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MODERN BUSINESS IN TURBULENT ENVIRONMENT

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Abstract: The present-day conception of economic analysis in the turbulent environment is considered. The methodological basics of turbulent analysis are examined. The analytical competencies of modern managers are specified.

Modern management is motivated to achieve a number of objectives, some of which conflict with each other. Such conflicts arise because the firm has a number of constituents, such as stockholders, employees, customers, creditors, suppliers, and the local community, whose desires do not necessarily coincide. It is management's responsibility to satisfy such differing desires. Hence, the conflicting objectives confronting management raise the problem of setting priorities. In addition, it is essential for management to set priorities for the most efficient use of a company's scarce resources.

To set priorities in a modern company is above all important and difficult because its performance is highly diversified. The generally accepted objective of a company is to maximize stockholder wealth that is reflected by stock price. The stock price reflects the market's evaluation of the company's prospective stream of earnings over time, the riskiness of the stream, the dividend policy, and quality aspects of the company's future activities. These quality aspects include stability, diversification, and growth of sales. Stockholder wealth maximization is commonly accepted as the primary goal of a company in the United States of America and the United Kingdom. Though in some other countries such as Germany and Japan the goal of a company is to maximize its corporate wealth. The term «corporate wealth» includes not only the company's stockholder wealth but also its marketing, technical, and human resources. According to this model, a company should take care of shareholders as well as

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other corporate constituents. This means that management of a company strives to increase the corporate wealth for the benefit of all company's constituents.

Turbulence

In the modern global world economic systems appear to have some features specific for bio-systems – they tend to self-organization, self-improvement through the overcoming performance crisis. But what or who of the economic system elements makes it possible for the system to act this way? Clerk, manager, specialist by no means.

Self-organized economic systems contribute new management approach, based on the internal and external business environment analysis. Business processes are not linear any more, they are turbulent. Turbulence (physical process) occurs not only in nature, hydro and aero-dynamic objects, but in economic systems as well.

Physicists explain turbulence as a fluid regime characterized by chaotic [1], stochastic property changes. This includes low momentum diffusion, high momentum convection, and rapid variation of pressure and velocity in space and time. The concept of turbulent and laminar (ordered) flows was suggested in 1883 by English physicist J.R. Reynolds (1842–1912) while studying flows in a wind tunnel. At very low speeds the flow is laminar, i.e., the flow is smooth (though it may involve vortices on a large scale). As the speed increases, at some point the transition is made to turbulent flow. In turbulent flow, unsteady vortices appear on many scales and interact with each other.

Studying business processes easy to see that they are turbulent mainly. Managing turbulent processes in a turbulent environment is mostly like prediction. Managers need to answer different questions. What processes impact the economic behaviour of individuals and corporations in the situation of permanent economic transformations? What are the factors that influence economic performance especially when traditional economic methods couldn't forecast changes? What destroys outwardly stable business? What prevent managers of corporations from gaining competitive advantages and favourable market situation?

Economic analysis

One of the most effective tools of corporate self-improvement is economic analysis. Management and finance becomes very complex and comprehensive field, although personnel are extremely specialized as well. Being well educated and highly experienced in their specific theme managers are expected to help their corporation to be stable and what is more self-improved. The only way to respond to these expectations is to practice economic analysis, widely and deeply, in routine decision-making and in strategic prospects determining.

As naturalist analyst delve into secret forces of the nature of business, study its performance, strives for forecasting changes and improving performance quality. Studying economic systems as if they are bio-systems, self-organized and self-improved, turbulent, analyst could reveal hidden destabilized processes, outline the ways of overcoming crisis not after but

before it, set the direction of future development taking into account and their impact on the performance results and finance.

Turbulent environment contributes changes in managerial functions.

Management evolution

The history of management describes the evolution of its analytical instrument and its practical application.

The Industrial Revolution that began in the eighteenth century had transformed the job of manager from owner-manager to professional, salaried manager [2, 3]. Prior to industrialization, most of the European countries and the USA were predominantly agricultural societies. The production of manufactured goods was still in the handicraft stage. It consisted of household manufacturing, small shops, and local mills. The inventions, machines, and processes of the Industrial Revolution transformed business and management. The most impressive examples are the use of fossil fuels as sources of energy, the railroad, the improvement of metallurgical processes, the development of electricity. Industrial innovations in factory-produced goods, transportation, and distribution made it possible to organise big business. For managing large-scale corporations new ideas and techniques were required.

There are two large-scale institutions (the church and the military) that had contributed for these new managers. Nowadays many of the management terms and techniques are based in ecclesiastical and military authority (superior, subordinate, strategy, mission).

