

AN EVOLUTIONARY NATIONAL TELECOMMUNICATION SYSTEM THROUGH KNOWLEDGE MANAGEMENT

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ABSTRACT

Bodytext A telecommunication system is one of the most important kind of infrastructure to support a country national development. That is why is convenient to design an evolutionary system in order to have a system which has the ability to evolve according the changes of technology, social needs and better knowledge. The complexity of this system makes necessary to apply system thinking, strategic thinking, knowledge management and many techniques for achieving the participation of the community. A system approach allow us to identify the main subsystems that should be considered: from the technical point of view, radio, television, telephone, satellite and data communication. In this paper it is proposed to modify the present telecommunication system (TCS) of Mexico to achieve the biggest increase in its value for Mexican people. Almost always the formulation of strategies and public policies of the system are defined in public institutions without the participation of the telecommunication community. In this case, the proposition is that knowledge management should be considered in stock and in practice for solving the problem. In the first solution all the available information is put together in a center place, for every one to access on demand. The second application is based on a evolutionary conversation to create new ideas and new knowledge for the future system. Besides of that it is necessary focus how the information is going to be sent from one place to other through different media: The technical requirement is to improve the way of transmission, in order to assure that the information generated by the source gets the address in a fast, cheap, safe and truthful way. The proposed schema is a solution for implementing the application of the main principles and techniques of Knowledge Management. This schema is enough flexible to use different planning models and many different techniques for assure the participation of people.

Keywords: Knowledge Management, Evolutionary system, Planning models

OBJECTIVE OF THIS PAPER

Propose methodological criteria and a general schema to modify the present telecommunication system (TCS) of Mexico, applying Knowledge Management to obtain the biggest increase in value of the system for its community.

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MANAGEMENT KNOWLEDGE APPLIED TO DIFFERENT OBJECTIVES

Knowledge Management is a new field that has been proved can be applied to different objectives, contexts and situations. It is possible to apply this subject to small and big

enterprises, complex projects, planning processes, institutional planning, organizational interactions and scientific and academic activities. In the following figure is presented a comparison between a possible methodological schema for planning of enterprises or national entities.

KNOWLEDGE MANAGEMENT FOR ENTERPRISES	KNOWLEDE MANAGEMENT NATIONAL LEVEL
<ol style="list-style-type: none"> 1. Identify stockholders 2. Value creation definition 3 outline strategy intent 4 Define key success factor 5 Identify key performance indicators 6 Business Processes 7 Alignment of strategy with business 	<ol style="list-style-type: none"> 1 Identify benefits 2 Value creation definition 3 Outline strategy intent 4 Define key success factor 5 Identify key performance indicators 6 Governmental processes 7 Alignment of strategy with national policies and competitiveness

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KNOWLEDGE MOVEMENT.

There is in the world a knowledge movement in order to build and manage knowledge. The main point is to use understandings, ideas, experiences, technical knowledge to modify all kind of systems for the future, creating continuously new knowledge. Some of the common objectives of this movement are :

- Creating a Knowledge strategy for new systems
- Implementing a Knowledge Management
- Organizing the team for the task
- Operating a Knowledge System
- Creating a knowledge strategy and proposing changes
- Increasing value of systems for the future
- Designing evolutionary systems.

In this work Knowledge Management is used mainly as a new criteria to manage the planning process of specific national systems: in particular A Telecommunication System. TCS. From the previous objectives it was convenient to adopt four objectives: 1 creation a knowledge strategy, 2 organizing the team for the task, 3 proposing changes for the system and finally 4 designing an evolutionary system. Beside of that, several explorations about the experiences of other countries are required.'

In the Knowledge Movement the key point is to join forces with all the interested groups for recovering their experiences, opinions and main ideas. That information related to a TCS would be useful to provide the feedback for evaluating the modifications made in the past to the system, in order to have a continuous reshaping of the strategic planning of the Mexican TCS.

