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**AN ATTEMPT TO SPECIFY AND
STRUCTURE THE MANAGEMENT
SYSTEM OF AN ORGANIZATION BASED
ON RESEARCH METHODOLOGY
AND RATIONALIZATION**

*There are no effective or ineffective organizations,
There are only organizations, which are managed in a better or worse way.*

Peter Drucker

1. The nature of management system

The growing interest in management gradually replaces the fascination with technology, following the belief, that highly advanced technology without appropriate efforts concerning organization, management and marketing is insufficient for the success of an organization. The challenges the organization faces are market economy, especially growing competition and globalization. Therefore, the process of improving organization and management systems should even be more intensified with the prospect of Poland's accession to the European Union.

Organization and management, by means of knowledge and intellect, improve the performance and efficiency of all resources. They stimulate people's creativity and their devotion to the improvement of sales and financial results, reduction of costs, as well as enhancing company's position on the market. The management system should be the source of these attributes, although it requires constant reconstruction and many reforms.

Management system is the driving force of every organization, generating its effectiveness, therefore it should be constantly analyzed, evaluated, diagnosed and finally refined. **But how can it be done if the nature of management system is insufficiently determined and poorly defined and its contents is blurred and inadequate for both practitioners and theoreticians. Unfortunately, the belief that intuition, reason, and routine are more important in management than knowledge still prevails.**

The literature on the nature of management system lacks the adequate explanation of concept and terminology. **So, how can one diagnose and design management systems if there are so many doubts about it.**

The results of research and interviews with practitioners and managers show that management system is usually associated with the organizational structure, organization chart, or even metaphysical or mystic abilities of top management to influence the future of an organization. The theoreticians understand the management system quite generally and describe it imprecisely. In the literature the management system is often defined as:

- **Managing the resources by the appropriate managers,**
- **External and internal restoring and maintaining balance of an organization,**
- **A set of formal and legal limitations determining the information and decision making processes,**

- **Effecting the variables of the executive system by means of indicated information and decision making processes, in order to generate the desired change of system behavior,**
- **A set of related elements implemented in the management system,**
- **Diversifying the successive levels of the hierarchy according to their authority and the chain of command,**
- **An integrated set of management tools, rules, procedures and appropriate top managers connected with the environment by numerous and mutual relations.**

The above presented ideas constitute too **general and poorly structured picture of management system, which is difficult to explore, improve and design.**

Management system is essential for an organization, since it manages the organization from the perspective of achieving the main goal.

Management system, just like the nervous system of a living organism, connects and controls and coordinates the functions of all units.

Management system is of imperative character for an organization. It integrates, coordinates, activates the activity of all sub-systems within the changing environment. The information and decision making process is the basic function of management system in an organization. It allows an organisation to control, regulate and supervise the functions of all sub-systems within the environment of an organization.

The management system has an imperative role in relation to other sub-systems – it regulates their activities, and it regulates itself (self-regulation). The management system converges the most important information and decision-making processes at the level of the board of directors. Therefore, it influences people's attitude and behavior, as well as the efficient use of tangible assets, finance, technology, information and organizational skills. The main goal of management system is to guarantee continuous and general development, with dynamic balance inside and outside an organization.

From this complex, multifunctional, and multilevel management system we will try to distinguish, in our opinion, only the most important elements. Analyzing the management processes in an organization, three elements essential for the concept and structure of organization's management system can be distinguished

- **Management functions** (planning, organizing, motivating, controlling) determining subsequent activities of managers, which constitute **management processes** (the conceptual layer of management system),

- **Company capital** (human resources, tangible assets, finance, technology, information and organizational skills) with the individual **managerial functions**, and information and decision-making processes (real subjects layer),
- **Product design and development stages** (R&D, purchasing, production, marketing, sales) equipped with all necessary resources, within the **management processes**, are aimed at new product creation and sales.

The top managers use their knowledge, skills, competence and available equipment to implement the management processes. They generate and transmit specified, goal-oriented information and decision-making processes, which occur mainly in the following layers:

- Functional,
- Resource and capital,
- Product development.

