

# **SYSTEMS STUDY OF THE SCOPE AND SIGNIFICANCE OF EVALUATION METHODOLOGIES IN THE MANAGEMENT OF ORGANIZATIONS IN COLOMBIA**

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## **OVERALL AIM OF THE RESEARCH**

I am interested in expanding the methods and methodologies for measuring performance in organizations and sectors. The influence of the complex and changing environment of organizations today makes it necessary to introduce swift mechanisms to allow organizational performance evaluation.

The introduction of flexible methodologies that will permit much better handling of uncertainty is necessary to improve the control of the great number of economic and social variables operating inside and outside the organization. To meet this necessity, it is essential to rely on flexible information systems, which will provide strong support for measuring performance, as a tool for decision-making.

Developing and possibly integrating methodologies that permit permanent feedback to the organizations in an open market environment is vital. I consider these tools very important in analyzing organizations competitively, especially because Colombia (where I shall carry out my research) has just started to work in an open market environment. These kinds of methodologies should permit a comparison of different organizations both in the same economic sector and between different sectors. The research will also focus on determining how to integrate the variety of evaluation approaches into the organizations' usual operating functions.

## **THE PROBLEMS OF EVALUATING ORGANIZATIONS IN COLOMBIA**

The evaluation of organizations in Colombia is a problem. On the one hand, It would be very hard to evaluate organizations because of my lack of practical experience with evaluation tools. On the other hand, the influence of the complex and changing environment, characterized by the open market and the modernization of the public sector, in Colombian enterprises makes it necessary to introduce swift mechanisms to allow their permanent evaluation.

### **a. The Problems in Evaluating Organizations According to my Practical Experience**

Organizational Evaluation has been one of the most difficult task that I have found in my practical experience. My personal background and practical experience have an important influence on the development of my research in organizational evaluation.

After completing my undergraduate studies in Systems and Computer Engineering, I had the opportunity to work on the design of the National Health Service (NHS) under the auspices of the Pan-American and World Health Organization. It has been one of the widest experiences using the systems approach and cybernetics in the management of organizations in Colombia. We developed various subsystems for the implementation of the NHS: environmental aid, health and social welfare and infrastructure (including personnel, finances, information, supply, budget, evaluation, etc.), but after a decade the implementation of the NHS is still a problem.

I returned to academia for my MSc in Operations Research at Aston University where I had the opportunity to discover the differences between hard and soft operational research through Checkland and Beer's theoretical work.

When I returned to Colombia from England, I coordinated the International Health Course at Los Andes University introducing the new ideas that I got in England. The objective of this course was to teach management techniques, systems, and models developed for the NHS to people working within the NHS. This course was used as a mechanism for the implementation and evaluation of the NHS, today this task is taken into consideration as one of the most difficult tasks in the development of the NHS. The evaluation of NHS is still a viable project.

Later, I directed the department of Operations Research of Bavaria S.A., a Financing Group controlling beer production in Colombia. My job was directly related to strategic planning models in different areas of the company. In the financing area, I designed liquidity models on which the Group relied for investment decisions. In the production area, I started to be involved in the evaluation of macro-projects. I developed a model for expanding the brewery systems. The model optimized net production and distribution of the Group's seventeen breweries to meet beer consumption in the country. Additionally, the model simulates the production capacity, its limitations and expanding necessities, as a planning model for decision support. However, the implementation and post-implementation for evaluation of this kind of models is still a problem. Some of these models were discontinued because of their inability to survive in a flexible and dynamic environment, and through the difficult task of monitoring and evaluating their operations.

In the following years, I worked for Carbocol - an enterprise entrusted with the development and production of thermic coal in Colombia (Colombia is the world's fifth producer of thermic coal). I managed the planning and auditing areas where I was dealing with evaluation of the different projects carried out by the company. I returned to academia as a part-time external student in the doctoral program at Aston Business School, where I achieved my MPhil. The research focused on developing a conceptual framework that uses the systemic, cybernetics and strategic planning as tools for the identification and measurement of the best indicators employed in the analysis of organizational stability. However, I developed a methodology for the implementation of the indicators in one of the projects (Cerrejón Central) as the sample pilot for a production project, where quantifying the indicators was possible.

Since August 1991, I have been working as a lecturer of "Managerial Strategy" in the Industrial Engineering Department at Los Andes University. I have been using my lecture series as a "laboratory" for continuing my research. I am concentrating primarily on certain quantitative indicators that I have identified as keys to performing strategic diagnosis and forecasting for small manufacturing and utility companies. The work developed with my students, as practical work and their thesis in different organizations, offered me several samples of enterprises where I have applied quantified indicators to industrial organizations. These are financial indicators used to measure profits in industries and sectors. I am also making a follow-up study of such indicators. However, there is no tool that permits the measurement of Colombia's public organization performance. In public organizations, the performance is measured in legal terms but not in relation with organizational effectiveness.