Nowadays, business and management continue to be transformed by high technology. In order to correspond with the increased speed and complexity of business, they discovered new means of calculating, sorting and processing information. The Information Age, as we call the modern era, describes the general use of technology in transmitting information.

Managers apprehended that they could profit from immediate knowledge of relevant information. The telegraph was the first instrument that transformed information into electrical form over long distances. The telephone, radio, television, and computer spread out instant information. Computers store and handle a vast amount of data. They automate manufacturing and enhance modern communication systems. There were several platforms that drove massive product development and growth for the technology industry: the mainframe in the 1970s, the personal computers in the 1980s and the office network in the first part of the 1990s.

Communication and processing technologies widely spread in almost every field of business. The Internet, that could interconnect millions of computers, has become one of the greatest resources available to businesses today. The World Wide Web (**www**) offers access to enormous information resources. Therefore, managers can access, store and move digital information for providing best economic decisions. Private corporate intranets give a universal interface for sharing company-wide and work group level information. With the help of intranet employees can access information, work together, and distribute results anywhere and anytime.

As a result, the Information Age is an era of the revolution in the information environment for business and management. Apparently, these changes may be more significant to management than the Industrial Revolution.

Organization as an object of analysis

Organization is a group of two or more people that work together in a structured, formal environment to achieve common goals. In order to reach those organizational goals managers provide guidance, implementation and coordination. Modern managers train employees to develop teamwork, cause teamwork exactly provides effective performance and organizational objectives. The traditional autocratic organization is no longer need. The most disadvantage of autocratic management is a domineering «boss» that forces employee's performance. Quite the contrary – the modern manager strives for an atmosphere of empowerment by letting workforce make decisions and inspiring people to increase productivity.

Managers form and maintain an internal environment, usually called the organization. A job of managers consists of planning, organizing, directing, and controlling the resources of the organization. Managing resources include people, jobs or positions, technology, facilities and equipment, materials and supplies, information, and money. Managers must foresee and adapt to challenges because they work in a dynamic turbulent environment.

The job of every manager can be described by the functions of management. They are planning, organizing, directing, and controlling. Management functions are goal-directed, interrelated and interdependent.

- *Planning* involves developing a systematic process for reaching the goals of the organization. It arrange business for the future.

- *Organizing* involves arranging the necessary resources to complete the plan. It is the process of creating structure, setting up relationships, and allocating resources to achieve the goals of the organization.

- *Directing* involves the guiding, leading, and administration of employees to achieve organizational goals.

- *Controlling* involves confirming that actual performance matches the plan. If results do not match the plan, managers make corrective actions.

To meet the demands of modern business performance managers assume multiple roles. A role is an organized set of behaviours. In 1973 Henry Mintzberg has identified ten roles common to the work of all managers. They are divided into three groups: interpersonal, informational, and decisional [4]. The informational roles tie all managerial work together. The interpersonal roles guarantee that information is provided. The decisional roles are connected with the usage of the information. Different managerial roles can be played at different times by the same manager and to different degrees depending on the level and function of management. The ten roles are described individually, but they form an integrated whole.

The three **interpersonal** roles are primarily concerned with interpersonal relationships. In the *figurehead* role, the manager characterizes the organization in all matters of formality. The top level manager represents the company officially and socially to the external environment. The *leader* role describes the relationships between the manger and employees. In the *liaison* role, the manger interacts with the external environment of the organization. The top manager uses this role to gain favours and information.

The relationships with people in the interpersonal roles give the manager the unique opportunity to get information. Thus, the three **informational** roles

are concerned with the information aspects of managerial work. In the *monitor* role, the manager receives and collects information. In the role of *disseminator*, the manager hands on special information into the organization. In the role of *spokesperson*, the manager distributes the organization's information into its environment.

The unique access to information places the manager at the centre of organizational decision making. Mintzberg defined four **decisional** roles. In the *entrepreneur* role, the manager initiates changes. In the *disturbance handler* role, the manager deals with threats to the organization stability. In the *resource allocator* role, the manager chooses where the organization will apply its efforts. In the *negotiator* role, the manager negotiates on behalf of the organization.

Managers as clientele of analytical data

Let's discuss functions of two types of the company managers – operation manager and financial manager.

Operation manager concentrates on managing the processes of production and distribution of products and services. The activities of operation manager often include product creation, development, production and distribution. Related activities include managing purchases, inventory control, quality control, storage, logistics and evaluations. A great deal of efforts are referred to the efficiency and effectiveness of processes. Consequently, operations management often includes important measurement and analysis of internal processes. Finally, the nature of operations management highly depends on the nature of products or services in the organization, for example, retail, manufacturing, wholesale, etc.