A working definition of the management system has been formulated for the needs of this paper. **Management system is an institutionally distinguished, instrumentally and procedurally leading subsystem of an organization, the role of which is to stimulate and balance the influence on all other essential executive subsystems in order to exploit resources more efficiently, and eventually improve the efficiency of the whole organization from the perspective of market, economy and social environment.**

Summing up the above considerations one may propose a thesis that **at the core of management system there are information and decision-making processes, occurring mainly in crucial management functions, human resources, tangible assets, product design and development stages, which tend to improve the general efficiency of an organization and its position on the market.**

Accepting the above presented definition one emphasizes the need of research and development of the management system, and methods of implementing the **complex set of management functions**, including initiating actions, making **planning and organizational decisions, motivating and controlling**. **Therefore, the management system of every organization must, first of all, include research of implementation stage of the four main management functions – planning, organizing, motivating and controlling.**

As one can see, the functional approach makes both the concept and the system of management more practical and explicit. The accuracy of management system requires additional **resource-based approach, which should be overlapped with functional approach, within which there are information and decision-making processes**, generated by this system. The management func-

tions alone, with no relevance to any resource area of research, are insufficient. Therefore, the following systems are suggested in order to specify the research area:

- 1) **functional system** including conceptual managerial functions: planning, organizing, motivating and controlling,
- 2) **resource-based approach system (capital)** based on the following resources of an organization:
 - human
 - fixed assets
 - finance
 - technology
 - organization and information (data base, organizational culture, organizational structure, etc.)

The correlation of these two systems enables the construction of the preliminary, two-dimensional **morphological matrix, describing the functional and resource-based relations**, which may be considered as a precise approach to research and design organization’s management system (fig. 1).

Management functions Resources	Planning	Organizing	Motivating	Controlling
	Human resources	+	+	+
Fixed assets	+	+	-	+
Finances	+	+	-	+
Technology	+	+	-	+
Information and organization	+	+	-	+

◀-----▶ information and decision-making processes

Figure 1. Two-dimensional morphological matrix, describing the functional and resource-based relations within the main management systems

The regulatory functions of management are complementary related with individual capital components of an organization. Then it is obvious which information and decision-making processes must be diagnosed and designed to trigger the dynamics the functioning system aiming at more effective exploitation of resources. Analyzing, for example, human resources management the following should be researched subsequently (these relations are plus-marked):

- **resource planning process** (analyzing personnel needs, recruitment, filling the posts, and staff development)
- **staff placement** (the selection, induction period, formation organizational structure, etc.)
- **motivating employees** (efficiency and form of financial and non-financial motivation system)
- **controlling the human resource management** (employee evaluation system, staff turnover, labor productivity)

Similar procedure is applied in the design and research processes, however the motivating function is excluded here, since it can be applied only to human beings (this relation is minus-marked for other resources).

In spite of this two-dimensional way of perceiving the crucial management system there are also further dimensions. For example, in manufacturing organizations there is a **manufacturing system consisting of the following stages of product development**: R&D, purchasing, production, marketing and sales. The **three-dimensional morphological box** presents **the content of “management system” more accurately**.

