

Sustainable development: Innovations in business

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3.

STRUCTURE AS AN INNOVATION



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Abstract: The purpose of the chapter is to present basic theoretical fundamentals in the field of structurally significant formations that companies apply in the process of their business operations, market projections and innovative changes. Organizational forms and structures are presented in the evolutionary context of the time parameter, applying a chronological historical landmark. Knowledge of the variety of possibilities for structural dimensions of the functional manifestations of business activity provides an expanded range of possible solutions. Basic definition formulations are considered. The emphasis is on the organization and organizational structural forms, changes in their practical dimensions in accordance with the changes in purely managerial knowledge and the needs of business practice for innovative changes in various functions in the scope of company's activity. With the help of various creative and purely managerial approaches, through cognitive brainstorming activities, a set of analytical, inductive-deductive, case and simulation methods, students gain new knowledge, practical skills and visionary views on the presented issues—by combining theoretical statements, empirical factology and analytical assignments based on the principle of learning by doing. The topic draws students' attention to the study, selection and construction of internal units and structures, including innovative ones, as part of the necessary business projections for the construction of sustainable processes to generate new value and positive impacts for the environment and stakeholders.

Keywords: innovation structure, organization, organizational structures, structure as an innovation.

3.1. Introduction

In contemporary conditions, successful business processes are planned and organized with a complex time parameter aimed at innovative development. Their organization is characterized by a significant number of interactions and complex causal relationships. The way of constructing the units, consolidating the powers and building the information channels is essential for the combination of resources, activities and staff in spatial and temporal aspect. Their coordinated interaction in the form of different organizational structures makes it possible to achieve the set innovation goals. The study of the organizational aspects of the business process and the business innovation process provides knowledge and creates skills for developing and applying various organizational forms for their implementation and for maintaining effective communications in the enterprise system. The purpose of the chapter is to present basic theoretical fundamentals in the field of structurally significant formations that companies apply in the process of their business operations, market projections and innovative changes.

3.2. Innovation, organization, organizational structures—basic definition aspects

In the innovation development, enterprises take into account two contradictory processes (Petrov, 2008, p. 216):

On the one hand, the innovation process is a complex process—from the origin of the idea to its diffusion development. All stages are closely related and mutually conditioned. To this end, specific systems of structural interactions are planned, organized and maintained. Their main aim is to ensure the sequence of the stages and the continuity of the processes over time.

On the other hand, innovation knowledge is discrete and stochastic. There is no feedback between the emergence of scientific knowledge, its materialization and its market success, which is why the scope of the whole cycle of newly introduced activity within an undertaking is not binding. It depends on the specific situations, potential, innovative and market intentions and other company variables.

The special features of the activity, the size, the resource security and the financial and economic parameters determine to a great extent the form and the way of organizing the innovation process. It covers the set of specific activities performed together in a certain sequence in space and time. Their specificity requires different organization of the development and implementation of innovation.

As the term, the organization can be defined in different ways. For innovation issues, the following definitions may be applied:

- **union** of people and arrangements between them to implement the innovation activities and tasks (Taneva, 2011, p. 215);
- **complex techno-economic and social system** that reflects the specifics of the business innovation process and depends on the nature of the interaction between the different hierarchical levels (Taneva, 2011, p. 216);
- **key management function** that determines how resources are allocated to achieve the strategic goals (Georgiev, Tsvetkov, & Blagoev, 2013, p. 296);
- **set of principles, norms, procedures, techniques and rules** regulating how to combine and use in space and time the resources needed to implement the innovation.

Within the planning, developing and realization of the organization of the business and the business innovation process four axes of tension and opposition are identified (Simons, 2005, pp. 5–15, p. 17):

- **strategy** (structure follows strategy) *against* **structure** (organizational design influences future strategies);
- **accountability** (current) *against* **adaptability** (future);
- “**stairs**” (hierarchies) *against* “**rings**” (networks);
- **personal interest** (of the individual) *against* **success of the mission** (of the innovation structure, department and enterprise).

The combination of axes or the reduction of tension between pairs of principle statements is difficult because of their heterogeneous character and the opposite direction of change. Managers should prioritize the sequence of their incorporation into the organization of the business and innovation processes.

Depending on the extent to which it is based on prescriptions and is governed by sanctions (incentives), the **organization of the business and innovation processes** can be *formal* or *informal* (see Figure 3.1 and Table 3.1).

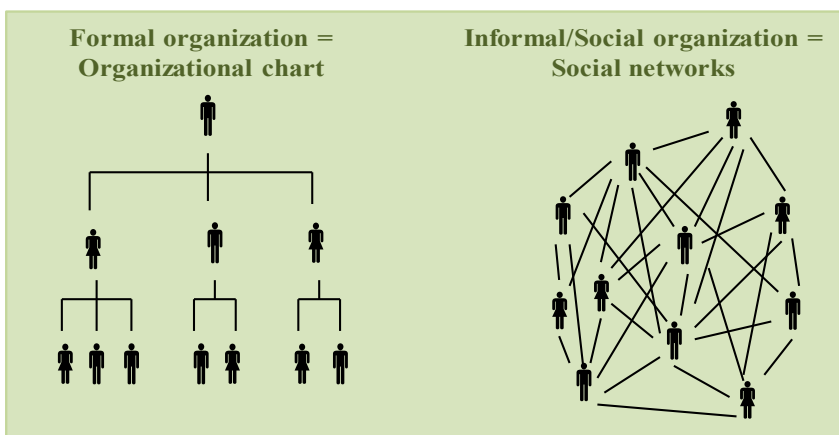


Figure 3.1. Formal and informal organizational structure—model of relationships

Source: (Conway & Steward, 2009, p. 326).