Procurement (Purchasing) Practices concerns buying products, materials and services (law service, insurance, etc) from suppliers and vendors. Managerial decisions for supply chain management include two broad categories – strategic and operational. According to the term, strategic decisions are made typically over a longer time prospect and closely related to the corporate strategy. On the other hand, operational decisions are short term, and focus on day-to-day activities. The aim in this type of decisions is to effectively manage the product flow in the «strategically» planned supply chain. There are four major decision areas in supply chain management: 1) location, 2) production, 3) inventory, and 4) transportation (distribution), and there are both strategic and operational elements in each of them.

Obviously, each of the above two levels of decisions need a different perspective. Strategic decisions are, for the most part, companywide or «all encompassing». They try to integrate various aspects of the supply chain. Consequently, the models that describe these decisions are massive, and require a considerable amount of data. These models provide approximate solutions to the decisions they describe. It depends on the enormity of data requirements, and the broad scope of managerial decisions. The operational decisions deal with the day to day operations of the supply chain. Thus, the models that describe them are often very specific in nature. Due to their narrow perspective, these models often consider great detail and provide very good, if not optimal, solutions to the operational decisions.

Management control and coordination includes a broad range of activities to ensure that organizational goals are achieved. On the whole, coordination and control is based on a systematic approach to figuring out if you're doing what you wanted to be doing or not. It's the part of planning after you've decided what you wanted to be doing. Recently managers have put into practice new approaches to organizational control and coordination.

New, so named «organic» forms or organizations (self-organizing organizations, self-managed teams, network organizations, etc.) let organizations to be more responsive and adaptable in rapidly changing world. These forms also encourage empowerment among employees.

As the nature of organizations has changed it is obvious that so must the nature of management control. Some people go so far as to assert that management shouldn't apply any form of control at all. They say that management should exist to support the efforts of employees to be fully productive members of organizations, while any form of control gives quite the contrary effect both to management and to employees.

Some specialists even react strongly against the phrase «management control» because the phrase can have a negative connotation, sound dominating and compulsory. Thus recently you can read in management literature the term «coordinating» instead of «controlling».

Regardless of the negative connotation of the word «control» we couldn't speak about the organization if there is no management control. Whether an organization is highly bossy or changing and self-organizing, the organization must exist for some purpose and some mission (implicit or explicit). Identifying the goal of organization requires some form of planning, informal or formal. Reaching the goal means identifying some strategies, formal or informal. These strategies are agreed upon by members of the organization through some form of communication, also formal or informal. Then members set about to act in accordance with what they agreed to do. If they change their minds, they need to distinguish the degree of deviation from the initial position. This form of continuing communication, tracking activities toward the goal and then succeeding managerial decisions is the central part of management coordination.

Product and Service Management. The major activities involved in product and service management are similar to those in operations management. But operations management is focused on the operations of the whole organization, rather than managing certain product or service. Product (or service) management consists of a wide range of management activities. They include the whole process from working out a new idea for a product to giving continuous support to customers who have purchased it. Every organization performs product management, whether it's done deliberately or accidentally.

Managers can create returns from selling more of the current products to more of the current customers (that is customer maximization), more of the current products to new customers (customer development), new products to current customers (product development), or new products to new customers (diversification).

Quality management is vital to effective operations management, particularly one of its principles – continuous improvement. More recent

advancements in quality, such as benchmarking and Total Quality Management, have brought to advancements in operations management.

Total Quality Management (TQM) is a business management strategy aimed at embedding awareness of quality in all organizational processes, geared to ensure the organization consistently meets or exceeds customer requirements. TQM consider process measurement and control as means of continuous improvement. TQM requires that the company introduces quality standard in all aspects of its business. This requires ensuring that things are done right the first time and that defects and waste are eliminated from operations. «Six Sigma» is a methodological approach to eliminating defects with the aim to reach six standard deviations from the desired target of quality. Six standard deviations means 3.4 defects per million.

Benchmarking is the use of standard measurements for comparison to other organizations in order to gain perspective on organizational performance. Benchmarking is the process of comparing the cost, cycle time, productivity, or quality of a specific process or method to another that is widely considered to be an industry standard or best practice.

Continuous Improvement, concerning organizational quality and performance, concentrates on improving customer satisfaction through continuous and incremental improvements to processes, including by removing unnecessary activities and variations. Continuous improvement is a meta-process for most management systems. There are three basic principles of continuous improvement process: 1) self reflection of processes (feedback), 2) identification, reduction, and elimination of suboptimal processes (efficiency), 3) emphasis on incremental, continuous steps, avoiding quantum leaps (evolution).