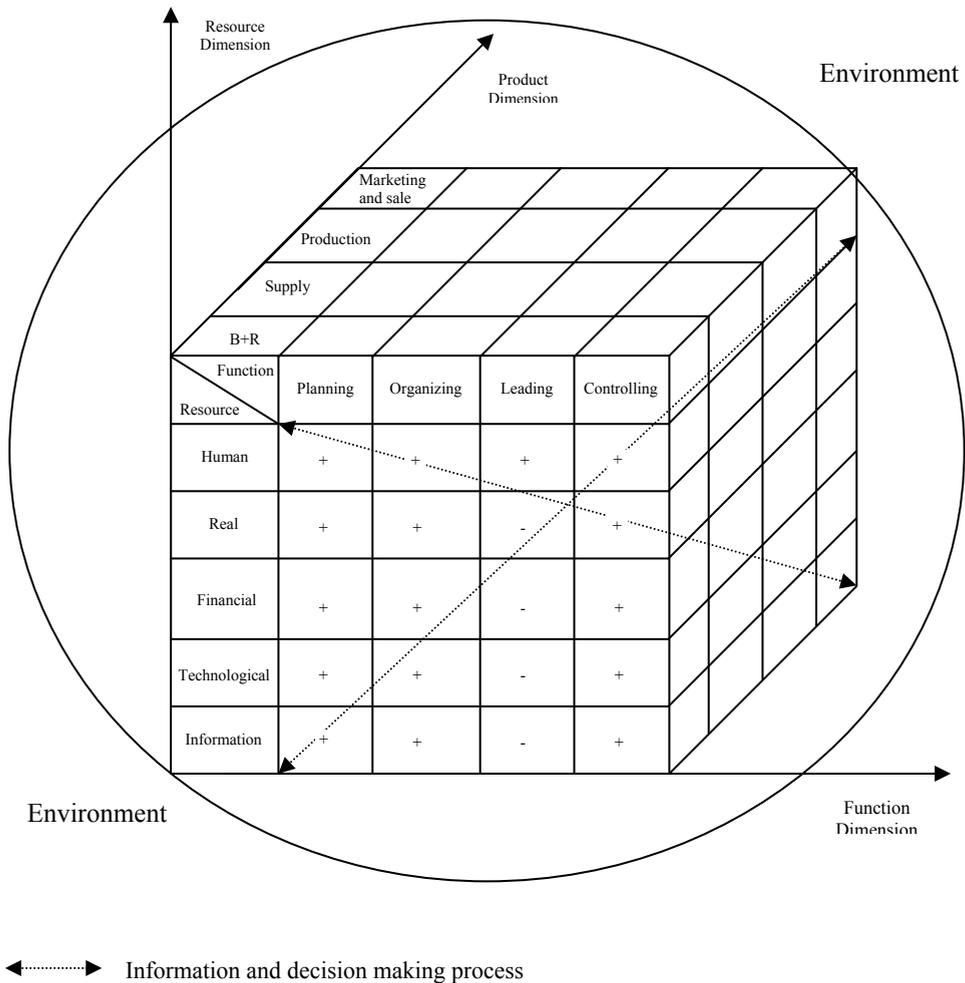


Figure 2. The framework of management system

The above presented considerations result in the conclusion that **the essential content of management system, which should always be analyzed, are information and decision making processes in the following layers:**

- **functional** (planning, organizing, motivating, and controlling),
- **resource-capital** (human resources, fixed assets, finance, technology, information and decision-making processes),
- **product development** (R&D, purchasing, production, marketing and sales).

In this approach each sub-system distinguished in the morphological box can be diagnosed and characterized by the measures describing the state and the amount of the resources used as well as organization and results of management process.

In these three distinguished classes there are information and decision-making processes, which interact with one another forming systematic and structural management system. **In this form it is easy to research, describe, diagnose and improve the management system.**

To diagnose and improve, for example, manufacturing management sub-system, we should subsequently analyze the realization of the four essential management functions of management system:

- human resource management in this sub-system,
- fixed assets,
- financial resources,
- technological resources,
- informational and organizational resources.

Similarly we follow this model while analyzing R&D, purchasing, marketing, sales, etc.

The management system should be treated as an **open system**, which can be extended with following appropriate dimensions and cross-sections, when needed. Except the above presented approaches **unlimited number of variables and parameters** can be distinguished and associated, since as W.R. Ashby claims “every object includes not less than an unlimited number of variables, so not less than unlimited number of systems”¹. Therefore, other systems, like for example **subjective system** consisting of board of directors, middle managers and executive managers (or line, functional or project divisions) cannot be excluded from the morphological figure of management system. Among other possible dimensions are **management levels** as strategic management system, tactical system, operational system and so on. Since it is not our intention to multiply and make the management system more elaborate it is advisable not to go any further than presented here the three-dimensional morphological system. It can be **the basis for systematical analysis of information and decision-making processes in particular sub-systems embracing management system.**

Since the “morphological figure” illustrating the idea of management system seems to be rather complicated and time-consuming in the research sense, **the analyzed areas (modules) should always be adjusted to the peculiarity of a given organization.** The attention should be focused on the core areas of man-

¹ W.R. Ashby: Introduction to cybernetics. PWN, Warszawa 1961, p. 66.

agement systems. In the market economy the core areas that are analyzed and diagnosed in every organization are:

- **human resource management**, the performance of an organization depends directly on employees' knowledge, skills, and work ethos; efficient workers and executives can develop a the worst company into a prosperous one, and quite contrary even the highest technology can be ruined by incompetent managers and shoddy workmanship.
- **finances**, that is providing, managing and investing money rationally,
- **marketing and sales**, since each organization must know how to encourage customers to buy their products or services successfully,
- **the structure and functioning of the board of directors** as knowledge, skills and competencies of the board as well as the way it manages an organization are crucial for its development and success.

Additional core areas can be examined, as shown in figure 2, depending on the activity of an organization (manufacturing, services, commerce) or its development stage (infant industry, developing, or mature). For example, in a manufacturing organization such additional core areas could be fixed capital (fixed assets and current assets), technology or production management, while in a commercial organization – purchasing or information (database of customers and deliveries). The morphological box of management system (fig. 2) gives us a lot of possibilities but the main idea is to restrict to attention only to the most important areas of a given organization. The definite diagnosis of all subsystems of the management system is not of much importance neither for time nor merit reasons.