Formal organization is widely used in the company's business and innovation process. Using it, the managers:

- define the roles and responsibilities of innovation staff;
- build the hierarchical structure of power and define the process of making innovative decisions;
- determine the specifics of communication channels and information flows;
- establish the mechanism and scope of the control;
- develop a strategy for coordinating work practices;
- construct the decision-making process;
- define specific features and innovative tasks.

Table 3.1. Comparison between formal and informal organization

	Characteristic	Formal organization	Informal organization
Structure:	<ul style="list-style-type: none"> – Beginning – Logical basis – Sustainability 	<ul style="list-style-type: none"> Prescriptions Rationality Stability 	<ul style="list-style-type: none"> Unexpectedness Emotionality Dynamics
Impact:	<ul style="list-style-type: none"> – Unit – Type – Movement 	<ul style="list-style-type: none"> Position Power From top to bottom 	<ul style="list-style-type: none"> Personality Strength Bottom-up
Communications:	<ul style="list-style-type: none"> – Channels – Networks 	<ul style="list-style-type: none"> Formal Clearly defined movement through formal channels 	<ul style="list-style-type: none"> Informal, poorly defined and non-intersecting channels
Involvement of individuals		<ul style="list-style-type: none"> According to the positions and roles defined by the formal ones 	<ul style="list-style-type: none"> Only those considered acceptable
Base for interaction		<ul style="list-style-type: none"> Prescribed according to functional obligations 	<ul style="list-style-type: none"> Spontaneous and individual characteristics

Source: (Conway & Steward, 2009, p. 326).

Through this type of organization, **three tasks** are solved:

- formation of the organizational structure defining the composition and place of the innovation units, their provision with resources and the procedures for implementing the innovation activities;
- ensuring the smooth implementation of research, development and deployment with no negative impact on production;
- achieving flexibility and adaptability in line with the degree of complexity and flexibility of the corporate environment.

In distinction from the formal, **informal/social organization**, it has the ability to identify itself through different organizational boundaries—team boundaries, functional boundaries, boundaries of the enterprise itself, the virtual network, etc. This peculiarity is at the heart of the interactive model of the innovation process. With it, new ideas move more easily and quickly to the next innovative stages in an effective filter of inappropriate ideas.

Within the informal organization, individuals participate in four types of networks (Tichy, Tushman, & Fombrun, 1979, pp. 507–519):

- *friendly*—discover relationships based on friendly relations;
- *impact*—represent the power of influence and the structures of power;
- *communication*—focus on the ways of information sharing;
- *economic*—describe patterns of money and commodity exchange.

For clustering networks, Krackhardt & Hanson (1993, p. 111) use slightly different categories. According to them, there are **three types of networks**:

- *networks for informing and counselling* (they bring to the foreground the important players in the organization, i.e., those that the resolution of problems and the provision of technical information depends on);
- *trust networks* (they emphasize the model of sharing delicate and political information and supporting in a crisis situation);
- *communication networks* (for regular communication).

In recent years, interest in informal organization has steadily increased. This is due to the strong subordination of the individuality of the participants in the business and innovation process, the increased aloofness, foreground and demotivation brought about by the bureaucracy of the formal organization, and the inability of the bureaucratic structure to cope with the vague and uncertain environment of innovation development.

To organize the business and innovation process, the enterprise constructs and maintains a particular organizational structure. In general, the **organizational structure** is a *set of regulated sustainable links that ensure the organization's functioning and development as a system*. It includes four types of **elements**:

- *units* (governing bodies, subdivisions, working individuals);
- *relationships/links* (horizontal and vertical);
- *structural levels* (high, medium, low);
- *credentials* (linear, functional, etc.).

The **organizational structure** can be defined as “a set of units located at a different hierarchical level, coordinating the functioning of the business system generally, the management system and the innovation management system in particular; developing and implementing innovative solutions and decisions related to the implementation of the projects and especially innovation projects” (Fatkhutdinov, 2003, p. 131). It must be flexible and fit in the environment. The different types of organizational structure have different potential for opposing the environment. The lack of flexibility in most cases reduces the effectiveness of the innovation management system.

There are **two approaches for building the organizational structure** of the innovative enterprise (mechanistic and organic), which in practice are often applied in a mixed version, with the domination of elements of one or the other approach (Varamezov, 2013, pp. 157–159; Panteleeva, 2013, pp. 175–176).

Mechanistic (hard, bureaucratic) approach has a formal division of labour and narrow specialization. Hierarchical principles and formal rules are strictly observed. Vertical flow of information dominates. Secondary tasks are decomposed into private tasks, which can be performed independently of common tasks. The personal qualities of the innovation staff are not considered to a significant extent in the design of the organizational structure. For enterprises that have adopted a purely mechanistic approach, the dynamics in the environment parameters raises a number of problems. Their solution is lengthy and difficult. For this reason, in the current context, the emphasis is on the application of the second approach.

In the organic (soft) approach, a smaller number of hierarchical levels is constructed. Formal rules and procedures are implemented in an informal relationship environment. Decentralization dominates. The staff is involved in the process of making innovative solutions. They are given greater responsibilities in the implementation of the activities. There is flexibility in management. The main advantages that the enterprise can achieve by adopting the organic approach are identified in three directions: a flexible and dynamic leadership; a flexible mechanism facilitating communications; a targeted priority of technical and innovation development.

