ICT governance in Higher Education

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Abstract:- research stands out because it is provided by the model of Al-Mobaideen (2009) critics to analyze for the governance of information and communications technology (ICT) at the National University of Chimborazo factors which raises the factors such as: strategies and policies, infrastructure and networks, financing and sustainability, and institutional culture that should be taken into account if desired govern the successful integration of ICT in the school. The study is exploratory, the almost total lack of previous studies on Governance of ICT integration at the University. It is concluded that there is a set of organizations with addresses IT markedly different roles in their duties with regard to its orientation to administrative, academic and research. The University has failed to define the strategic role of ICT in their academic, because there is no objective referred to IT academia in 2013-2016 pedi, but also because there is not a pedi-oriented IT the formation. The limited effectiveness of IT organizations in academic activities is provided by the low rate of use of educationalplatformsb_learning.

Keywords:- Administration Academy, blendedlearning, Governance of InformationTechnology, StrategicPlanning, ICT

I. INTRODUCTION

The university should not disassociate with the evolutionary progress of information and communications technology and simultaneously with the development of academic quality in order to achieve constitute human talent to contribute to national development[1]. Thus, higher education has been subjected to the impact of ICT from a holistic view, ie, recognizing that it is not only important for the academic, but also for global and integrated running of the institution and its agents[2]. Companies, universities and regimes are allied with ICT for development of their daily activities and progress, they who make enormous efforts to be more efficient, safer to do their jobs and key aspects of its strategic planning, without But they are islands without communication and one of those islands or areasaffectedistheinformationTechnology (IT).

Hackler and Saxton (2007) makeanimportantdifference to thefactthat non-profitorganizationsoftenneed to furtherdeveloptheircollaborativenetworkswithotherinstitutions to performanefficientgovernance of their IT[3].

It is so little interest in research in universitieson ITgovernance, it leads to dabble in this line, because in developed countries is being fully implemented, while in the Ecuadorian university does not have a framework established and scientifically validated[4].Which implies that the universities implement their own experiences IT government or take part models created for other sectors, which are not appropriate because culture [5] in its different dimensions influences governance.Under these conditions it is important that flash back frames Government work IT must adapt to the culture of each region and country which will help its maturity.The objective of the research projects analyzing ICT governance at the National University of Chimborazo, with emphasis on its historicalevolution and criticalfactorsproposedby Al-Mobaideen (2009).

II. ANALYSIS OF LITERATURE

2.1 IT GOVERNANCE IN UNIVERSITIES

The state of scientific art contemplates the importance of having clear objectives on how to integrate and implement ICT not only thinking as tools that help provide solutions, if not beyond producing innovations at all levels either in the teaching learning processes in the structure and university policies, all as part of a comprehensive approach to virtualization, ranging from the institutional to the instructional [6]. Meanwhile, Sahraoui (2009) asserts that universities, especially those of developing countries, its main difficulty in managing ICT is the lack of strategic planning and meaningful to guide this process [7]. In Create a sustainable structure of governance of ICT, be flexible to different learning modalities based on open source, to reconcile the academic and technical-financial perspective, integrating ICT with the mission regarding Sahraoni (2009), solutions as proposed training institution and build a digital culture at the level of the university community. The

central focus is to base the integration of ICT in autonomy, faculty participation, the training needs of students, ethics and social responsibility[8].

