# "CONTROL SYSTEM, IMPLEMENTATION AND MONITORING OF SHOPPING

(MADQ-F2) – ERP–UTN" (October 2011).

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Abstract: The social life of man has created the need to transmit and process information on an ongoing basis. To this end, over time have been perfecting different techniques and media.

Currently the world is making strides processes, and this movement is sweeping the hand with the changes that arise in technology, new demands for information, the economic differences in this new social, cultural and environment.

#### I. INTRODUCTION

Within the administrative, purchasing management, is a method of leadership that emphasizes results of operations, said the goals to be achieved at all levels of the organization and uses the results compared to targets, as a method of assessing the contribution of each member and as a guide for the management of the unit.

in an emerging We living global information society with a global economy that increasingly depends on the creation, management and distribution of information across global networks such as Internet. [1]

Due to the integration of government systems<sup>[2]</sup> and procedures, assistive technology, with its rules mechanisms dissemination and training required for state institutions or hire purchase goods works and services is one of the most important aspects of implementation of the Control Implementation Monitoring of Purchases is interested in improving their management practices to make them more efficient,

transparent and beneficial to users of each unit of the Technical University of North

In view of the progress of technology in the field of information comes the need for a software solution that can address the requirements of Purchasing Management of UTN, and integrated into a single data repository thus contributing to the generation of a large ERP for the of Oracle ® Academy, using the potential Developer Suite 10g.

Thus, with the introduction of this system redesign is desired achieve the corporate function of Chief Procurement UTN, and become a success vou are looking for leadership from new approaches and philosophies that formed from new human. are renewed with updated knowledge and whose learning is

This project aims to:

permanent.

Develop and implement a software application that solves the problems institutional management and administration of the procurement processes of the University, to standards and guidelines of university management and the Organic Act of the National Procurement and Regulation.



Fig. 1: Project Outline

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 $<sup>^{\</sup>left[1\right]}$  "Information systems and their importance for organizations and companies:",

http://www.gestiopolis.com/Canales4/mkt/simparalas.htm
[2] "Government systems", SNCP :National Public Procurement System,

Control System, Implementation and
Monitoring Purchasing Procurement Management Module UTN, is developed to organize information from the
procurement process resulting from
the Public Procurement Portal organized and to
undergo periodic physical finding, defining new
processes optimal and eliminating other manual or redundant.

# II. DIAGNOSIS OF THE CURRENT SITUATION

The Head of Procurement North Technical University does not have a computer system for purchasing management of the institution.

Little information from users of each cost center on the status of your pending purchase.

The purchase order is made to manually according to a printed format.

Lack of reports by quarter for shopping and be procedures for procurement personnel or requests for users of each cost center.

Open multiple files for the purchase of the same type of item in different units.

Misplace documents.

Integration with National Public Procurement System
There are many controls and hands-on activities that do not
allow efficient management requirements for acquiring the
institution.

High costs and time consumption.

Process inefficiencies staff distract from the true role of making productive use of information..

# III. DIAGNOSIS SYSTEM ANALYSIS AND DESIGN

## Analysis and Design Model (Entity-Relationship Model)

This model provides the realization of use cases in classes and passing from a representation in terms of analysis (not including implementation issues) to a design(including an orientation to the deployment environment), according to the progress of the project.



Fig. 1Entity Relationship Model

### **Data model (relational model)**

Anticipating that the persistence of the information system will be supported by relational database, this model describes the logical representation of persistent data, according to the focus on relational data modeling. To express this model using a class diagram (which uses a UML profile for data modeling, to get the representation of tables, keys, etc.).

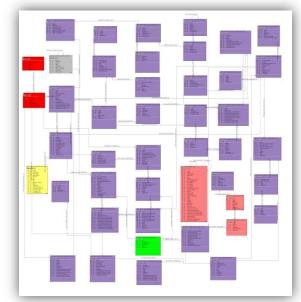


Fig. 2 Physical Model

# IV. DIAGNOSIS SYSTEM ANALYSIS AND DESIGN

The System Control, Implementation and Monitoring of Procurement, is aimed at managing procurement processes carried out in the Public Procurement Portal efficiently, effectively and with a quick result in the delivery of information to users.

#### A. DEVELOPMENT TOOL

For the development of this project was used Oracle ® Database, Oracle ® Developer Suite and Oracle ® Application Server 10g same as have been acquired by the UTN, investment potentiates the Academy towards advanced technological paths.

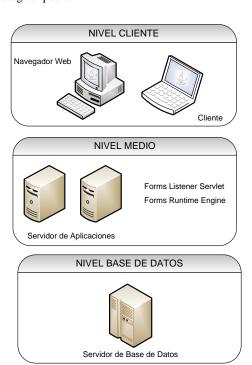


Fig. 3 Architecture Based Form-Services

### B. SYSTEM DESCRIPTION

Control System, Implementation and Monitoring of
Procurement, is responsible forrecording the information
from the Public
Procurement Portal attachingdocumentation whether consolid
ations, sheets, certificates, records, resolutions, trades and

contracts, assigning as a coach or administrator suppliers, setting official, and process sequences depending on the procedure file associated with the purchase of the items consolidated; items integrated into the buying process are transferred to a purchase order is arranged this way to acquire items to submit to the corresponding physical finding.