Based on the adopted model of organizing the process, the enterprise can choose between five forms of organizing activities (Panteleeva, 2013, pp. 176–177):

- *Functional organization*. The main activities are related to the relevant departments (design, research, production, marketing) and are usually sequential (linear). The downside is that all of these departments are governed by common business objectives, including the R&D unit, although it is quite autonomous.
- *Functional matrix*. A team of specialists from all departments is set up. It is managed by department managers and by the project manager. The functional start dominates the project.
- *Balanced matrix*. It is applied, if necessary, by the functional and the project approach to the development of innovation activity. Part of the innovations is based on the functional start, and others on the project start.
- *Design matrix*. A team of participants from all departments dealing with the problems of the innovation project is being built. This organization is called parallel-integrative.
- *Venture organization*. Team members work exclusively on a project, breaking away from bureaucratic structures.

The degree of involvement of participants in business and innovation activities in different forms is varied. The lowest is in the functional organization, and the highest is in the ventures, where the benefits of it are exacerbated. Based on a number of studies, Jaffee (2001, pp. 284–286) systematized the contemporary

features of the organization of the business and innovation process (which he calls “postmodernist organization”)—virtuality, networks and alliances, flexibility, different job features and risk-taking.

Many economists express the view that the presentation of the organizational structure of the innovation process through an organizational scheme has a number of weaknesses and constraints. On the other hand, it is based on it and combining situations, characteristics, subject and interdisciplinary areas categorize the different types of organizational forms (structures) as—traditional, network, front-back, boundless, learning and self-learning, virtual organization, etc. The use of organizational schemes as a way of visualizing the “skeleton” of the organizational structure will continue in the future, albeit in a form different from our familiar (traditional) structures in the past. This is due to the fact that they allow for quick orientation and the information in them is subordinated to an appropriate and easily understandable graphic form (Conway, & Steward, 2009, pp. 242–244).

The **main advantages of organizational schemes** are described in several ways: they provide transparency and predictability; help quickly and easily understand what should happen in the business and innovation process; present a simplified snapshot of the formal hierarchy in the organizational structure; describe briefly, almost verbally, who is responsible for what and to whom. At the same time, as their **weakness and limitation**, their staticity can be pointed out against the background of continuous changes in the enterprise and its innovation subsystem. Information technologies provide an opportunity to overcome some shortcomings of traditional organizational structures and to achieve flexibility in the scope and content of processes and activities (including virtual presentation in a dynamic way). The complexity of innovation raises the need to expand the circle of participants in the business and innovation process and highlights issues related to strategic alliances, outsourcing and networking.

Achieving effective organization of the business, innovation, business and innovation process, as well as human resources engaged in innovation activities, requires compliance not only with trends and patterns in innovation and organizational science, but also in business in general. It is necessary to find the appropriate balance between the contradictory principles of organizational design at the workplace of the staff of the enterprise, but also the staff engaged in the implementation of innovation processes. Managers should make choices in the following areas (Panteleeva, 2013, p. 178):

- open workplace versus closed workplace;
- workplace or social space;
- workplace tailored to the personality or task specificity;
- stability or flexibility and mobility;
- individuality or organizational efficiency of the enterprise.

3.3. Types of organizational structures

3.3.1. Classic organizational structures

Historically, the linear organizational structure first arises. Here, the units and the contractors are subordinated to a manager who manages all activities, including the innovation. The **linear structure** has a number of merits resulting from its simplicity and economy, the full respect of the principle of unity in governance, the high degree of coordination between the various units and the contractors, the ability to react in unexpected situations. At the same time, the principle of unity and lack of functional units leads to the simultaneous implementation of routine and innovative activities (see Figure 3.2).

The intertwining of various activities in a small number of staff is associated with an intensive workload which limits creativity and favours innovation with a lower degree of novelty and complexity. In the current conditions, this structure finds a more limited application—mainly in micro and small enterprises.

Another type of organizational structure is **functional**. The staff is divided into specialized units based on its functional uniformity. The structure is a collection of fully specialized subdivisions, each of which performs a strictly defined part of R&D, according to its profile and specialization. Each unit includes individuals with a homogeneous specialty. The unit manager directly manages the linear structural units from the lower hierarchical levels in the implementation of the innovation-related activities. In practice, the functional structure is seldom used in pure form. It is usually combined with the linear structure (see Figure 3.3a and 3.3b).

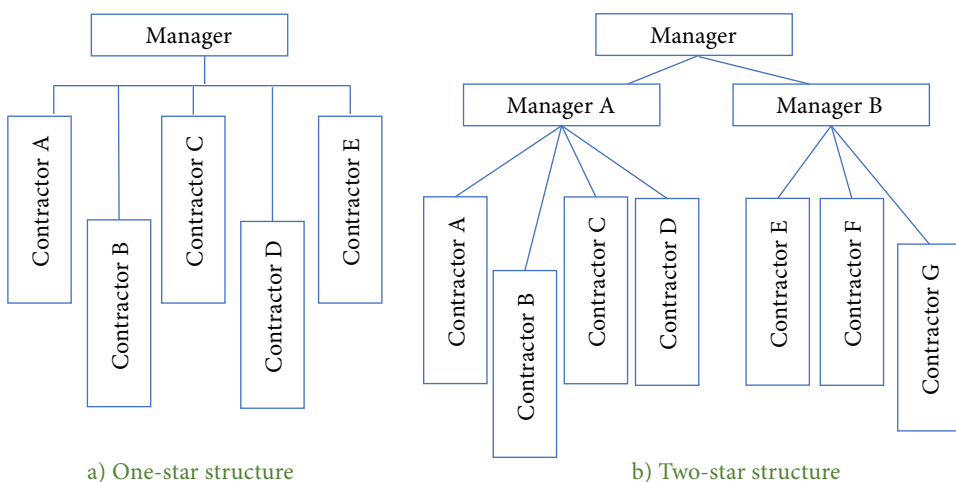


Figure 3.2. Linear organizational structure

Source: Own elaboration.

