

ORGANIZATIONAL STRUCTURES OF POLISH PRODUCTIVE ENTERPRISES

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1. Introduction

Organizing next to planning, staffing and organizational development is the key function of top management in any organization. To work effectively in organizations managers must have clear understanding of the organizational structure. Viewing an organization chart on a piece of paper, one sees only configuration of positions, job duties, and lines of authority among the parts of an organization. However, organizational structures can be far more complex than that. By organizational structure one means three distinct but related things. In the first place, the division of labour in the organization: dividing work into task or roles such as operations, logistics and transportation, and training, and recombining them into administrative units, e.g. branches, departments, bureaus or divisions according to mission, function, and/or region. This is the organization's administrative structure - the structure depicted in organization charts, including tables of organization and equipment. In the second place, it is the distribution of authority and responsibility to individuals within the organization. This is the organization's responsibility structure. In the third place, it is the organization's system of measuring and evaluating performance - how it organizes information on inputs, costs, activities, and outputs. This is the organization's account or control structure. An account structure should be oriented to administrative units or responsibility centers - optimally to both, since the information provided by these accounts can be used both to coordinate unit activities and to control the behavior of responsibility center managers - or to some analytically relevant construct [12,p.52-56]. The form and configuration of the organizational structure are determined by many factors. Technology plays an essential role in productive enterprises. Qualification of the specific features of Polish productive enterprises' organizational structures is the goal of this paper. It has been achieved based on research's results of 79 productive enterprises.

2. Design dimensions, conceptual variables and types of organizational structures

Managers who set out to design an organization structure face difficult decisions. They must choose among a myriad of alternative frameworks of jobs, work projects, and departments. The process by which they make these choices is termed organizational design, and it means quite simply the decisions and

actions that result in an organization structure [9, p.45-60]. This process may be explicit or implicit, it may be “one- shot” or developmental, it may be done by a single manager or by a team managers [6,p.128]. However the actual decisions come about, the content of the decisions is always the same. There are decisions about division of labour, authority, departmentalization and span of control. Some authors [10, 417-423] define organizational design by differentiation and integration processes. Differentiation is the process of dividing work in the organization, and integration is the process of coordinating work in the organization. From a structural perspective, every manager and organization looks for the best combination of differentiation and integration for accomplishing the goals of the organization. There many ways to approach this process. One way is to establish a desired level of each structural dimension on a high to low continuum and then develop a structure that meets the desired configuration. These structural dimensions include the following [3,11]:

- specialization- the degree to which organizational tasks are subdivided into separate jobs. The division of labour and the degree to which formal job descriptions spell out job requirements indicate the level of specialization in the organization;
- standardization – the extent to which work activities are described and performed routinely in the same way. Highly standardized organizations have little variation in the defining of jobs;
- centralization – the extent to which decision making authority has been delegated to lower levels of an organization. An organization is centralized if the decisions are made at the top of the organization and decentralized if decision making is pushed down to lower levels in the organization;
- hierarchy of authority- the degree of vertical differentiation through reporting relationships and the span of control within the structure of the organization;
- complexity – the number of activities within the organization and the amount of differentiation needed within the organization;
- formalization – the degree to which an employee’s role is defined by formal documentation (procedures, job descriptions, manuals, and regulations).

Another approach to the process of accomplishing organizational goals is to describe what is and is not important to the success of the organization rather than worry about specific characteristics. But the previous approach is more popular.

These basic design dimensions play out in the context of the organization’s internal and external environments. Four conceptual variables influence the success of the organization design [10, 3]:

- size - from a structural perspective is the total number of employees. According to design dimensions formalization, specialization and standardization all tend to be greater in large organization, because they are necessary to control activities within the organization. Formalization and specialization also help a large organization decentralize decision

making. Another one, hierarchy of authority is related to complexity. As size increases, complexity increases; thus, more levels are added to the hierarchy of authority;

