# IMPLEMENTACIÓN DEL SISTEMA GESTIÓN DE TALENTO HUMANO POR COMPETENCIAS ORIENTADO A LA PLANTA DOCENTE DE LA UNIVERSIDAD TÉCNICA DEL NORTE

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**Abstract:** The present project is based on the "Implementation of a Human Talent Administration System, which will be a competences oriented one, for the teachers who work in "Universidad Técnica Del Norte UTN", using the RUP methodology. In order to make clear each step of the development, the document presents five chapters. In Chapter one, the Antecedents, Current Situation, General and Specific Objectives, efficiency and Justification of the Tools and study Methodology are well described. In Chapter two, the processes' optimization in the human talent department, using the Strategic Management, Solution's achievement, processes' rising and reengineering, personnel selection and induction evaluation, and finally training on competences, are all explained. In chapter 3 human resources administration theoretical framework based on competences is developed and development tools such Apex Oracle 11g and RUP Methodology are altogether, analyzed. In chapter 4, the whole project is applied trying to clarify each one of its phases which are: starting, elaboration, construction, and transition. In the last Chapter, number five, some conclusions are presented, and some recommendations obtained throughout the project are given to foretell risk, to have a whole cost-benefit analysis, and evaluate the software and the impact that it will generate when using the application.

keywords: Competency Management.

## 1.INTRODUCTION

At present day, according to our Ecuador's Constitution, education law and Strategic plan objectives of Universidad Técnica del Norte, promote the assurance and improvement of quality levels of all their processes.

Universidad Técnica del Norte has the computing need in their process of Human Resource Management oriented to Teachers, to automate its process to reach a greater range in its objectives and control this way that it's carried out according to the rules and procedures.

The Management of Human Resource Department evaluates in a general way all Academic staff, without concentrating an own scheme of each group that shapes the institution, when insufficient, trainings are not determined according to the results provided by the evaluation.

## 2.OBJECTIVES

- **General objective**

To implement System Human Resource Management by Competences Oriented to Teachers of Universidad Técnica del Norte.

- **Specific Objectives**

  o To create the process of Evaluation and management of Human Resource Management by Competence Oriented to Teachers of the institution.
  o To use the technologic tools of Universidad Técnica del Norte for application development.
  o To design a scheme of teacher's evaluation according to the model of competences.
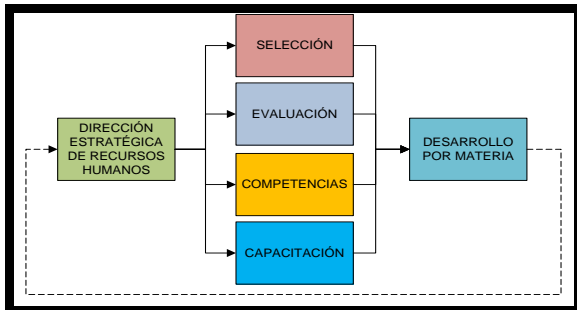  o To train staff of Human Resource Department in the proper handling of the module.

## 3.SCOPE

The Management of Human Resource Department by competences as the principal factor of institutions in its human capital management for compliance of its objectives set in its strategic plan is convenient to apply it toward the Teacher plant to be independently analyzed by the relevant skills to count with clear and specific lines for selection, training and evaluation, for the high level of process that the institution performs.

The analysis of these competences will define the need requirements for its performance of each process Human Resource Management coupling to

the current process that is operating in Human Resource Department with addition of modules.