METHODOLOGICAL ASPECTS OF DESIGNING AN EVOLUTIONARY SYSTEM

The proposed methodology for this task has seven stages ::

1. Reviewing of the planning efforts made in the past.
Objectives, Strategies, Goals , Comparison results with plans.
2. Analysis of tendencies on Technology and Practices.
3. Knowledge Strategies Formulation
Mission, Vision, Specific Objectives
Study of the Institutional Planning model
4. Selection and Integration of the team
External and Internal elements
Empowerment of the team
5. Value Criteria Definition
Selection of value criteria
Evaluation procedure for the definition of partial or integral values of existing system and new options
6. Knowledge Management System Operation
Meetings, Conversation
Integration of documents
7. Evolutionary System Design and Operation.
External and Internal Sources of Knowledge.
Integration of the planning model with the Knowledge Management System
Permanent operation of the system
Systematic review of TCS
Continuous improvements

The difference between the effort made on this TC Design compared with a traditional one is that in this case the purpose is to take advantage of the intellectual capital of the community, exchanging knowledge among experts of governmental organization, external experts and interested people of the telecommunication community. So, with a knowledge strategy the organization is trying to use the capabilities and the relationships of the community.

From the practical point of view, the solution requires that government, officers, main enterprises of this sector, internal experts and professional engineers integrate a team and a community with external experts, academic people, and interested representatives of the civil society.

STRATEGIC CONVERSATION

The first task was to create the community empowerment by means of the realization of participatory sessions. The main purpose of this sessions was to prepare expert people to cooperate with ideas and actions to have an evolutionary system design. This work included the exploration of ideas, diagnosis and solutions for reshaping the present Telecommunication System (TCS). It was also important to understand that the team has to practice an evolutionary thinking to design a better system.

The second task was to identify areas o synergy for different groups.

The third task that is not yet accomplished and is considered the most difficult one that the different groups and the whole group can move into an evolutionary conversation to create new ideas and generate new knowledge. In Mexico there are many technical meeting among specialists to discuss different subjects related with technology, policies, strategies, etc. but the problem is that all this material is completely disarticulated, not organized and in general is not considered when the telecommunication plan is design by governmental authorities.

For the future, it is possible to use classical and new tools for the analysis. For example is very common to use TKJ techniques, hierarchal analysis and other techniques. In a normal planning process. As there is a wide range of enterprises and entities, it is necessary to open the schema, to make possible the application of all kind of models, techniques and tools in a normal or modern way-.

DIAGNOSIS

From an specific group a partial diagnostic was obtained after a certain number of sessions. A normal SWOT/FODA was applied to identify threads, opportunities, strengths and weakness. In this diagnosis there is a clear difference between external factors and internal factors. A resume of the diagnosis is presented as an example of this exercise .

TELECOMMUNICATION DEVELOPMENT

- q Low development of telecommunications in national and regional level
- q Lack of the information given to the community about the development of telecommunications
- q Lack of telecommunication infrastructure in some communities in the country
- q Lack of collaboration among Latin America countries

INTERNAL TELECOMMUNICATION POLICIES AND REGULATION

- q Historical Protectionism for supporting private national companies
- q Problems in National Regulation that allows frauds.
- q Lack of Regulation for audio and video enterprises
- q Incompatibility of different services

UNIONS, WORKERS AND TRAINING.

- q Insufficient motivation and training of technical personnel in new technologies
- q Lack of information about objectives, goals and performance of the system
- q Insufficient training of general population for a proper use of telecommunication system

THREATS

- q Hackers Problem by programming mistakes and inadequate techniques

CONCLUSION

Knowledge Management Is a very useful and powerful way to manage the planning process of complex systems, specially in the case of a national system with great importance for the community.

This schema makes possible the participation of all interested people, experts, officers and activists. The obtained results from an holistic point of view are more valuable than those corresponding to traditional options that only take into account technical and economic aspects.

Knowledge strategies can be integrated to traditional or advanced models of strategic planning as well as to different system methodologies or system analysis schemas .

The detailed modifications obtained in the TCS are less important than the schema, because the whole system is going to be changing as a consequence of a continuous improvement. Then, follow the process to have an evolutionary system is the most important thing to achieve.

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