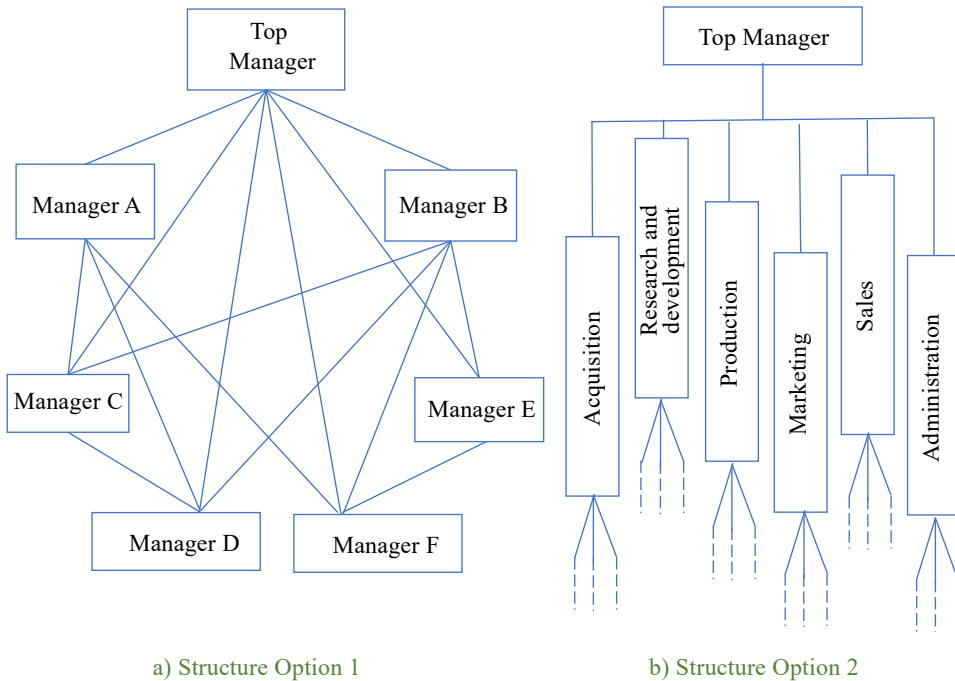


Figure 3.3. Functional organizational structure

Source: Own elaboration.

In this way (in the linear-functional structure) functional units are created towards the linear units, which conduct studies and prepare management decisions for the functional managers. Two varieties are identified in enterprises—with centralized management and limited functionalism. Innovative units are functional. Their commitment is to give preference to methodological instructions of units from lower hierarchical levels.

In today's conditions, the so-called **divisional structure** is widely distributed. In practice, it is applied in several varieties, such as the specialization and differentiation of units—by products, consumers and regions. This enables individual specialists to focus on a particular area, increase their scientific knowledge, and have specific equipment and information base for innovative tasks. In the product structure, for example, the responsibility for the production and realization of a product (product group) concentrates on one manager to whom the functional and production units are subordinated. In practice, this structure creates an innovative organization of small and largely autonomous subdivisions embedded in the structure of the enterprise. They provide an opportunity for flexibility of the innovation subsystem in the context of intensive innovation policy.

3.3.2. Typical contemporary organizational structures

Target structure (teams). Target groups are temporary organizational forms. They are formed to solve a specific innovation problem and end their activities after fulfilling their goals. Normally, the duration of such an organizational form is about 6 months, but may be extended to 1, 2 or 3 years if necessary. The number of groups is recommended not to exceed 10 people—in order to optimize the combination of activities, easy coordination and control, efficiency in work and effective use of the creative potential and professional experience of the participants. The educational and qualification composition and the professional structure of the team members depend on the complexity of the innovation task, the individual characteristics of the persons, the existence of past experience, the functional division of labour. After implementing their innovative commitment, staff return to their beloved jobs or join another organizational form within a next innovation process.

Project structure (teams). Widespread popularity in developed countries' practice has design structures. These are autonomous units with a larger number of R&D personnel and longer operating lives than target teams—2, 3, 5 or more years. They are designed to solve more complex innovation tasks, which can cover all stages of the innovation process. For this reason, the project involves persons from all units of the enterprise, with a wide educational and professional reach. As an organizational unit, the project team is built on a medium hierarchical level, directly subordinate to senior management. Their commitments are only related to solving the specific innovation problem. For large, complex and long-term projects, there are the so-called design structures. Throughout their lifetime, all managerial functions are executed within the project, and the participating specialists and contractors are entirely subordinate to the project manager. Projects can be grouped together to build chains, networks or project portfolios. After solving the innovation challenge, project team members are returning to their previous jobs or may be involved in another innovation initiative.

Matrix structure (teams) (see Figure 3.4a and 3.4b). For this type of organizational structure the simultaneous existence of functional and targeted structural elements is characteristic.