Inventory Management. Costs of storage and moving inventory can be substantial. Innovative methods, such as Just-in-Time inventory control, can save costs and move products and services to customers more quickly.

Inventory (stock) control deals with minimizing the total cost of inventory. Managers make decisions on the basis of three main factors:

- cost of holding the stock (e.g., based on the interest rate);
- cost of placing an order (e.g., for raw material stocks);
- cost of shortage (what is lost if the stock is insufficient to meet all demand).

Logistics and Transportation Management. Logistics is focused on the flow of materials and goods from suppliers and to the customers, with priority on cost effectiveness. Logistics deals with different resources, including energy and people, between the point of origin and the point of consumption in order to meet the requirements of consumers. Logistics involve the integration of information, transportation, inventory, warehousing, material-handling, and packaging.

Facilities Management. Effective operations management depends on effective management of facilities. They are buildings, computer systems, signage etc. Facility management covers both building and services. Managing services, managers strive first of all for ensuring that a building's air conditioning is operating efficiently, reliably, safely and legally. They also want to be sure that the building is cleaned properly and regularly and monitor the

performance of contractors (e.g. builders, electricians). The term «facility management» is similar to “property management” but often applied only to larger properties where the management and operation is more complex. The facility manager generally has the most influence upon the quality of life within a facility. Facility management may range from the small scale to the large scale or even on an international scale.

Configuration Management. It's important to track the various versions of products and services. Consider the various versions of software that continually are produced, each with its own version number. Tracking these versions is configuration management.

Configuration management focuses on establishing and maintaining consistency of a product's performance and its functional and physical attributes with its requirements, design, and operational information throughout its life. For information assurance, configuration management can be defined as the management of security of the system elements through control of changes made to hardware, software, firmware, documentation, test systems and test documentation. This is carried out throughout the life cycle of an information system.

Distribution Channels. The means of distribution depend deeply on the nature of the product or service. You can choose a wide variety of methods to distribute your products and services. *Direct* distribution methods include providing products and services directly to customer. Direct methods are, for example, direct mail, retail, catalogues, or even Internet sale. *Indirect* methods include having a middleman, for example, using wholesalers and distributors, or retailers.

Frequently there may be a chain of intermediaries, each passing the product down the chain to the next organization, before it finally reaches the consumer or end-user. This process is known as the 'distribution chain' or the 'channel.' Each of the elements in these chains will have their own specific needs, which the producer must take into account, along with those of the all-important end-user. Distribution channels are also important for moving a service in certain sectors, since both direct and indirect channels may be used. Hotels, for example, may sell their services directly or through travel agents, tour operators, airlines etc.

In conclusion, operations managers need a broad range of skills, including an understanding of people and processes. They must be smart problem solvers, comprehensive planners, and versed managers and decision makers. What is most important – operations managers should get pleasure from working with people, talking over projects and solving problems in teams. They should also have the following strong characteristics:

- leadership ability;
- analytical skills;
- interpersonal communication skills.

Operations managers must be acquainted with computer technologies, quantitative methods, planning techniques useful in analyzing business systems, in order to maintain with the rapidly-growing, evolving market.

In order to achieve the firm's primary goal of maximizing stockholder wealth, the *financial manager* performs three major functions: 1) financial

planning and control (supportive tools); 2) the efficient allocation of funds among various assets (investment decisions); 3) the acquisition of funds on favourable terms (financing decisions).

Financial planning and control must be considered as a whole. For purposes of control, the financial manager sets up standards, such as budgets, for comparing actual performance with planned performance. The preparation of these budgets is a planning function, but their administration is a controlling function. The foreign exchange market and accounting systems play a key role when a company performs its planning and control function. It's true as for national and multinational companies. For example, once a company crosses national borders, its return on investment depends not only on its gains or losses from normal business operations but also on exchange gains or losses from currency fluctuations.

Reporting techniques are very important for controlling the operations of the company. Significant financial reports are the foundation of effective management. Accurate financial data are especially important in businesses, where operations are typically supervised from a distance. Nonfinancial information is also essential. Managerial accounting information is aimed at helping managers make decisions. This information is calculated and intended for use by managers within the organization, so it is usually forward-looking and confidential.

Allocation of funds (investment). The investment decision (also known as capital budgeting) is one of the fundamental decisions of business management: Managers determine the investment value of the assets that an organization has within its control or possession. These assets may be material (buildings or machinery), intangible (patents, software, goodwill), or financial. Assets are used to produce flows of revenue that often are associated with particular costs.