**Figura 1:** Módulos del Sistema de Gestión por Competencias

## 3.1  DEFINITION OF SCOPE OF THE SOLUTION

"Sistema Gestión de Talento Humano Por Competencias Orientado a la Planta Docente de la Universidad Técnica del Norte", will allow taking advantage of teacher's skills, competences and capacities so it will have highly capable and qualified staff, to benefit the institution and society at the time of its performance.
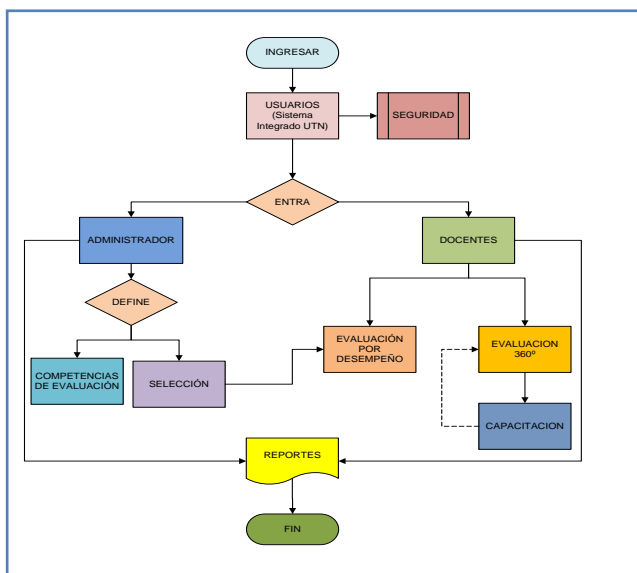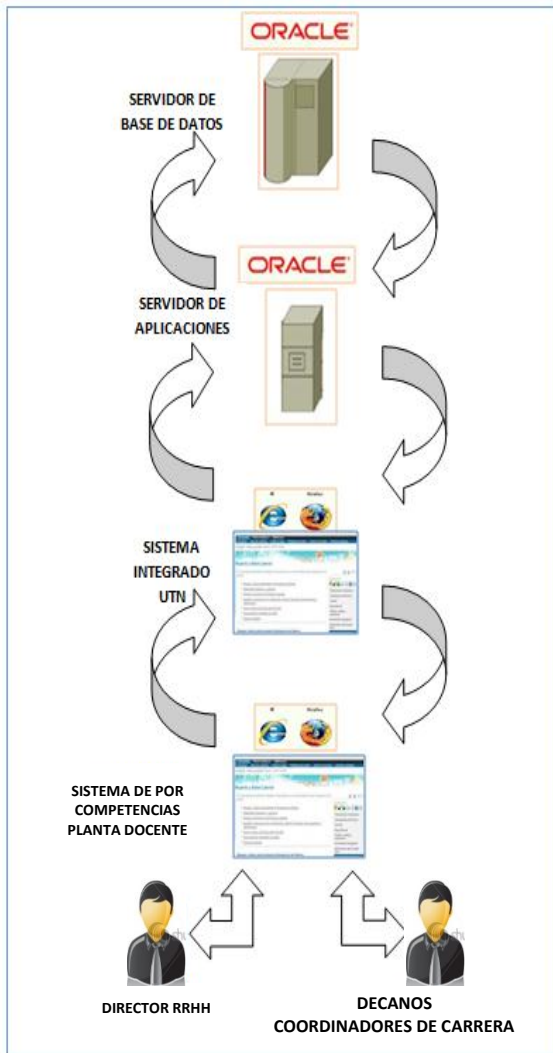
**Figura 2:** Flujo del Sistema de Gestión por Competencias

**Selection of teachers by competences**: With the model of competences stages are raised like

Recruitment, interview, pre-selection by valuation test, competency assessment and teaching research.

**Competency assessment: It** Provides the Teacher's performance indicator according to the evaluation by objectives, yield and evaluation of internal and external users.

**Training: It** Consists of the record of given training, based on performance evaluations.

**Performance Evaluation by competences (Evaluation 360º):** with the use of performance feedback according management indicators, self-assessments, by students, career coordinator and between teachers where the result of performance, competences, abilities and behavior of Teachers for improvement will be appreciated.

## 4.JUSTIFICATION OF STUDY SKILLS AND METHODOLOGY

Institution and career evaluation with aim of accreditation with a given period from the effective date of the charter will have to comply with CEAACES evaluation, the institution as a part of CES currently should evaluate the resources distribution, taking into account the efficiency in teaching and researching related with national and regional development, through the development and implementation of evaluation processes and continuous improvement with competences needed to meet the curricular areas of each career.

Design and creation of Evaluación del Docente de Gestión de Talento Humano por Competencias module will reach a better management of its process and keep the form of all its elements like Teaching plant, allow the level control for its improvement and detection of flaws in the whole process, to obtain internal and external benefits.

- *Internal:* Department of Human Resource, groups like teachers and students are benefited with module that will follow a standard to evaluate skills, abilities and knowledge of Teachers that are imparted to students and obtain results that will allow improvement of evaluation process.
- *External:* Students and other citizen as a result of better management will receive the attention they deserve.

## 4.1  SYSTEM ARCHITECTURE



**Fuente:** Propia
**Figura 3:** Arquitectura del Sistema de Gestión de Talento Humano por Competencias

By entering of operator user enter to the module using any browser and authenticating with username and password, enter the information required by the application about skills, positions, selection process, training or evaluation, according to the selected screen, the system will present to the operator user a friendly interface indicating in a precise way the actions to take, actions that will allow access, storage and updating the information in a safe way in the database.

Once previous step is done, responsible users of each department process will be able to take better decisions, as a consequence of system results.

RUP methodology used for UTN projects will be used for being adaptable to the context methodology and organization needs for each phase.