Target groups are managed by a manager who bears the full responsibility for achieving the goal. They are responsible for planning and organizing innovation activities as well as for their operational management. The head of the functional department delegates part of their management rights to the group leader. At the same time, they can provide guidance on the progress of the innovation process and on the content of innovation activities. At the core of the matrix organizational structure is the combination of the advantages of the linear-functional

and program-targeted approach following the principles of centralization and coordination. An important component of the matrix structure is the use of semi-autonomous or target groups. Their activity is based on the implementation of a specific innovation task or program to solve a specific innovation problem. The staff has a certain freedom to organize their own activities. The head of the matrix structure has great powers and is responsible for coordinating activities in the innovation program. The flexibility of the coordinated type of programmable structures depends on the manager's ability to create and use the information links between the coordinator and the team involved in the implementation of the program.

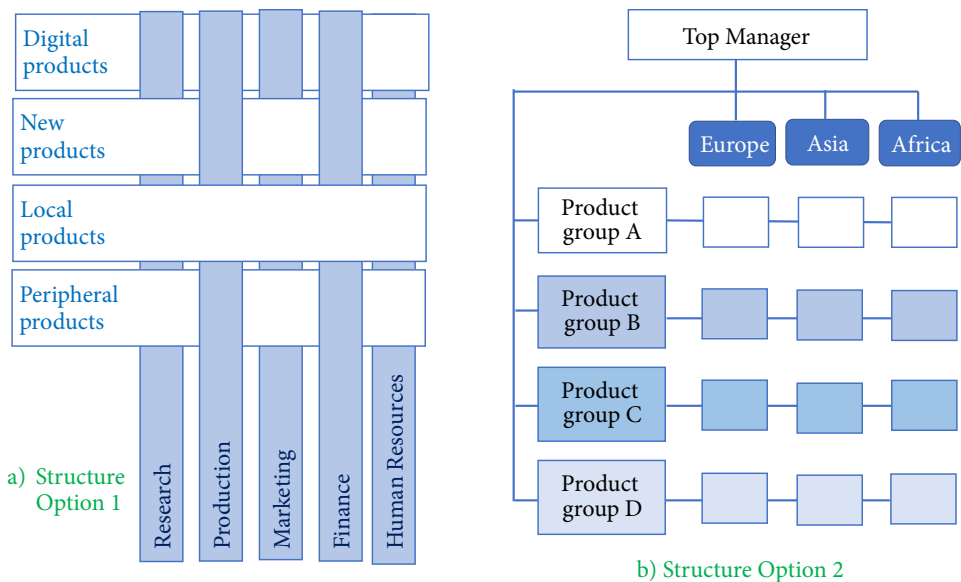


Figure 3.4. Matrix organizational structure

Source: Own elaboration.

In accordance with the method of the subject area, organizational structures may specialize in certain areas of activity according to the nature of the problems. All persons involved in the same problems are grouped into one unit. To solve scientific problems, the activity can be performed in three ways: one group; tasks are allocated to subtasks, each assigned to a separate group; one of the groups is a major contractor and assigns sub-tasks to teams specializing in specific areas. Specialists from different fields, closely related to the engineering and technological activities, are needed. In this case, it is appropriate to use program or product orientation (see Figure 3.5).

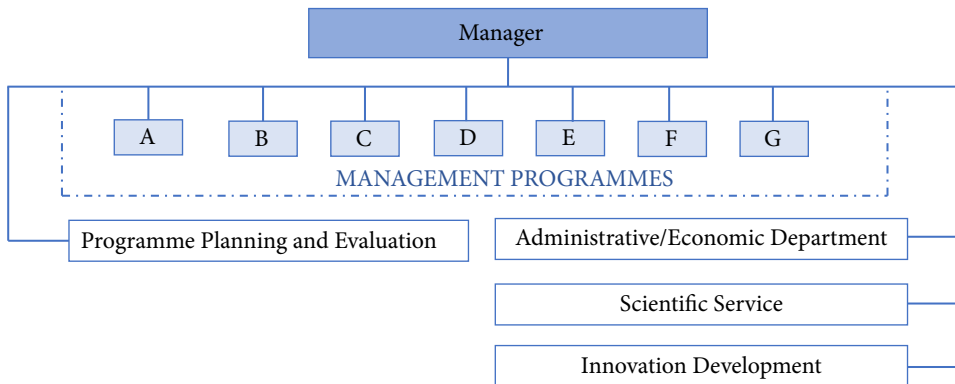


Figure 3.5. Product or program oriented organizational structure

Source: Own elaboration.

The program (product) organizational structure relieves planning. It provides a direct link between research and engineering and engineering activities. Accumulation of a knowledge pool about the problems associated with a particular type of process is achieved. Therefore, such a structure is most effective for enterprises engaged in research closely related to R&D. In enterprises conducting fundamental research, it is expedient for the organizational structure to be built on a principle basis and based on the interdisciplinary approach. Regardless of their target orientation, this type of research is somewhat detached from development. To avoid such a problem, the enterprise can modify the previous two structures and build the **stage-phase structure** (see Figure 3.6).

