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THE CRYSTAL ENTERPRISE – APPLICATION OF A NON-COMPUTERIZED SIMULATION MODEL IN A PROCESS OF ORGANIZATIONAL CHANGE

Wolfgang Rathert, Zurich, Switzerland

ABSTRACT

The Next Step is a Swiss based company designing tailor made business simulations. This paper gives a brief description of the application of a simulation model in the privatization process of a government run company.

THE CASE

Early in 1995, a limited company with the following profile contacted The Next Step:

- 100% of the company's shares were owned by the Swiss government.
- The company was acting as a monopolist in a highly regulated market.
- The company worked in a high tech environment, employing mainly engineers with no economic background.

The 1100 employees of the company developed a high awareness of quality and a culture of perfectionism, but only little or no understanding of the economic consequences of their actions, for these never had been a relevant dimension in the companies activities.

In 1994, it was decided that the company was to be privatized with effect as of 1/1/1996. Being a privately held company meant, that decisions concerning economic topics like pricing, finance, investment etc. were to be made by the company itself.

In the transformation process following this decision, the next step was to give support in order to help to create among the employees and the management a growing attention to business considerations as well in the operative business as in strategic decision-making, and help the people to develop the skills needed to cope with the new situation.

Throughout Europe, the pressure on prices in the company's area of business was rising.

International efforts to concentrate on fewer locations gave rise to the fear that without becoming more cost-efficient, the company might have to shut down its activities in five to ten years.

THE REQUIREMENTS

As a result to these changes, two basic challenges for the organization were identified: to acquire new know-how in the field of business administration, and to discover 'economic leadership' as a new dimension for management.

A program was set up to prepare the company for the new situation. One of the core-projects of this program were the training activities for the employees as for the management.

The key topics to be covered in a seminar that the staff-members of the company had to go through were A.) Customer orientation rather than technical perfectionism. B.) Considering the economic impact of decisions and C.) Profitability as an additional benchmark for strategic and operational decisions.

A time constraint of two days was set for the management-version of the seminar. The seminar for the 850 employees was limited to a duration of one day.

THE TOOL

Together with the customer The Next Step defined the relevant parts of the company and its environment, that had to be part of the final simulation-model "The Crystal Enterprise". The design of the model was worked out by The Next Step. The theoretical background the model is based upon is the system-oriented approach developed at the University of St. Gall. The "St. Gall Management Model" delivered a framework that could be used to identify the relevant entities and relations to be modeled. Within this frame of reference, the definite contents of the simulation model was developed in close co-operation with several departments of the customer.

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The result was a modular, non-computerized model of the company. All relevant entities like people, cash, machinery and equipment, stock etc., and functions like administration and training (which is a very important part in the companies quality program), were translated into nine different modules. These modules could be assembled according to the processes and interdependencies in the real company. Each module was designed in a way to allow on-line modeling of changes in the structure of the whole model of the company, or of any part of the represented organization.

The nine modules of "The Crystal Enterprise" were:

1. Personal
2. Machinery and equipment
3. Stocks
4. Administration and projects
5. Education and training
6. Buildings and real estate
7. Capital
8. Cash
9. Operations

The simulated company employed three kinds of personal, administrative staff and two kinds of workers, that work directly on projects. Together with machinery/equipment and stocks, these are the productive resources of the company generating direct costs. Each year was divided into four quarters. Each quarter the company faces a demand that lead to utilization of the resources and generated turnover. Recourses were also occupied by training and projects that were launched during the year.

After four beta-versions the prototype of the simulation was applied in a pilot-seminar with 20 representatives of the target group. Final corrections and suggestions from the seminar were built into the model.

RESULTS

The main characteristics of the simulation model are:

Efficiency: The active integration of the participants, and the dynamics of the simulation lead to a high degree of efficiency, that allows to reduce the time needed to only one (two) days.

Flexibility: The modular design of the model allows a clear separation between structure and processes and makes it easy to adjust the model to changes in the real company or to ideas, developed by the participants during the seminar. At the same time, the modular design allows to develop tailor-made simulations for other companies, environments or industries.

Economy: The small amount of time needed, together with the high efficiency, makes the simulation a very economic tool, compared to traditional training methods.

Integrated and holistic approach. The simulation allows a holistic approach to the complex topic of interdependencies within a company. The different functions and entities are represented as a whole and inadmissible simplifications are avoided.

The workshops based on the simulation were completed in summer 1996. Participant feedback was very good. From the management group (142 participants, 104 questionnaires returned), 52% (44%) [4%] felt the aim of the workshop was achieved completely (partly) [not achieved]. 71% (15%) [15%] said they see applications of the contents in their business environment (no applications) [do not know]. The overall performance of the workshop was considered excellent (14%), very good (37%), good (33%), sufficient (14%) insufficient (2%).