Users of each cost center included reports on the status of your pending purchase by following purchase



Fig. 4Project Overview

The information stored in the procurement process will produce management statistics, and modules will be integrated with Budget, Inventory and Fixed Assets, as well as the Public Procurement System, operated at the Technical University of the North.

For system design takes into account that the main goal is integration with other modules of the ERP project UTN.



Fig. 5Integration with modules

#### C. SYSTEM USERS

Competent users and administrators who use the System Decontrol, Execution and Monitoring Procurement are:

### **System Users**

The system also involved users of the various cost centers whose main function is the monitoring of their requirements through the system

- a) Monitoring of purchase
  - Available throughout the acquisition period (annual).
  - > Filter cost center
  - > Filter year running
  - Filter active items that are budgeted.
  - Detail items required in the last level of the CPC, quantity available, month, state.
  - ➤ A description of each item according to the stage reached in the purchasing process, defining the code, the state and the observation that details a step description of the item

#### Functional manager

The main actors of the Control System, Implementation and Monitoring Procurement officers are the Head of Procurement, which is responsible for managing through the system and processes purchase orders from the analysis of the consolidation of the institution.

- b) Organization of Activities
  - Management of activities for the calendar year.
  - Structured activities as required by INCOP quarters.
  - Options opening, reopening, extension, and closing periods of the activities.
- c) Associated documentation

Depending on the procedure involved is recorded documents to the purchasing process whether consolidations, sheets, resolutions, minutes, money order tradesand contracts.

- d) Allocation of suppliers
  - Register supplier personnel (technical, administrative or technical committee)designated items consolidations.
- e) Determination of staff to procedures
  - According to the procedure and the sequences were assigned to the officer.
- f) Purchase Process Management
  - Assign the code of record for the purchasing process formed by the alias of the procedure, the acronym of the institution stands for the leadership, the respective number and the relevant year as the structure defined in the Organic Law on National Recruitment System public and Regulations.
  - Selection of procurement process according to the file filter previously entered.
  - Setting the Time of onset (when it was issued consolidation) and the Termend(when the trade was made for the payment order.
  - Description of the object to the statement concerning procurement which was published in the Public Procurement portal.
  - Depending on the building staff is assigned to a supplier (technical, administrative or technical committee).
  - Determine the officer, sequences and documents involved depending on the procedure of purchase.
  - Change the status of an item to a new level of managed

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### g) Purchase Order

- Setting the date of issuance, process and record supplier as purchase.
- Determination of total contracts awarded.
- Join the referential description of the purchase order.
- Approval of consolidations related to the purchase order.
- Presentation of consolidated items.
- Change the status of an item to a new level of managed

# h) Purchase Order Management

- Changing characteristics or technical specification of the winning bid process.
- Change the status of an item to a new level of inventory.

#### i) Reports

- Individual Purchase Plan cost center, classified by year.
- Items administered for each procedure of purchase indicating the images becauseit has undergone and their status.
- Items managed to acquire features.

# j) Integration with other systems

Integration with internal systems Budget, Fixed Assets, Inventory, and the external system of government procurement.

### V. CONCLUSIONS

Implementation of Control System Implementation and Monitoring Purchasing organizational change allowed before and during the implementation, that meet the requirements under provisions of the Organic Law of the National Procurement and Regulation.

- One of the main functions of the Control
  System Implementation and Monitoring of
  Purchasing is to promote and ensure the safe and
  efficient operation of the processes
  performed by the National Public
  Procurement System of government according
  to its laws and regulations. To fulfill this function is
  essential MADQ system stability phase 1.
- By implementing the Control System Implementation and Monitoring Procurement, allowed to have a quality for performance management system of procurement procedures, and simplifies the tracking control of procurement processes to strengthen one of the most important access to information of users of the University, with information organized, centralized and easy to access and exploit the knowledge of employees in an appropriate manner
- Using Oracle ® for the development of my thesis project, I realize this is an excellent tool for mass storage of information, have a number of features that make it robust against the handling of large volumes of data, which in my criterion makes the investment by the UTN to be successful by type of information used in college.
- Discovery Using Oracle ® enable authorities to make an online management may make its own statistics and consultations, dataminig.
- The management of RUP software development implemented in the university has been very helpful, allowing a clear idea at all stages of a project, its structure forces the developer to document the entire process from the beginning, development, testing and commissioning to production, with a detailed

record of all changes made in the course to completion.

### VI. REFERENCES

-"Applied to the Management:",1997,

http://www.monografias.com/trabajos16/sistemas-informacion-empresa/sistemas-informacion-empresa.shtml

-Oracle, "Overview of Forms Server", 2009, http://www.uriit.ru/japan/Our\_Resources/Doc\_iAS/forms.6i/a83591/chap02.

-" Stage design RUP", 2007, http://www.scribd.com/doc/395783/RUP-etapa-diseno.

-Organic Act of the National Procurement and Regulation.

# VII. ACKNOWLEDGMENTS

We thank the Technical University of the North and especially the Department of Information and without the support of its director and its members who work in it, had not finalized the project.



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