A MODEL FOR MANAGEMENT MODERNIZATION AND INSTITUTIONAL IMPROVEMENT

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ABSTRACT

This paper reports results of research on modelling to support management modernization and institutional improvement. It considers middle and long term strategies, and it analyses the effect of successful programs.

System Dynamics, an appropriate methodology to support institutional planning, may help to understand system organization, its internal structure and the impact of policies and external perturbations. Strategies analyzed here are based on information systems, management decentralization, and leadership.

Simulation results are useful to understand the pertinence of selected strategies.

1. INTRODUCTION

Strategic Planning, Naylor (1986), is an appropriate methodology for institutional improvement. First, analyzing organizational strengths and weakness and considering environmental threats and opportunities, objectives and goals may be established. Later, implementing policies and strategies to shorten differences between possible and desirable scenarios.

Strategic planning frequently uses corporate models in order to determine the impact of policies and strategies related to efficiency, productivity, costs and benefits, among others.

In order to evaluate institutional behavior with regard to structural changes, it is necessary to consider System Dynamics methodology since it incorporates qualitative aspects and may account for oscillations and cycles. It also makes possible to represent feedbacks and dynamic responses to policies and strategies.

Under this perspective Systems Dynamics models may be useful:

- To understand institutional behavior.

- To examine organizational behavior under new policies and strategies.

- To analyze the manner on which the system structure respond to external disturbances.

- To establish the effect of unsuccessful projects and the impact of delays in beginning new programs.

A related paper on this topic, Frechette and Spital (1991), is a necessary reference.

2. PLANNING FOR INSTITUTIONAL CHANGE

System planning involves in many cases significant organizational changes. A solid institutional study based on its original idea, its memory, its achievements and its limitations, would serve to determine new goals and objectives. The theoretical criteria would act as a base for its diagnosis and evaluation.

According to Suchman (1967) institutional evaluation arises from several features that can be grouped in four dimensions, as follows: desirable objectives, regarding the cultural dimension; results achieved through a process, involving the structural dimension; instrumental options, implying the technical dimension; and activities requiring incentives and levels of command, producing the political dimension.

In organizations operating under highly centralized systems but with poor institutional integration and poor Information technology tools, the selection of strategies herein indicated may be convenient. A case study is presented in The National University of Colombia (1992).

DECENTRALIZATION AND PARTICIPATION: Gradual decentralization of functions will induce a more active participation of individuals, increasing their compromise with the Institution.

INFORMATION SYSTEMS: Extensive incorporation of Information technology will allow speedy processes and procedures facilitating acquisition and use of timely and reliable data.

LEADERSHIP AND CONTROL: Management will incorporate planning, evaluation and project control. It will also use quality criteria and achievement indicators.

These strategies must be articulated. Decentralization implies organization changes. In particular, it implies that certain positions in different levels assume a leadership attitude in specific tasks and projects. Also, in order to achieve institution improvements an adequate flow of information is required through speedy and reliable channels.

The selected strategies have an effect on the four epistemological dimensions involved in the evaluation. Decentralization and participation must allow the Institution to define its priorities and to be capable of thinking by itself (cultural dimension). Both decentralization and leadership will induce structural authority changes (political dimension). These strategies will modify the various processes, procedures and functions (structural dimension). Generalized introduction of Information systems will mean a change in the instrumental options (technical dimension).

3. MODELLING OF STRATEGIES

Figure 1 shows the causal relations of the selected strategies. Although the model may initially appear in an abstract manner, it makes possible to evaluate structural changes and to measure attitudes not tangible in a direct manner. Although decentralization of functions and responsibilities could achieve grater productivity due to self procedures, could also imply exaggerated duplicities that would affect institutional efficiency and jeopardize its integration.