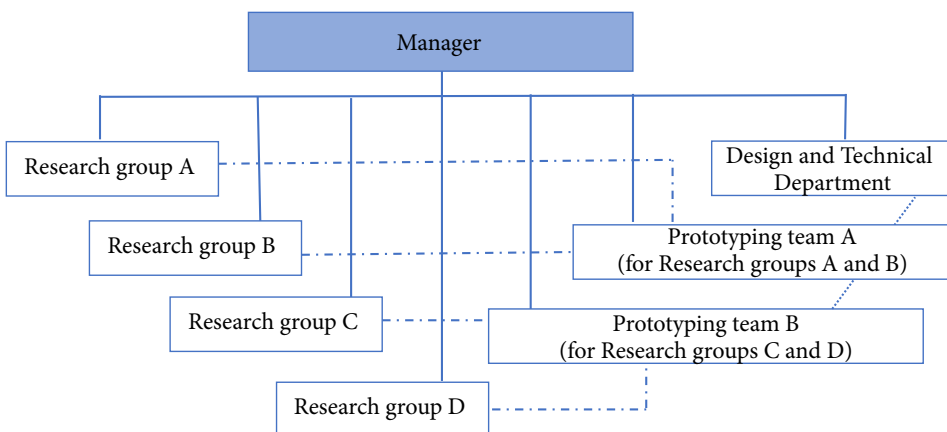


Figure 3.6. Organizational structure with special units responsible for prototyping and pilot installation

Source: Own elaboration.

However, it is predominantly research-driven and not suitable for developing prototypes.

Mixed structures (teams) (see Figure 3.7) create permanent groups of specialists with the same profile associated with the program structure.

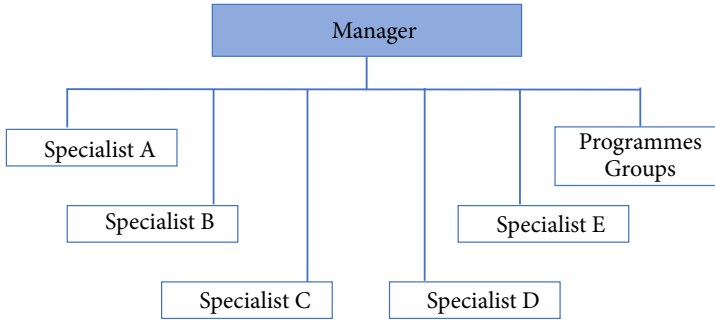


Figure 3.7. Formation of programme groups through the movement of specialists from different “disciplinary groups”

Source: Own elaboration.

In this way, the advantages of program orientation, specialization and interdisciplinary approach to innovation development are combined.

There are different ways of combining the programming beginning with the subject principle. The program group including the program manager and enterprise innovation staff can be used (see Figure 3.8).

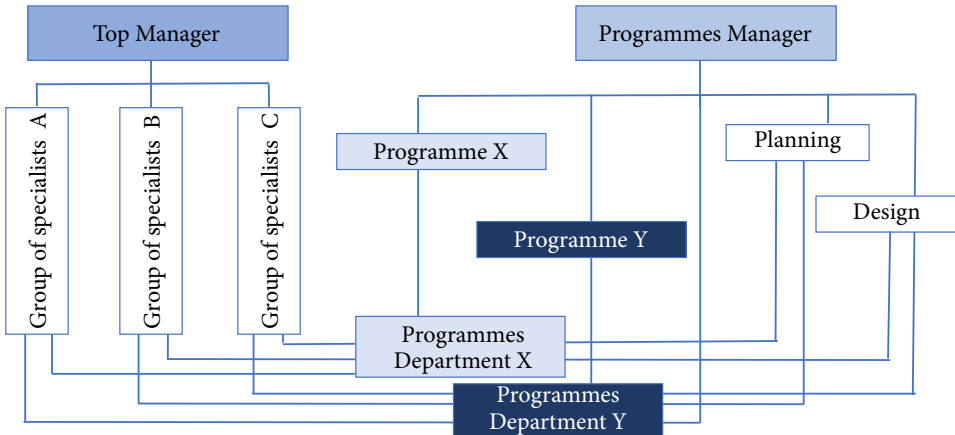


Figure 3.8. Organizational structure with permanent “disciplinary” and programme units, the connection between which is carried out by the departments

Source: Own elaboration.

The manager can transfer the assignment by disciplining or appointing a program manager. Sometimes a more flexible form is used, where the program and its coordination are assigned to program management departments.

Internal entrepreneurship. In order to exploit the flexibility and adaptability characteristic of the free entrepreneur, in some enterprises, internal structures are organized on the principle of entrepreneurship. The entrepreneur gets a certain amount of funding and considerable freedom to choose the team and the way they work. The control over their activity is based on the “final result”. Successful internal entrepreneurship is possible in an environment with the following characteristics: using the latest technological advances; stimulating new ideas; tolerance of failures; availability of resources; interdisciplinary approach to teamwork; long-term horizon; voluntary participation; appropriate remuneration system; availability of sponsors and supporters; support from senior management.

Venture team. Depending on the relationship with the venture, the venture teams are internal and external. In the internal venture, a unit which has special funds for financing is created. It is possible to build as an autonomous enterprise or as a joint venture with suppliers, distributors, sources of technology and others. Funding is provided through general research funds, through specially designed venture capital funds or by placing the so-called internal shares in the enterprise. It is not always the domestic ventures that are successful. While preserving the traditional bureaucratic approach, the risk group fails to act as a sole entrepreneur but obeys the existing formal and non-formal principles of the enterprise. External ventures are self-owned enterprises with qualified staff to provide innovative services. Typically, the idea is provided by a large enterprise through license-engineering, contract, and more. The risk of implementing the idea is borne by the companies that have saved their research costs. In case of success, they may merge or be absorbed by the larger enterprise.

3.3.3. Organizational structures of the future

Summarizing the experience of leading enterprises, several authors recommend building **hybrid structures** with many elements and a broad functional range of the innovation process, including: a central research laboratory for sustaining research with a long-term nature; a matrix structure that ensures the implementation of most of the projects that lead to the improvement of existing businesses; projects with a separate organizational structure that are essential for business development or leading to new business; affiliated companies realizing ideas with development potential not included in the current company strategy.