The selected core areas should be divided into adequate subsystems of lower level to determine which specific aspects of a given area are the strengths or weaknesses of the organization in question. The marketing area, for instance, can be divided into the following subsystems for further analysis:

- demand (research)
- product (product range, quality, product development, diversification, etc.),
- price (pricing strategy, discounts, etc.),
- distribution (distribution channels, middlemen, deliveries, customer service, attracting new customers, etc.),
- promotion (advertising, direct selling, sales promotion, publicity, public relations, promotional budget, etc.),
- organization, qualifications, and motivation of marketing team.

2. The outline of management system general methodology

Any research of an existing organization's management system requires prior diagnosis, based on descriptive-improving approach, so called diagnostic method. Rational changes and improvements involve extensive diagnostic research of the current situation. Therefore, it can be assumed that **there is no accurate forecast (change prediction forecast) without prior diagnosis.**

The diagnostic method derives from the assumption that the existing management system could be improved only by identification, evaluation and diagnosis of the current situation, recognition of main irregularities (dysfunction), design and implementation of essential improvements (therapy).

The diagnostic method of "healing each sick system" has many **similarities to medical diagnosis**. A doctor starts with recognizing (diagnosing) the illness (initial stage) on the basis of the general examination of a patient, detailed examination of the infected organ, analysis of laboratory tests. Then after giving an accurate **diagnosis** (distinguishing essential misfunctions and their causes), that is identifying the illness, the **therapy** is administered (designed), medicines are prescribed, and appropriate treatment is recommended.

The diagnosis process is based on the overall recognition of the examined system by implementing the following stages:

- 1) **identifying diagnosis** (general, preliminary, approximate) aiming at determining the main weaknesses (critical, core areas) of the whole system and choosing the appropriate approach for further study,
- 2) **developed diagnosis** (detailed, appropriate, basic) consisting of
 - full description of the current condition,
 - identifying basic inefficiencies and disturbances (dysfunction),
 - explaining the genesis, sources and causes for the recognized dysfunction (**casual diagnosis**),
 - establishing the development stages of cases and the whole system (**development diagnosis**),
- 3) **identifying opportunities and threats** (external diagnosis) **and strengths and weaknesses** (internal diagnosis) of the system (**strategic diagnosis**) carried out on the basis of SWOT analysis,
- 4) **analyzing the organization's resources, methods, and circumstances** which facilitate further and faster system development (forecasting) by exploitation of opportunities and minimizing threats and weaknesses.

A full classic procedure of diagnostic method always requires the following stages:

- 1) **preliminary**, where goal and subject (area) of the study are set,
- 2) **basic**, including:
 - a) identification (description) of all data of current situation,
 - b) critical and constructive analysis of current situation,
 - c) preparing solution options (suggestions),
 - d) explaining the choice of the optimal option,
- 3) **final**, consisting of:
 - a) preparing the ground for implementing new solutions into practice,
 - b) accomplishment control and results analysis

The basic procedure of diagnostic method should answer the following questions:

1. **What and why should be studied?** (setting the goal, area and range of study)
2. **What is the current situation?** (identification and description of current situation)
3. **What functions well and what does not?** (identifying strengths and weaknesses of management system by critical analysis)
4. **Why is it so?** (casual analysis)
5. **How far are we from our competitors?** (difference analysis)
6. **What are our opportunities and threats?**
7. **What can be improved if we diminish our weaknesses and threats?**
8. **What can be improved if we exploit our strengths and opportunities?**
9. **What and how should we do to achieve this?** (venture program)
10. **What additional effects can be obtained after successful implementation of suggested solutions?**

The diagnostic method can be used for studying every subsystem (module) of the morphological box (fig. 2). However, the selected subsystems should be analyzed from the perspective of their relations with the whole management system and environment.

The core, although extremely time-consuming stage of the diagnostic research (developed diagnosis), is the identification (description) of structure and functions of the existing management system. Data collection is the basis for any

diagnosis and initiating change. **Until we know exactly what it is and why, we should not initiate and implement any changes.**

The diagnostic method is mainly descriptive and improvement oriented, aiming at initiating change based on previous, detailed description and critical analysis of current solutions. This approach obstacles adopting new solutions without any interference with the past. Some authors (J. Trzcieniecki, Z. Martyniak)² advocate implementation of additional function and pattern – oriented approach, which defines and sets expected functions (goals and projects) to be accomplished within the designed system. While combining these two approaches a new one emerges – a diagnostic and functional approach. It is essential for fundamental reconstruction of management system where pattern solutions used by the leaders in various fields are applied, or when new future-oriented conditions must be considered.

