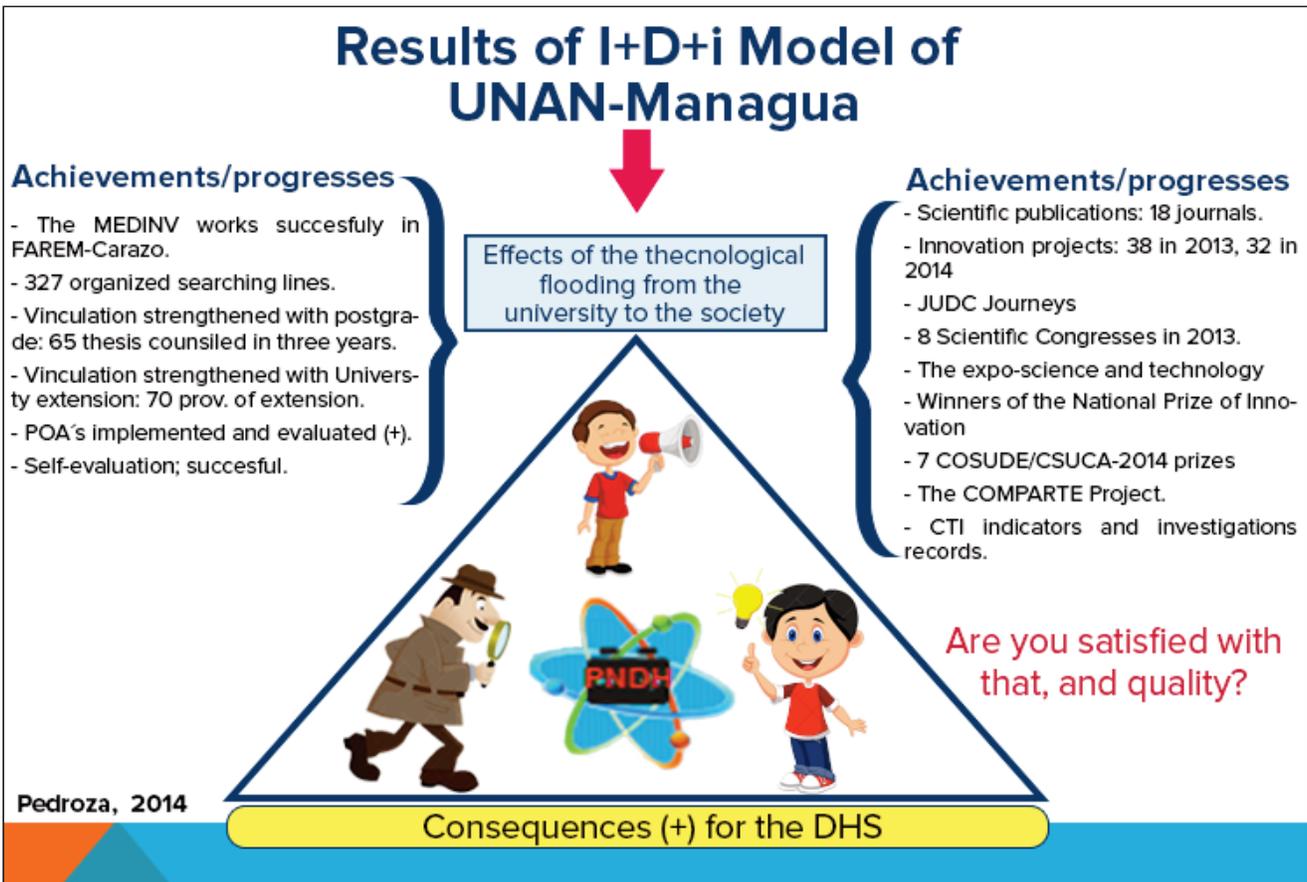


Image No. 2. Results of R+D+i Model of UNAN-Managua

I would add to the results, for example, that in the UNAN-MANAGUA significant competitive funds were allocated to encourage research and innovation. This year 21 projects were registered in June and selected five of them, the best, the highest quality, the most relevant. The same happened with training in innovative training for teachers, action synergy between FAREM-Estelí with Michigan (Great Valley University), the formation of the Editorial Board of the UNAN-MANAGUA, and this conference is a reliable, motivating and challenging show that every two years we meet all the country's universities, to discuss these issues in the XXI Century University Management. We cannot forget the current investment of just over 10 million cordobas to promote ICT equipment and make them available to research and university innovation

No model can be self-implemented, the one described herein or any other that looks like perfect no matter the type.

To implement any model, it requires the **commitment of people**; it requires unity in action and a serious, responsible and a professional practice consistent with the values and principles of the UNAN-MANAGUA. Here I share with Pedroza this condition, the commitment of people, **but translated into positive and long lasting changes of behavior. While we teachers and researchers are not aware of changing our methods of teaching and learning, as we do not form professionally in research and innovation methods, you cannot achieve the objectives of the proposed method.**

In essence, the model and the system to which it relates, will be done by people and the personal attitude of each of them against the great challenges of the institution will depend the good or bad functioning of the model and therefore, the good or bad performance of the institution

I end my presentation with the words collected by Pedroza, of our distinguished Rector, Master Elmer Cisneros Moreira, partner and friend, we are confident that from the beyond you are watchful on us to comply with your legacy: THE QUALITY and our commitment to achieve it.

The Master Cisneros used to say:

- *Working every day with quality and social commitment to the service of the Nicaraguan people*
- *Provide every moment of our lives to the National Plan for Human Development, the restoration of rights and Nicaraguan youth service*
- *Make of our University a better house of studies every day, where students, teachers and administrative workers, together, we feel participants in building the present and future, strengthening our identity and common history*

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