For his part, Al-Mobaideen (2009) highlights some critics to consider if you want to govern the successful integration of ICT in the educational institution as are factors: strategies and policies, infrastructure and networks, financing and sustainability, and institutional culture (influenced by internal and external guidance in the field of higher education). According to this author, an outreach strategy of ICT involving these factors (which depend on the specific attributes of the organization) allow universities to have a more flexible planning, they can better establish your target group, strengthen their management processes and be more committed to teaching and learning[8],[9].Proposed by Al-Mobaideen (2009) model proposes the integration of ICT by structuring the different university levels. Thereforepresents a three-tierstructure:
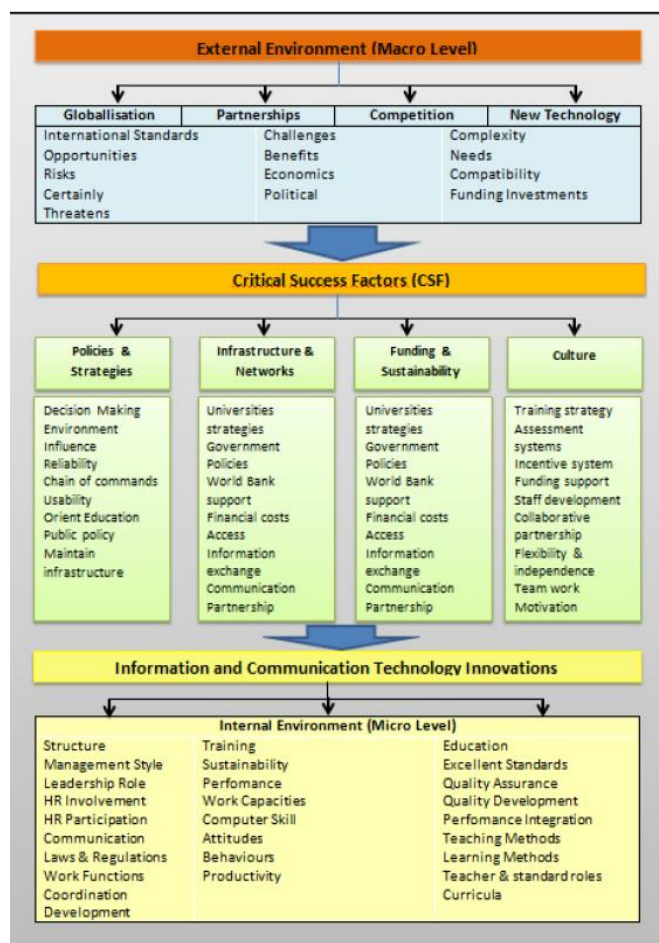

Figure 1: Critical factors for successful integration of ICT in universities Al-Mobaideen (2009)[9].

The first section of the integrative model, it corresponds to the macro-system is very important for the role that universities be aligned with the changing environment. In this sense, competition, globalization, relations with peers and new technologies, critical to the development and implementation of ICT are included. Speaking of socio-economic framework, this approach identifies priorities, challenges, strengths, weaknesses, opportunities and threats of the institution regarding the integration of ICT as its mission and objectives[8].The second section corresponds to the critical factors for success which are closely linked to the characteristics of the environment (macro-system). These factors represent the most important components for optimum integration of ICT, thus justifying the strategy of incorporating these technologies in universities and define decision making on this topic (policy development, resource planning funding, innovation management in the institutional culture). In short, take account of these variables allows to increase the efficiency of internal processes and functions of the university when adopting ICT[8].

The third section, corresponding to micro-system includes the own system of higher education institutions and activities carried out frequently. Therefore considered issues related to pedagogy, curriculum, teaching-learning processes, and the characteristics of the educational actors and members of the university

community. In turn, this section of the macro-system and the critical factors is directly influenced[8]. At this level, following Basigalupo (sf) is required to conceive learning as changing, contextualized, with clear goals and strategies to access and analyze information[1]. This will allow to exploit technological tools to achieve autonomous students capable of continuous training.The model supports the importance of a successful governance of ICT in universities, focused on a process of change towards digital culture. Higher Education Institutions mostly focus on the management of ICT as a tactical, strategic element, but should not remain only there but this must be consistent with the university's objectives. If this context is achieved changes would be provided in the organization and academic tutoring, giving teachers and students a variety of ICT tools in their academic process, as well as access to information about the institution ubiquitously. [10].

It should be borne in mind that the governance of ICT integration is an evolutionary process and guessing different levels of development, such as: a) do not have formal processes or even do not recognize ICT as a necessity in the organization ; b) there are certain processes formalized within units but no overall structure that the article; c) the decisions are taken on a global approach, each unit applies this set of processes; d) it has a solid range of administrative processes that optimize investments in ICT; e) the authorities are part of the process and ICT they are part of the strategy of universities[8]. Governance of ICT in institutions does not seek management of ICT, if not try to solve the problem of disarticulation (various committees, units, individual leaders or teams of various research) in the institution that creates conflicts in policies and planning efforts, inefficient use of resources, higher costs without clarity[eleven].