Along with the organizational structures hierarchically organized with a single centre, **non-hybrid formations** are dominated in the innovation business,

dominating horizontal links and coordination. The creation of structures (external and internal to the enterprise) built on the network principle corresponds to the trends of expansion of the open innovation management type, with dynamic boundaries and number of participating subjects. Modern information technologies make it possible to build virtual organizational forms that are particularly suited to using cloud technologies. The ability to create innovations and to establish their effectiveness in real time speeds up the innovation process, maximizes activities and increases the intensity of communications.

There is no strict preference for enterprises in choosing an optimal organizational structure and form of innovative business. Each structure has its advantages and has a specific potential for innovation development depending on the specific situation and its ability to be flexible and adaptable to the environment. Despite the peculiarities of different structural formations, five models of organizing the innovation process can now be identified:

- **Idea system.** A program for organizing and channelling the movement of innovative ideas is being developed. Through panels to evaluate by certain criteria and metrics, the collected ideas are approved or rejected. It is possible that the system focuses on the process of disapproval, focusing on motivating individuals, providing opportunities for re-formulation of rejected ideas, and creating conditions to prevent the passing of valuable innovative ideas.
- **Teams for continuous improvement.** The focus of this model is on teamwork and on incremental product improvements (widely used in the Toyota Production System). They are also called Kaizen Teams (Imai, 1986; Maurer, 2004). The Kaizen cycle takes the following steps:
 - standardization of activities and operations;
 - measurement and evaluation of activities and operations (determination of cycle time and internal sub-processes);
 - assessment of the deviations of the measured by the preliminary planning parameters;
 - innovation to meet compliance and increase productivity;
 - standardization of new, better activities and operations;
 - continuation of the upgrade cycle to infinity.
- **New venture teams.** They are used for ideas that are not related to cost savings or incremental improvements in products and processes. This model is suitable for developing unconventional ideas for products, services, or strategies that have the potential to turn into scientific or scientific excellence.
- **Incubator laboratories.** The incubator model of ideas became popular in the second half of the 1990s, alongside the formulation of the “grain care” thesis. In specially differentiated premises a specific innovation process is developed in a specific mechanism of the innovation process. This model is losing its popularity very quickly.

- **Innovative teams.** They are creating a large-scale network in the enterprise that includes people with innovative skills. It is based on the principle of providing clear job schedules.

The business innovation processes and structures are complex and difficult to develop. So, companies are looking for ways to outsource part of their innovation activities or to attract partners. Some business entities enter strategic alliances, clusters or entrepreneurial networks. The modern parameters of the innovative business are a prerequisite for increasing international cooperation, creating public-private partnerships, building high-tech centres, parks, polis, agglomerations, etc. The forms of mergers and acquisitions are also widespread. However, they have a lower degree of flexibility than strategic alliances.

3.4. Case study of M+S Hydraulic Plc.—Kazanlak, Bulgaria

3.4.1. History of the company

M+S Hydraulic Plc.—Kazanlak was established in 1963 as a Bulgarian construction company (table 3.2). M+S Hydraulic pursues excellence in all matters through dynamic and wise application of the latest knowledge, undertaking efforts for better environment and assuring company's contribution to the society. The main company principles are:

- providing products that customers need and appreciate, giving first priority to customer satisfaction;
- providing the quality that engenders customers' confidence;
- always pursuing new technologies to establish higher corporate and social values;
- respecting each individual's capability to work to the fullest;
- viewing own business from a worldwide standpoint as a global corporation;
- contributing, as a good corporate citizen, to development of society, undertaking efforts for a better environment;
- sharing the company prosperity with all the people concerned, including customers, shareholders and group members.

In 1995, M+S Hydraulic developed, introduced and certified the Quality System in accordance with the requirements of International standard ISO 9001:1994 (M+S Hydraulic, 2021b). M+S was the first company in Bulgaria certified with ISO 9001. The certificate was issued on September 18, 1995 from a German authoritative certification body TUV-CERT. As a result of the ISO 9001 acceptance, M+S Hydraulic rose and stabilised their own product quality, won confidence of the clients and rose as one of the world leaders in the production of the hydraulic

motors and hydrostatic steering units. Now, with the sole purpose of development and strengthen its position as one of the lead manufacturers of hydraulic motors and hydrostatic steering units, M+S Hydraulic has been certified with ISO 9001:2015 by maintaining and applying the main principles of the Quality System. Since August 29, 2006, M+S has developed, successfully implemented and certified under both OHSAS (Occupational Health and Safety System) 18001:2007 and ISO 14001:2004 (Environmental Management Systems) the management system standards. Since February 04, 2013, M+S Hydraulic production has been certified with the new Certificates of Conformity of The Russian Federation.

Table 3.2. History of M+S Hydraulic Plc.—Kazanlak, Bulgaria

Year	Event/Activity
1963	The Company is established as a state enterprise, catering the construction industry, by providing maintenance and repairs for excavating machines, bulldozers and auto cranes
1964	The company starts the production of presses for cable shoes.
1966	The company starts manufacturing of loaders and hydraulic systems for housing construction.
1975	The company starts producing Hydrostatic steering units for vehicles up to 60 km/h.
1981	Initial point for production of Low-speed High torque Planetary hydraulic motors.
1995	M+S was the first company in Bulgaria certified under ISO 9001.
1997	The company is fully privately owned. M+S is traded on the Bulgarian Stock Exchange (BSE code: 5Mh).
2012	M+S became the owner of the Serbian production company Lifam Hidravlika D.O.O. The main production range is Hydrostatic steering units and valves.
2015	M+S Hydraulic PLC set up a subsidiary trading company M+S Hydraulic power Transmission GmbH, based in Germany.