Ideally, managers should pursue all projects that improve shareholder value. However, because the amount of capital available at any given time for new projects is limited, management needs to use capital budgeting techniques to determine which projects will yield the most return over an applicable period of time. Financial managers determine the incremental cash flows from each potential investment. Estimations are based on accounting earnings – accounting rate of return and «return on investment» are used. Often a prospective project's lifetime cash inflows and outflows are assessed in order to determine whether the returns generated meet a sufficient target benchmark.

At one times the goal of the investment is for producing future cash flows, while at others it may be for purposes of gaining access to more assets by establishing control or influence over the operation of a second company. When the financial manager plans for the allocation of funds, the most urgent task is to invest funds wisely within the organization. Every monetary unit invested has alternative uses. Consequently, funds should be allocated among assets in such a way that they will maximize the stockholder wealth.

Acquisition of funds (financing). The third task of the financial manager is to acquire funds on favourable terms. If planned cash outflow exceeds cash inflow, the financial manager will find it necessary to obtain additional funds from outside the company. Funds are available from many sources at varying

costs, with different maturities, and under various types of agreements. The critical role of the financial manager is to determine the combination of financing that most closely suits the planned needs of the company. Manager must obtain the optimal balance between low cost and the risk of not being able to pay bills as they become due.

Making financing decisions manager forms two characteristics – capital structure and cost of capital. Capital structure is a mix of a company's long-term debt, specific short-term debt, common equity and preferred equity. It describes how a company finances its overall operations and growth by using different sources of funds. Financial manager consider comparative attractiveness of different sources of capital. Commonly owner's equity is stable but rather difficult to acquire. Long-term debt capital can provide company with constant future cash flow, but additional debts could reduce the amount of owner's equity or increase its cost. Debtholders have a prior claim on cash flows relative to stockholders, so debtholders' «fixed» claim increases risk of stockholders' «residual» claim. Short-term debts are often acquired to cover the gap between the funds available for paying bills and the amount of accounts payable.

Information flows

Well what are the conditions of turbulence in modern business? Besides psychological and social aspects they closely related to the flows of information in the company. Since information technologies had widely spread managers faced the new management paradigm. The industrial age manager had taken a firm as a living organism, but the information age manager sees it as the information flow system. Often managers know about the performance of their company from the accounting reports.

Under such conditions there are two main factors of instability of the company. The first is shift of velocity of information flows, the second is heterogeneity of information flows. Information flows velocity shifts occur when the system of collection, systematization and processing of information couldn't provide management with proper fact, useful for the decision-making. As a result data are late or improper in their content. In practice it is usually difficult to find out these causes of turbulence since managers fail in problem statement process while their demands are not obvious for the information system.

The heterogeneity of information flows appears both in horizontal and vertical flows. Data collection and processing take place on each managerial level, but occur unevenly, as a result economic system deforms. In vertical information flows turbulence influences feedback: top-management set a problem, of what lower management levels couldn't ensure the fulfilment, so feedback provides the only accessible information, but not necessary one. More over – some successful managers apprehend current results as being more comfortable than high-flying tasks. Managerial opportunism creates most favourable conditions for the extension of the turbulent processes. Maintaining the balance between descending and ascending information flows could help avoiding it.

Turbo-analysis

The above-stated considerations brought us to the idea of the new form of economic analysis – turbulent or turbo-analysis. Application of the turbo-analysis concentrates the attention on the studying of conditions and factors of turbulence in business processes and searching opportunities of its overcoming. Overcoming and using of turbulent phenomena is closely associated with the management system quality, since management system (as the core of economic system) is characterized by order and is responsible for the effectiveness of chaordered business processes. Turbulence of business processes could also gain some advantages for the company while laminar processes couldn't provide such opportunities. So economic system get synergetic effect, that couldn't be predicted or measured during analysis and management of laminar processes.

This raises the problems of business ethics and social responsibility, that are very timely and considerable. Society is interested in the quality of corporate management and related services – financial services, audit, consulting, insurances and so on. That means society acknowledged the turbulent character of economic processes, but has difficulties in appraising the situation.

Turbo-analysis aspects are worthy of note. They could help managers to forecast business problems and what is more – to solve them, to correct strategic plans, vision of perspective, credo and even mission.

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Современный бизнес в турбулентной среде

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Аннотация: Рассмотрена концепция современного экономического анализа в турбулентных условиях. Выявлены методологические основы проведения анализа устойчивости организации в турбулентной среде. Уточняется аналитическая компетенция менеджеров организации на современном этапе.

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