BUSINESS INTELLIGENCE & SCIENTIFIC MANAGEMENT TRAINING

CONSTANTIN MIHAESCU

BUSINESS INTELLIGENCE & SCIENTIFIC MANAGEMENT TRAINING

Business Management Manual Using Scientific Chess vs. Computer, Chess Online and Instructive Pictured Chess Games. How to Play Chess Faster and Win

CreateSpace Publishing

US-WA-Seattle, 2015

www.createspace.com

Table of Contents

Acknowledgments

Introduction 1

Part one - THE BASIC CONCEPTS OF SCIENTIFIC MANAGEMENT

1. Why Do We Need Scientific Systems Approach for Concepts 11
2. A Law of Nature: the Universal Model of Organization and Management. New Definitions of Concepts 17
3. Step-by-Step Guide of Scientific Business Organization and Management 23

Part two - THINKING OPTIMIZATION PROCESS IN CHESS GAME

4. Optimization Process of Chess Players' Thinking by Scientific Organization and Management 29
5. Organizational and Managerial Requirements in the Chess Players' Thinking That Will Help Them Use All Resources Efficiently 35
6. The Model of Chess Game as a Cybernetic System 41

Part three – THE SCIENTIFIC STUDY OF CHESS GAMES AGAINST COMPUTER

7. Chess Games Won by Former World Champion Garry Kasparov against IBM's Deep Blue Supercomputer. Active Limitation of Opponent's Game Opportunities 51

8. Chess Games Won by Author against WinBoard 2.0 GNU Chess Engine Using Scientific Management 65

9. Summary. 117

10. Bibliography 119

11. About the Author 121

Part one - THE BASIC CONCEPTS OF SCIENTIFIC MANAGEMENT

1. Why Do We Need Scientific Systems Approach for Concepts

Success depends on our ability to develop a feasible plan and then to execute it organizing and managing our actions using relevant concepts in a precise manner.

The fact that actual definitions of all managerial concepts differ according to their author, can be considered proof that they can be improved from the point of view of their precision.

The great scientist Albert Einstein said: **"I don't like when it may be both in this way and in the other way. It should be this way, or not at all."**

Empirical definitions are typically independent, disconnected entities developed using the *analytic approach* which seeks to reduce a system to its elements and is less focused on interaction between them.

The *systemic approach* considers business organization and management as a complex, dynamic totality - as a system - and each component element as a part of this totality, strongly linked to the other parts by precise connections that have a great importance in obtaining profit maximization.

The System Concept

A system is an ensemble of elements functionally interrelated to achieve a common objective.

Few ideas can compete with the system concept in terms of importance.

During the last few decades, this concept generated a real revolution in science, accelerating the learning process in almost all fields.

This concept gives priority to the *whole* over the parts.

Where we see only disparate elements of a system, this concept attaches much importance to relationships and interactions among them, and it teaches us to understand the defined role of the individual elements as parts of the whole they compose.

Therefore this concept allows us to achieve a new mode of seeing and understanding things and phenomena.

It gives us a *systemic vision* on reality, a vision that is more profound and correct and that allows us to get better results in all fields of activity.

The Cybernetic Systems

Systems that have the ability to self-regulate are called ***cybernetic systems***.

The capacity of self-regulation of cybernetic systems is based on the so-called retroaction principle of *feedback*.

According to this principle, the system assigns values to the permanent results of an activity, compares them to the awaiting results (or objectives), and establishes deviations.

These deviations are transformed into actions that produce corrections in the system's work. Thanks to this mechanism of feedback, the system tends to eliminate its errors gradually, until the objectives are achieved.

Since 1948, *Cybernetics*, the science of feedback systems, has spread continuously and has received new definitions based on the fields to which researchers have applied it.

However, most of these definitions suggest the same idea: that ***cybernetics assures the best model for managing (regulating) complex processes, regardless of their nature.***

Organization of a Cybernetic System

Seen from outside, every cybernetic system is like a "black box", an opaque whole about which we know only that it hides an unknown process meant to achieve a certain purpose.

We can see only what gets in (input) and what gets out (output) from this box, not what happens inside.

If we open the box, we can observe the elements that compose the system, relationships among them, and the structure that allows one to achieve a defined goal (see Figure 1).

A system consists of at least two elements logically related to each other by their functions.

Taken separately, each element can be also considered a system.

Every system is formed by *subsystems* and can be considered at the same time a subsystem of a higher-leveled other system.

Therefore, there is a *hierarchy of systems* whereby the objectives of subsystems of a certain level derive from the objective of the system that these subsystems form, and so on.

If the system could be defined by its component elements statically, then dynamically it appears as a *typical complex of functional relations and interactions* among these elements.

These relations are not casual or changeable; they are derived precisely from the system's general objective.

That is why the system could be also defined as an *ensemble of tasks that are to be carried out under special conditions into a hostile environment.*

The *structure* of the system is defined by the construction, the architecture, and the way its parts are organized, closely depending on the whole they are forming.

The structure expresses quantitatively and qualitatively the content and internal constructive-functional logic.

The specific features of a system's structure derive from the interaction among components on the one hand, and between system's structure and its components, on the other hand.

Organization of not very complex systems needs only three structural levels: a *system*, *subsystems* and *elements*.

The very complex systems have more hierarchical structural levels.