- **Start Phase. – It d**efines project scope and understand what is going to be built.
- **Elaboration phase. – It** builds an executable version of the application architecture and understand how it's going to be built.
- **Construction Phase. –** It completes the skeleton of the application functionality. It builds a Beta version.
- **Transition Phase. – The a**pplication availability for end users. It builds Final Version.
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## 5.ANALYSIS OF IMPACTS

Impact analysis allows to determinate benefit and acceptance that proposal generates in the institution. To perform impact analysis on the implementation of the application was established based in economic, social, technological, educational and environmental impacts.

| IMPACT | BENEFITS |
|---|---|
| **Economic** | Mejoramiento de procesos, ahorro de tiempo y aprovechamiento de talento humano.<br>Ahorro en mantenimiento, reutilización de hardware y software |
| **Social** | Incremento del prestigio de la Universidad Técnica de Norte. |
| **Technological** | Ampliación y mejoramiento de la calidad de software de la UTN. |
| **Educational** | Explotación de herramientas tecnológicas para la enseñanza y aprendizaje.<br>Evaluación y control de gestión académica de la UTN. |
| **Environmental** | Reducción de impresiones y/o utilización de papel. |

**Fuente:** Propia
**Tabla 1:** Análisis de Impactos

The benefits which the system presents are clearly indentified, it has successfully achieved compliance with the objective to implement "Sistema Gestión de Talento Humano por Competencias Orientado a la planta Docente de la Universidad Técnica del Norte" improving selection process, evaluation and training

## CONCLUSION

➢ The design and implementation of "Sistema Gestión de Talento Humano por Competencias Orientado a la planta Docente" was done in UTN, the application system so architecture and process development are kept, where are in addition database components related with existing remains.

➢ Each evaluation process was established in base of al "Reglamento de Evaluación de Desempeño Personal Académico de la UTN" where the operating guidelines of the system to evaluate the Teaching area are determined.

The system was developed with the technological tools of the institution , such as Oracle Forms where are implemented administrative and configurable processes part to meet, besides the Oracle Application Express tool was used to complement the processes, optimize fast, flexible and interactive for users .

➢ The model of competences is based on the functional structure of institution composed of (Functions, Fields, Components and Indicators) that allow to improve quality in levels personal, social and professional with tracking processes for selection, evaluation and training of Teachers.

➢ Digital training oriented to staff and end users was successfully reached and positives results were obtained at the moment of using the graphic interface, because of its easy use.

➢ An orderly work process was achieved to obtain a quality software using RUP development methodology

## RECOMENDATIONS

➢ To standardize processes of UTN system, using skills for improvement and make them part of all entities that have been attached to this innovation.

➢ To plan a calendar that determines correctly the process times of Teacher's evaluation when using the system.

➢ To keep the use of Oracle tools for safety and integrity of information provided for each application.

➢ To optimize the database scheme of UTN, by determining the use of the applications created and most used.

➢ To use of the system in its different phases, to control, and develop improvement plans in Teaching area and its process.

➢ To take into account the different Teacher's opinions requested after their respective evaluations for appropriate knowledge update.

## VALUATION OF DEVELOPED SOFTWARE

- **PURPOSE**

This document aims to value the software within the market of the area.

- **SCOPE**
This document is oriented to people responsible for the management and maintenance of institution software to have a perspective a perspective of real assessment of it.

- **EXECUTIVE SUMMARY**

Descriptive tables will be shown with details of each resource used in the development as the effort displayed.

- **TYPE OF ESTIMATED PROJECT**

To estimate costs a budget is estimated, in which all items and staff are evaluated, with their participation degree along development and implementation of software with percentages and hours.

At the end implementation costs are added to the staff costs to have a software valuation.

➢ **Cost of resources**

In Table 86 the cost of resources allocated to the project is established.

| Hardware Resource | Required hours | Price Hour | Total |
|---|---|---|---|
| Applications Servers equipment | 960 | $ 3,91 | $ 3.753,60 |
| Development PC equipment | 960 | $ 0,94 | $ 902,40 |
| Database Server equipment | 960 | $ 3,91 | $ 3.753,60 |
| **Total  Hardware Resource** | | | $ 8.409,60 |
| **Hardware Resource** | **Required hours** | **Price Hour** | **Total** |
| License  Servidor WebLogic | 960 | $ 3,91 | $ 3.753,60 |
| License   BDD Oracle | 960 | $ 17,19 | $ 16.502,40 |
| APEX | 960 | $ 0,00 | $ 0,00 |
| **Total  Hardware Resource** | | | $ 20.256,00 |
| **Technical Resources** | **Required hours** | **Price Hour** | **Total** |
| Technical Support | 960 | $ 3,16 | $ 3.033,60 |
| Internet Service for development | 960 | $ 0,19 | $ 182,40 |
| Training | 40 | $ 10,00 | $ 400,00 |
| Books | 20 | $ 10,00 | $ 200,00 |
| Stationery and Supplies | 10 | $ 75,00 | $ 750,00 |
| **Total Technical Resources** | | | $ 4.566,00 |
| **Total Resources** | | | **$ 33.231,60** |

**Fuente:** Propia

**Tabla  2:** Control de valoración del proyecto

With effort percentage established effort cost can be approximated by each development stage. Costs are determined during the six months that the project is executed with approximate values to be received by each participant:

- o *Project Boss: $2500 monthly*
- o *System Analyst: $1800 monthly.*
- o *Programmer: $1200 monthly.*

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