In turn, the effectiveness of governance is guaranteed provided that the institution has clear your current position and future goals. Therefore, models or governance approaches are a key tool to assess and address the use of ICT and investment, aligning them with the objectives of the University. It is also important to consider the organizational culture, administrative support and process[12]. To this end, the authorities of the institution should ensure that administrative and academic units not only know the resources available, but also the conditions of use and the role they play in making better decisions[8],[12].

III. APPLIEDMETHODOLOGY

The study is exploratory, the almost total lack of previous studies on Governance of ICT integration at the National University of Chimborazo; not experimental, since the study seeks to observe the phenomenon without intervening or modify or control the variables analyzed: explanatory, since it aims to give an analysis or assessment of the governance of ICT integration at the University; correlational, since it seeks to find correlations between different variables analyzed.

As it has considered three fields of analysis:
a) Study of the integration of ICT in UNACH, from its creation date July 16, 1995.
b) Study of university documents such as the Strategic Plan 2012-2016 institutional development, UNACH educational model with the aim of having formal literature of the institution.
c) qualitative approach starting with from the valuations of the managers responsible for IT UNACH units: Institute research, science, innovation, technology and knowledge (ICITS), Center for Educational Technology (CTE) Training Unit academic and Professionalization (UFAP), academic Planning Unit (APU), technical unit UTECA academic control.

a survey that collects the valuation of different departmental directors regarding the five critical factors defined by the Al-Mobaideen model was applied; successes and failures in decision making ICT investment; UNACH position with respect to competition ICT; maturation level of integration of ICT in UNACH in general and in the field of training; and main barriers to the integration of ICT in theeducationalfield. The model applies Al-Mobaideen because: a) link the relationship between aspects of macro and micro levels of the institutions; b) allows the historical analysis of the status of ICT integration in the institution; c) Support the identification of the difficulties of ICT governance; d) identifies the actions to be taken in the short and mediumterm.

IV. RESULTS AND DISCUSSION

In the time:
The ICT integration has been progressively where it starts in the 90s when the University is created and at this stage ICT are incorporated as a support tool in the activities of the administrative and academic management. In a second stage at the beginning of 2000 the development of the institutional network, internet income decentralization and consolidation of personal computing. In this stage is to provide information to facilitate decision-making at the administrative level in seeking to improve access and control the flow of information. In a third step 2005 -2012 is oriented to the use of ICT in academia with the creation of the Center for Educational Technologies CTE, as in the administrative area is Academic Control Unit Technical UTECA, in the same way to the incorporation and access databases bibliographic reference. In the latter stage 2012 to

date it is characterized by a wide deployment of ICT in the administrative and academic. Regarding the administrative level identified the implementation of a system of university by results UPR started in 2013, in the same way in academia it has developed several applications that allows academic interaction within and outside the University relying on a system Moodle learning management accompanying the student ubiquitously in their hours outside of classroom but unfortunately is used by 20% of teachers,

has not been achieved pervade strategic institutional development plan 2012-2016 strategic objectives and concrete actions that address from the academy achieving this competition, as they have also encouraged research and development groups ICT without closer links with institutional areas iT, generating dispersion of resources and little use of the knowledge generated, however, has not yet found the ways that could make it possible.

Organizational structure ICT in UNACH

UNACH has several instances related to the integration of ICT: Technical Unit for Academic Control (UTECA) is responsible for developing computer systems that allow academic and administrative control, provides support services, training and technical advice all instances using computer applications developed by this unit research Institute, science, innovation, technology and knowledge (ICITS) is responsible for the formulation, selection, prioritization and implementation of programs and research projects as well and monitoring, dissemination and transfer of results; and manages the System of Science, Technology, Innovation and Knowledge Ancestral UNACH,

Each of these organisms depend and also report to the vicerrectorados information, maintaining the same organization, which together show a significant to manage the integration of ICT with a greater emphasis on training support, there is no instance that articulates efforts and human capital that is counted in each organism, in the same way the CTE is responsible for giving the guideline for education b-learning, but nevertheless teacher training for the use of this toolis in charge of development Center Teacher.