Simultaneously, I have started a business consultancy in Strategic Planning, Management Control and Information Systems. The opportunity exists to apply my quantitative indicators in defining strategies for different industrial organizations, and also in monitoring their performance through time with real data (e.g., wood manufacturing companies of the Andean Group Countries). It also permits the comparison, under the same indicators, of different kinds of organizations in the same sector. This

experience has been very important in order to monitor the industrial enterprises in the open market environment.

At this stage of my practical work, there are some points that worried me. Firstly, I had been applying the systems approach, cybernetics and strategic planning without attempting to correlate the respective results. Secondly, I realized that it is very difficult to use these quantifying indicators in other kinds of organizations different from manufacturing, in particular in the public sector where organization evaluation is not concerned with quantitative indicators. Thirdly, I recognized the need for tools to apply in the public sector. I have been concerned with the necessity of integration because of my practical projects. For example, to go back to my initial model in Carbocol, I did not realize at first the necessity for integration. Integration traced through Carbocol as result of my research.

Again, I decided to go back to academia. I consider that the next step of the research should focus on identifying the most appropriate way to measure performance in organizations through considering different methodologies for organizational evaluation. I started to be interested in the work developed by Jackson and Gregory in Hull, where I discovered the four models of organization evaluation and the necessity of the theoretical integration of the models. The four models reflected in my MPhil thesis; however, I did not realize this factor because of a lack in my theoretical background.

## **b. The Need for Evaluation in Colombian Organizations**

Colombia began to work in an open market environment since 1993, and then it started to modernize its public organizations as a tool for the implementation of the open market. Colombian organizations need to be more aggressive, more adaptable, than they are now, and need to develop a greater capacity for learning to survive and change in the open market environment. Managers should give tools that will allow them to understand, evaluate and cope with the modernization of complex organizations. Survival requires that not only the individuals but also their organizations increase their capacity to learn and adapt. A major bottleneck today in Colombian organizations found in the rate at which organizations change in order to adapt to the open market environment.

Knowing what an organization needs to do is part of its success. In order to be successful Colombian organizations should be efficient - knowing how to plan, execute and control their operations.

Environments have become increasingly complex, less predictable, and more turbulent. Apparently, Colombian enterprises do not yet respond quickly or effectively enough to the changes occurring around us. They need to learn that the only kind of equilibrium that can obtain in a turbulent environment is, paradoxical, to be changeable and dynamic.

It is necessary that Colombian managers understand and accept that all projections made about the future of their organizations in the open market and the organizational modernization should be consider as uncertain. Success lies in integrated systems for evaluation, which allow identification of how well an organization is doing.

There is no real motivation for Colombia's entrepreneurs to be efficient. It is a common problem in Colombia's private and public organizations. However, the Colombian government has been creating mechanisms that permit measurement of performance in organizations in respect of time taken to achieve objectives, and it is expect to develop evaluation patterns according to the new Colombian Constitution of 1991.

Today, there is a specific law for the Modernization of the Public Sector: "Ley 87" and "Directiva Presidencial 02" which have been oriented to the process of design and implementation of the Internal Control System in the Public Colombian Enterprises. "Ley 87" general objective is to give some general criteria in order to develop and adapt general evaluation methods for each specific organization. "Directiva Presidencial 02" general objective is to control and monitor those activities, tasks; resources and information are accomplish and administrated under the policy and objectives of the law. This law have begun an effort in strategic planning and managerial control as a first step to the measurement of performance in public organizations.

## **GENERAL RESEARCH METHODS**

I have decided to carry out the development of my research using my experience supported by ideas from the relevant literature.

### **a. Hypotheses**

The need for different kinds of evaluation is a consequence of the different purposes involved in the evaluation of an organization. Fortunately, different evaluation methods, based on different ways of viewing the organization, have been develop. To choose one way or another of analyzing organizations often depends on the characteristics of the evaluation group involved and its requirements, as well as what are perceived to be the important characteristics of the organization's current performance.

It is important to establish when different evaluation methodologies are significant in the management of organizations; furthermore, it should be determined what kind of approach is more appropriate for use in the organization (commercial, industrial, governmental or social enterprise) for different aims and times, and how to complement or integrate these methodologies in or into any particular organization.