Decentralization is compatible with a given level of political centralization, allowing institutional

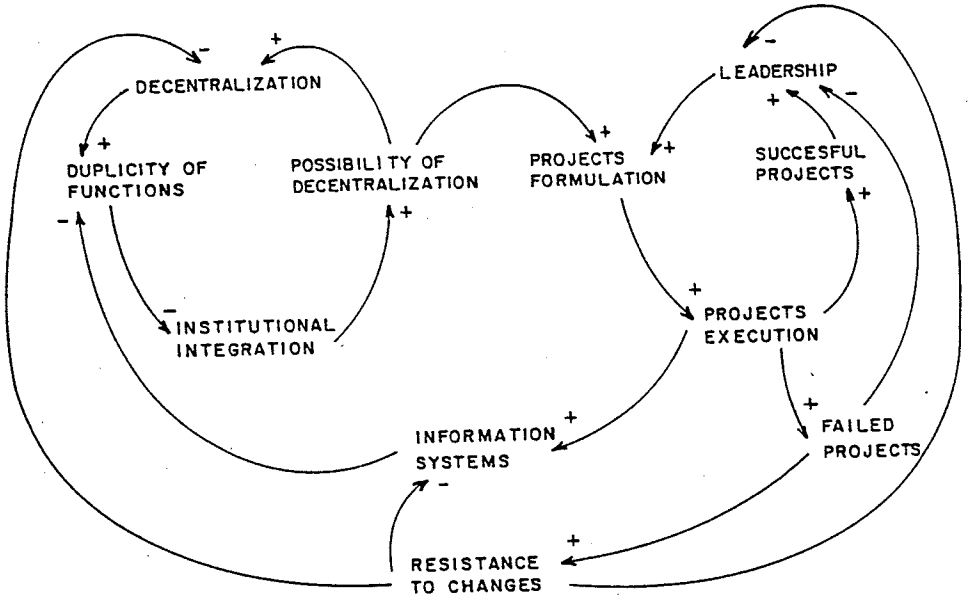

FIGURE I. CAUSAL DIAGRAM. MANAGEMENT MODERNIZATION AND INSTITUTIONAL IMPROVEMENT.

integration through standardization of explicit procedures for decision making.

Information Systems would eliminate duplicities and would contribute to institutional integration facilitating projects formulation, evaluation and execution.

A level of functions to be decentralized is established. To go beyond this point, would decrease institution integration; on the contrary, not achieving this level will reduce officers compromise and liability.

The Institution must be integrated as a coherent and harmonic whole. Its integration may be increased through the information systems and decline as a result of functions duplicity. Integration increases the possibility of decentralization and declines with effective decentralization.

Leadership measures the capacity of management to undertake and approve projects that may be successful and to timely detect those with a high probability of failure. Project control involves a permanent and continuous process. Leadership increases with successful projects and decreases with unsuccessful projects.

The number of projects positively evaluated declines with projects approved for execution. The rate of projects approved for execution depends on projects positively evaluated.

The level of information systems is increased with successful projects and declines with obsolescence rate.

Opposition to change is always present and impairs the updating processes, its level is increased with unsuccessful projects and declines (although at a lower rate) with successful projects.

4. SCENARIOS

4.1 BASIC SCENARIO (Figures 2 and 3).

Assumption: Acceptable percentage of successful projects.

The overall behavior of the system is represented by its four main level variables: decentralization, leadership, information systems and opposition to change. Figure 2 shows the behavior followed by its components in the path towards stabilization, which is obtained long after commissioning the decentralization and information systems programs.

Decentralization initially increases in an accelerated manner during the period in which the gap starts to close between the initial administrative concentration and the desirable decentralization. The increase rate starts to be reduced as the gap becomes smaller, as a result of increases in functions duplicity (Figure 3) and in opposition to change.

Leadership initiates with a slight declination. It starts to increase as a result of the impact of successful middle term projects and its rate of increase is reinforced with long term success. As time elapses, its rate of increase drops as unsuccessful projects appear and with the increase of opposition to change. Afterwards, leadership shows a given declining trend to finally reach a recovery period.

The information systems level declines with unsuccessful projects, with an increase in resistance to change and with their obsolescence, which makes necessary their maintenance and/or renewal. It grows with successful projects and has an impact in resistance to change.

Figure No. 3 shows how functions duplicity increases initially due to the gap between the induced duplicity and the duplicity level. Later, duplicity begins to decline when information systems increase.