Qualitative analysis of critical factors: coding questionnaires based on the model of Al-Mobaideen

Al - Mobaideen (2009) raises take into account four critical for the successful integration of ICT in universities factors: a) policies and strategies; b) Infrastructure and networks; c) Funding and sustainability; and, e) Culture.a qualitative analysis of the current situation from the extracted information from the survey of three executives of the units responsible for managing ICT at the University is carried out, and two directors of academic units.Critics in UNACH, regarding the governance of ICT integration factors is at a second level of development. This level is characterized by certain processes formalized within the institution but there is no overall structure that articulates.The institution applies ICT as an important tool in academia, but in turn there is no firm rules for use. It is evident that there is a break between the development and maintenance of infrastructure for optimal use of ICT by the academy in the teaching-learning process which considerable use of these is not obtained.

Using the model of critical factors defined by Al-Mobaideen (2009), the process of governance of ICT in UNACH be clarified:

- Policies and strategies: The institution has weak policies and strategies needed to articulate the technological capacity and academic processes due to the absence of strategic objectives arising from an institutional strategic plan or an ICT Strategic Plan.
- Infrastructure and networks: The technological infrastructure is one of the major strengths of the UNACH, however, its greatest use is oriented to academic administrative operations.
  It has been successfully implemented aimed at facilitating the academic process and applications: Learning Management System, Wifi, scientificdatabases, repositories.
- Funding and sustainability: the University annual budget has to be defined in terms of institutional strategic plan, institutional projects and development projects of the academic units. In this regard, the units responsible for ICT have budgets for new projects and maintenance of existing systems and no opposition is seen to invest in technology.
  With regard to ICT investment process it is not seen as a long-term if not the short term, because it does not have a Strategic Plan ICT at university level.
  Technology investment is assumed entirely by the UNACH, which generates a hefty expense for the institution.
- institutional culture: administration, academia and student community: the existence of three groups of actors with different perspectives and expectations regarding technology is observed.

Administrative culture has been strongly influenced by the long history of the use of ICT for administrative and academic management. However resistance is observed at the incorporation of the University of Results (UPR) system for administrative procedures.The second group consisting of academia resists the use of ICT in the teaching-learning process and research and opts more for the traditionalist, since they have a perception of the complexity of use, and yet there is no pedagogical strategies that incorporated into the training process, although there is a commitment to training teachers in ICT, the expected results are not obtained. It should be noted that you have to separate the use of ICT for the preparation of academic work, using them in teaching and learning activities with students.The third group consists of students manifest themselves as a group that calls for the implementation of ICT in the teaching-learning process, since they are digital natives and expect to be aligned to this new approach, but do not have proposals on the use of ICT in the pedagogical model and academic processes.

V.   CONCLUSIONS

An important factor for the success of the IT factor is the correct action of the executive level in critical IT decisions, allowing add value to investment in IT and reduce related risks. The university has to appropriately control the complexity of technology to respond quickly and safely to both internal and external, to control information, computer disaster requirements, electronic fraud, etc. The university has a lack of proper relationship with TI, since considers IT as a technical and operational rather than strategic entity.

It is evident that has the technological conditions and human talent to implement a system of governance of IT to develop and mature in UNACH. It is evidenced by a number of organizations with addresses IT markedly different roles in their duties with regard to its orientation to administrative, academic and research.There teams in IT directions and sufficient capacity to continue to level off over development and maturity in integrating ICT into academic processes of technical expertise UNACH The university has an agency responsible for promoting improvements in training processes and teaching but has not been able to establish an effective synergy with IT units.

The University has failed to define the strategic role of ICT in their academic development, not only because there is no objective referred to IT academia in PEI 2012-2016, but also because not have a ASKED IT oriented training.The limited effectiveness of IT organizations in academic activities is provided by the low rate of use of educationalplatformsb_learningcollege. The use of ICT in academia is in the area of the will of the teacher as opposed to administrative management in which teachers, academic authorities and administrative personnel should employ computer systems as part of their work. There is no dissemination of successful teaching experiences on the use of ICT in the teaching-learning process and open way that encourages the use of ICT.This initiative should harness the potential of ICT in the progress of the main goals of the institution, maximizing the cost - benefit of the investment. It should also allow capitalize on the opportunities offered by ICT to boost positioning UNACH to a significant differentiator stage with respect to other institutions. All this should have a positive impact on administrative efficiency and academic efficiency contributing to the consolidation of the training model of UNACH.

Future research
Propose for future research outline a proposal for an IT governance model where better use of ICT incentive.

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