Various problems will address in my research. Firstly, what views or perspectives on organizations can adopt. Here, the conditions under which a particular view take of the organization for the purpose of evaluation are examine. Secondly, in suggesting the best method for conducting the evaluation, it may assumed that only systems approaches can deal with the complexity and turbulence faced by modern organizations. Thirdly, it is necessary to discover how to define indicators for each evaluation methodology. Fourthly, whether it is possible to use the different methodologies for evaluation purposes in a complementary or interrelated way must considered. These four points are into consideration in order to answer the general question asked before: how to integrate the variety of evaluation approaches into an organization's ordinary operating functions.

### **b. Theoretical Work**

My research has been influence by the work of certain writers on Evaluation; this includes the work carried out by Gregory and Jackson on evaluation at Humberside University.

According to Gregory and Jackson (1991), "there are different forms of evaluation: Goal-based approach, Systems-resource-based approach, Multi-actor based approach and Culture-based approach." The important point here is to determine whether all of these approaches are useful for all organizations, in what circumstances each methodology can be use most appropriately, and whether and how these approaches can be use in a complementary manner within the organization addressed in the analysis.

- In a Goal-Based Evaluation Approach, evaluation based upon the organization's reaching formal, or at least operational, goals. The latter are that which the organization is really seeking to accomplish regardless of company statements. This approach based upon the assumption that the organization controlled by a group of rational-minded decision makers who are able to set clear and quantifiable goals for the organization as a whole. The maximization of returns to the organization depends on the goals being attain.

- The Systems Resource-Based Evaluation Approach based upon the idea that it is impossible to act without causing multiple reactions throughout the organization. As organizations develop in size and complexity, their analysis and design cannot be do based solely on business transactions. It is important to analyze the organization as a coherent system. The favorable nature of the organization's position in relation to the environment also depends on numerous input and output transactions. The notion of adaptation to the environment and the ability of the organization to survive is very important in this evaluation approach. "Survival is an inherent characteristic to every organization allowing it to survive as a system; to do so, it must be capable of learning, adapting and developing" (Beer 1987.)

- The Multi-Actor Approach is based on the principle that satisfied **stakeholders** are primarily responsible for organizational success. It is a somewhat pluralistic approach that takes into consideration the different points of view of all organizational actors and stakeholders; it recognizes that conflict between actors may occur and evaluates performance in terms of how actors' interests are served.

- The Culture Evaluation Approach focuses on how individuals come to share a culture within the organization. The organizational culture is produced in a self-referential manner, following the theory of autopoiesis. According to Maturana and Varela the defining characteristic of a living system is the process of autopoiesis. It may be defined as the self-production of component parts which make the system as a whole distinct from other organizations and its environment.

## **DATA COLLECTION**

### **A. Types of organizations chosen**

I am planning to use as examples various types of organizations in order to broaden the application of different evaluation approaches. I will begin in a relatively simple organization, a commercial or an industrial one. To start by working with this kind of organization should permit an easier understanding of the respective power of each kind of evaluation approach that might be adopted as well as a better observation of the fundamental indicators that are involved in judging organizational performance. My organizational sample will then be widened to include a more complex governmental or social organization, such as in the public sector (Ecopetrol, Carbocol, TELECOM, DIAN and The Colombian Treasury), and finally with a controller organization. This last can be defined as an organization which controls or audits a group of organizations in the private sector (such as Superintendencia de Industria y Comercio) or in the public sector (such as Contraloria General de la Nacion).

### **B. How to approach these organizations**

Two steps will be consider in gaining access for my work with these organizations: Firstly, a seminar course both to show the range of work done on organizational evaluation and to convince members in the organization how important it is to measure performance; Secondly, consultant work in order to implement performance measurement through the evaluation methodologies used and then to integrate the methods.

Before examining an organization, it is important to determine whether the organization has any previous experience with evaluation. There are certain current organizations in which the actual evaluation process has become well integrate into the day-to-day activities of the staff. In other organizations, the evaluation process has become a bureaucratic task, and further organizations where it has become increasingly difficult to keep pace with the amount of information being generated from their evaluation process.

### **IMPACT OF THE RESEARCH**

The results achieved in my research should permit improved decision-making through the evaluation process, the definition of priorities and improved methods of allocating resources within the organization. It is hope that the research will benefit commercial, industrial, governmental and social enterprises by helping them to use the most appropriate way to measure effectiveness and ineffectiveness in the organization. The results could be use by:

- Internal and external consultants and people in the organization to choose the right evaluation methodology according to the organization's situation in a specific time.
- Controller Organizations or for academic purposes in order to compare organizations in the same sector and between different industries and sectors.

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