In some cases especially when time is important, full diagnosis can be replaced with a time-saving, prompt diagnosis, carried on in previously chosen core factors and success areas determining the competitiveness and development of an organization, as well as crucial areas.³ If necessary, further detailed diagnostic analysis can be carried out in these areas.

Detailed diagnosis of management system (including the description of the current situation) should feature strategic analysis carried out parallel to in areas of:

- **macro- and micro-environment (external analysis)**, in order to identify organization's main opportunities and threats,
- **organization's resources and management functions exploited in the process of product development (internal analysis)**, in order to identify the strengths and weaknesses of management system.

The analysis of macro- and micro-environment combined with the analysis of organization's performance constitute system-based diagnosis of organization's strategic position, and further anticipating change as the framework for the new management strategy.

The study of macro-environment (economic, political, legal, technological, social and cultural, international, etc.) **identifies threats and opportunities**, an organization cannot influence, but they encompass the organization. Macro-environment determines organization's prospects for activities and development, therefore appropriate efforts should be included to forecast its changes while developing future strategy.

² See Z. Martyniak: Methods of organizing work processes. Warszawa 1996, pp. 52-59.

³ See G. Gierszewska, M. Romanowska: Strategic analysis of an organization. Warszawa 1994, pp. 158-167.

Micro-environment is usually identified with organization's domain perceived as competitive environment. The most frequently studied areas are:

- sector (branch, field) characteristics of an organization,
- competitors,
- emerging competitors,
- customers,
- suppliers and cooperative partners,
- substitutes (substitute products),
- financial institutions cooperating with the organization,
- ecosystem of the organization,
- regional infrastructure.

There is a feedback, which must be included in both the diagnosis process and initiating change of the current management system.

The diagnosis of organization's internal potential (condition), which is determined by management system, should be founded on the concept of morphological figure (fig. 2). It must be complex and system-based, i.e. encompass all essential areas of organization's activity and resources.

Summing up, it should be reminded that strategic analysis and management system diagnosis are carried out in poorly structured area when we have insufficient amount of quantitative (measurable) information. Since quality data dominates, the evaluation is rated as "good – average – poor" (or in point scale), therefore the values are subjective (from individual respondent's perspective) and quite relative (better-worse).

It should be noted that a number of information is retrospective in character dealing with the past and the present. The diagnosis of management system is **the starting point for formulation of organization's development strategy**, where forecasting future is highly restricted. Therefore, it should be carried out professionally by interdisciplinary teams, consisting of professionals with methodological background on one hand and experienced practitioners from outside and inside of the organization, on the other. Such teams should also include people specializing in organizational, marketing and financial analyses.

Evaluation of organization's image and its management system prepared by the professionals from the outside of an organization is of great importance because both organization's owner and top management often wrongly perceive organization's image. Their perception is flawed with "paternal affection" – in the case of which parents do not notice or do not want to notice weaknesses of

their child. Therefore, the organization's image prepared by professionals not closely related with it may appear to be surprising and disappointing.

Unfortunately, there are not universal diagnosis methods, which could be used in every organization. Each analysis must be adapted to individual needs and characteristic features of a given organization, such as market sector, type and size of organization, development stage, form of property, etc. Therefore, the experts should construct diagnostic tools adjusted to the given organization.

Quantitative techniques (factor and point) as well as qualitative techniques (sociological and descriptive) are useful in the identification (description) processes of management system parameters. In case of indicatory technique the following factors can be used: phenomenon level and dynamics, structure and intensity, efficiency and effectiveness evaluation, disturbances and variation/deviation, risk, etc. The nature of point techniques is the evaluation of the researched phenomenon in the adopted scale. Quality techniques include questionnaires, interviews, diagnostic tests and verbal description⁴.

We may assume that with the prospect of Poland's accession to the European Union constant development of management system of Polish organizations is unavoidable. It can reduce the distance between Polish and European organizations and prepare Polish organizations for tough competition with stronger European organizations.

⁴ The review of detailed diagnosing techniques of management system is presented in "The complex diagnosing method of organization's management system" by H. Bieniok, M. Ingram, J. Marek, AE Katowice 1999.