Source: (M+S Hydraulic, 2021a).

Latest awards: M+S Hydraulic PLC is awarded with “True Leaders” by ICAP Group—the largest Business Information and Consulting Group in South-eastern Europe; with “True Leaders” by ICAP Group—the largest Business Information and Consulting Group in Southeastern Europe; for the second consecutive year with the award “True Leaders” in the sector of manufacturing and sales of hydraulic products. For a consecutive year, M+S Hydraulic JSC participates in the biggest machine building exhibition in the world Bauma 2019.

The company competes on a statutory basis, conducts marketing research, tests the conditions of the market, looks for new suppliers, optimizes its products and delivery conditions, commits integrated expenditures (provided there is a suitable opportunity for their presentation) in order to stay competitive and guarantee its customers and investors a high level of profitability. The company expects the suppliers to have sufficient capacity, to have additional quantities of the ordered materials, products and tools on stock, in order to be able to react (with very short

lead time) in the event of increased demand on a particular product or in case of refunds (e.g., because of quality problems). The company expects its suppliers to use adequate, up-to-date technologies and work on new technological projects.

M+S Hydraulic Plc. adheres to the understanding that by implementing business innovation processes, and combining several types of business functional changes at the same time, synergistic effects are achieved. Consequence of such a company sustainable philosophy, is development based on structure as an innovation.

3.4.2. Results and solutions of structural innovation

As a result of the decisions taken, and the innovative changes made, M+C Hydraulic reports positive changes in three areas (based on the assessment of the company managers, obtained through an interview): staff-related indicators, customer satisfaction indicators and indicators of financial excellence.

Staff-related indicators: increased staff satisfaction with work commitments, attitudes towards them and personal achievements, higher average number of working days with staff attendance, reduced staff turnover, increased sense of security and improved working environment parameters, accumulated number of proposals for improvements in production and labour processes, improved parameters of deadlines and organization of deliveries, reduced time for execution of orders and increased labour productivity, reduction of mistakes and defects, saved costs for maintaining quality at a high standard of execution, etc.

Customer satisfaction indicators: increased overall level of customer satisfaction, lowering the number and frequency of customer complaints, maintaining the mass of regular customers.

Indicators of financial excellence: increase in sales, maintenance of a stable market share with noticeable increases in values in periods of innovative offers of the company, accelerated return on assets and return on sales, increase in the value of the company's share prices.

3.5. Case study of PIM-Ltd.—Haskovo, Bulgaria

3.5.1. History of the company

The company PIM-Ltd. was established in 1990 in Haskovo for design, manufacture and erection of equipment made of stainless steel (PIMBG, 2021). The company has strengthened its positions of a leader in the manufacture of machines, devices and process lines for the food industry and it has a serious presence on the Bulgarian and international market. It is specialized in the construction of large wine production

plants as well as small wineries of the capacity of 100 t grapes per season and it has individual requirements to the equipment. PIM also produces modern production process lines and equipment for processing of milk, process lines and equipment for production and processing of meat—mobile or stationary, depending on the customer requirements, process lines and equipment for production of chocolate products, macaroni, ketchup and mayonnaise.

The company is working jointly with its customers, in order to find together the best solution for the best equipment. Highly skilled team of professionals—engineers, administrative personnel and workers take care of the perfect running of each stage of every project. The Company provides maintenance and consultation for the already erected and operating installations. 75% of their installations are realized on markets abroad.

PIM has 50 000 square meters production territory, including 7 specialized shops and 5 work sites. Since 2005 there has been a successfully operating shop in the town of Madjarovo. A transport section has been established for the product transportation in the country and abroad.

The major company principle is “Confidence gained by professionalism”.

PIM-Ltd. is binding its strategy with full orientation towards the quality. The production of perfect products is the major factor that is creating their success. Through efforts which are oriented towards the customer needs, they are aiming to justify the confidence of their customers. For this reason they have implemented the Quality management system—ISO 9001:2015, which is being continuously improved and controlled, and its state is being proved by a certificate, issued by a certifying body.

PIM-Ltd. has made structural changes several times since 2010, given the development of business activities and diversification of production.

3.5.2. Results and solutions of structural innovation

M+S Hydraulic Plc. combines any innovative change, especially with a high degree of innovation changes, with structural changes of organizational, managerial and multifunctional nature, allowing flexibility and readjustment in line with market needs, resource environment and internal indications coming from the Human resources system. On this basis the company:

- adapts the company’s external environment through a flexible and adaptive structure based on a long-term business strategy;
- organizationally “redesigns” the processes that take place in the internal business system—structure, decision-making processes, compensatory system, information flow, distribution of tasks and cohesion of individuals. Achieves internal integration and balance of the business system.

Questions / tasks

1. Define the term organization from different points of view.
2. What are the axes of tension and opposition in the development and implementation of innovation in the organization.
3. Describe the types of organization of the business and innovation processes.
4. Define the term “organizational structure”?
5. What approaches can be applied in the construction of the organizational structure within the innovation process?
6. Specify the classic organizational structures. Provide a brief description of each of them.
7. Which organizational structures are marked as currently needed?
8. What types are the organizational structures of the future? What is their potential for innovative development?
9. Briefly describe the generalized contemporary models of organizing the business innovation process.

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