Institutional integration declines with an increment in functions duplicity and increases with its decline. The possibility of decentralization increases with institutional integration.

4.2 OPTIMISTIC SCENARIO (Figure 4)
Assumption: High Percentage of Successful Projects.

The system tends to become stabilized after a long period. The stabilization level is higher than the basic scenario for the three strategies developed. Obviously, with successful projects, the opposition level to change shows a dramatic fall after increasing with the necessary presence of some unsuccessful projects.

4.3 PESSIMISTIC SCENARIOS (Figure 5)
Assumption: Low Percentage of Successful Projects.

The leadership level initially grows, but at a very low rate. From an specific period on it begins to decline, slowly at first and abruptly at the end. Opposition increases constantly during the whole range of time being located in high values at the end of the simulation. At the beginning decentralization increases, then it shows a gradual decrease and begins to slightly recover only at the end of the time horizon of the simulation. Information systems show a gradual fall during a long period. Its recovery is only slight.

4.4 INTERMEDIATE SCENARIO NUMBER 4. (Figure 6)
Assumption: High percentage of long term successful projects and low percentage of middle term successful projects.

Leadership falls abruptly at the end. The opposition level to change increases until reaching high levels. Decentralization and Information Systems reach only low levels.

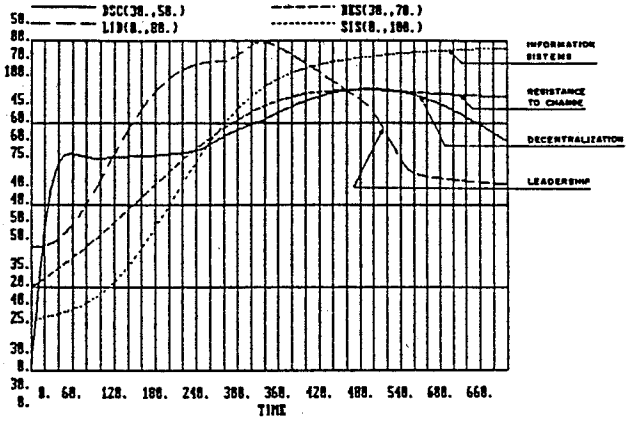

FIGURE 2. BASIC SCENARIO

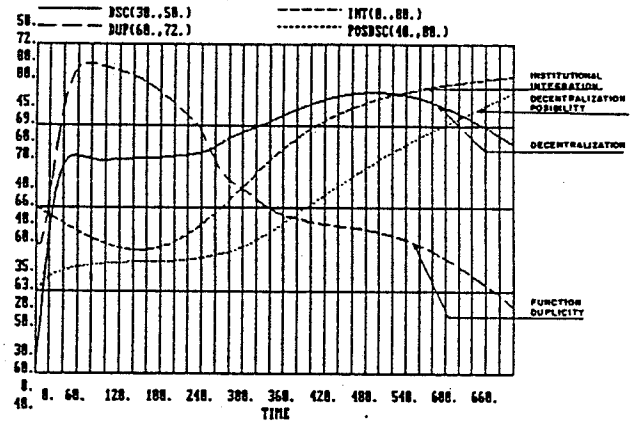

FIGURE 3. MODULE 1: DECENTRALIZATION

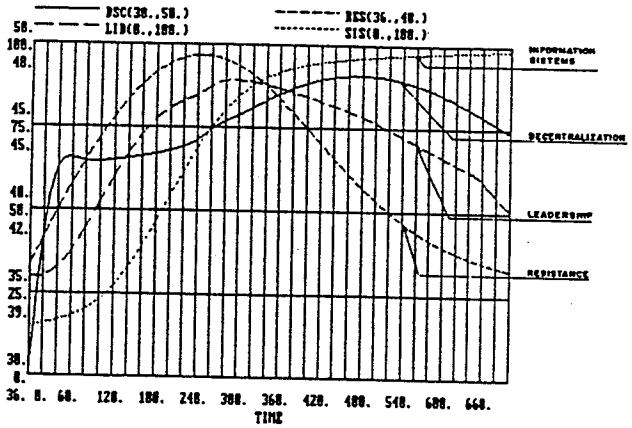

FIGURE 4. OPTIMISTIC SCENARIO

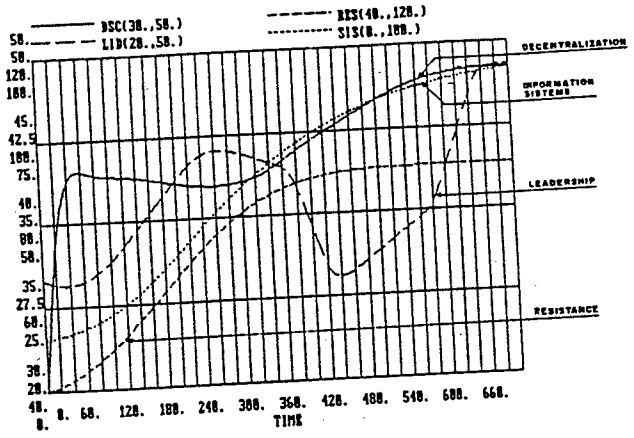

FIGURE 5. PESIMISTIC SCENARIO

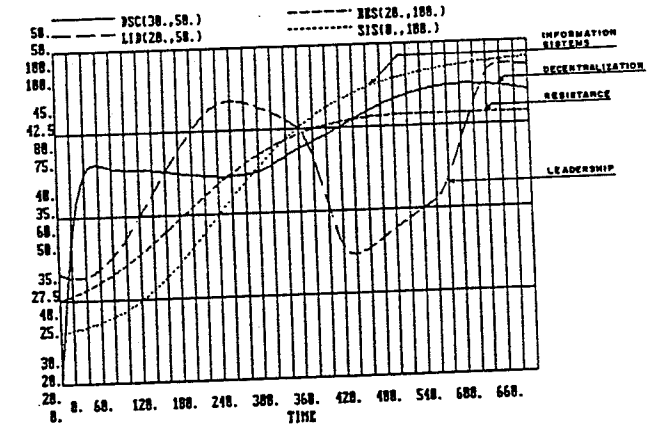

FIGURE 6. INTERMEDIATE SCENARIO (Number 4)

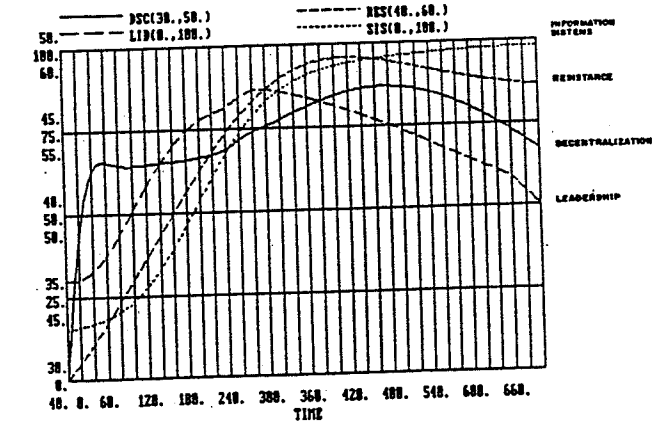

FIGURE 7. INTERMEDIATE SCENARIO (Number 5)

4.5 INTERMEDIATE SCENARIO NUMBER 5. (Figure 7)
Assumption: Low percentage of long term successful projects and high percentage of middle term successful projects.

After a period of leadership constant increment, it begins to decline slowly. The other three levels end up with a slight increase indicating that they are also reaching the stabilization level.

Comparing the last two scenarios (Figures 6 and 7) apparently the most desirable option is scenario number 5 (Figure 7), since all variables tend to become stable, and the stabilization levels are better than those corresponding to the preceding scenario -Optimistic in the long term- where leadership shows an abrupt decline. All these point out that the decision maker has to have a very special caution in selecting middle term projects.

5. CONCLUSIONS

Results indicate the importance of middle and long term successful projects. Special caution for middle term projects. Reactions to changes are always latent and may be overcome exhibiting success in management programs. For more effectiveness, gradual decentralization should be encompass with information technology tools.

Further research will include random variables and the problem of validation.

6. REFERENCES

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