- technology – is defined as the tools, techniques, and actions used by an organization to transform inputs into outputs. In productive enterprises this variable is very important. The influence of technology on organizational design is related to the routineness. The more routine and repetitive the tasks of the organization, the higher the degree of formalization that is possible; the more centralized, specialized, and standardized the organization can be; and the more hierarchical levels with wider spans of control that are possible. Nowadays also the advance of information technology influences on organization structure. The introduction of computer –integrated networks and computer- integrated manufacturing has broadened the span of control, flattened the organizational hierarchy, decentralized decision making, and lowered the amount of specialization and standardization. Advances in information technology have allowed for other advances in manufacturing, such as mass customization;
- environment – is anything outside the boundaries of an organization. If the organization’s environment is uncertain, dynamic, and complex and resources are scarce, the manager needs an organic structure that is better able to adapt to its environment. Such a structure characterizes low formalization, centralization, specialization, standardization, high complexity and weak, flat hierarchy of authority;
- strategy and goals - provide legitimacy to the organization and help it fit into its environment. Structure follows strategy [2] and also strategy follows structure [8]. In that case strong relationship exists.

Also the amount of change in the conceptual variables throughout the life of the organization influences the amount of change needed in the basic dimensions of the organization’s structure.

Differentiation, integration, the basic design dimensions and conceptual variables combine to yield various structural configurations. Table 1 presents some basic types of the organizational structures of large enterprises and their short characteristics.

Table 1 Chosen types of the organizational structures

Type	Characteristic
Functional structure	It is built around the tasks to be carried out, which tend to be split into specialist functional areas. Managers are placed in charge of departments which are responsible for these functions, and they may well have delegated authority to change functional strategies. Consequently the effectiveness of this structure is very dependent on the ability of this specialist managers to work together as a team and support each other and on the ability of the strategic leader to co-ordinate their efforts. It commonplace in large firms which produce only a limited range of related products. It is also the

	typical internal structure of the division and business units which comprise larger diversified enterprises.
Line and staff structure	It combines the flow of information from the line structure with the staff departments that service, advise, and support them. Line departments are involved in making decisions regarding the operation of the organization, while staff areas provide specialized support. This structure is necessary to provide specialized, functional assistance to all managers, to ensure adequate checks and balances, and to maintain accountability for end results.
Divisional structure	It is a result of the divisionalization, which can be made by product, activity, market, geographical region or different production processes. Divisions are likely to be profit centres and may be seen as strategic business units for planning and control purposes. They are headed by general managers who enjoy responsibility for their own resources. This structure is decentralized. It is the most appropriate for organization of growing size and complexity and for turbulent environments.
Project/ team based structure	It exists in sectors, where business activities take the form of specific projects. Because every project is different, and every project goes through a changing sequence of activities, projects need to be undertaken by closely interacting teams. It is designed to fuse interdisciplinary experts into smoothly functioning ad hoc project teams. Liaison devices are the primary mechanism for integrating the project teams through a process of mutual adjustment.
Matrix structure	It is an attempt to combine the benefits of decentralization with those of coordination. It requires dual reporting by managers to, say, a mix of functional and business unit general managers. This structure is found in organization that require responses to rapid change in two or more environments, such as technology and markets, face uncertainties that generate high information processing requirements, and must deal with financial and human resources constraints.
Process structure	It is based on a complete flow of work, such as that of the order fulfillment process. The people from each function who work on the process should be gathered into a process team. The process team reports to a process leader. The structure is thereby converted from a vertical functional structure to a horizontal process structure. It is a result of BPR implementation. It is very flat structure.
Networked structure/ boundaryless organization	It relies on multiparty co-operative relationships between people across structural, temporal and geographic boundaries based on the existence of dense networks of flexible communications. The minimization of layers results in a flatter hierarchy. There is also in this structure an emphasis on participative decision making, multiple-hierarchy teams (executives, managers, and operating employees), team building and coordination. In a network flexibility is key.

Source: [based on 1, 4,5,13]

Besides the structures mentioned above, there are new organization's structures such as: lattice organization, the spider's web, the holonic enterprise, the fractal, virtual or learning organization and others. Organizations in the future will clearly be flatter. New forms of organizations are geared to make organizations more receptive, adaptive and generative - always focused on meeting the needs of stakeholders.

3. Analysis of the organizational structures' features in Polish productive enterprises

To qualify the features of polish productive enterprises' organizational structures in the context of the chosen conceptual variables the questionnaire research's results will be presented. The research was made in 79 big polish companies.¹ The companies were selected in the purposeful way according to following criteria: a productive activity, a total number of employees above 249 persons during last five years, a realization of the growth strategy expressing in the large company's expansiveness (e.g. reaching new markets, diversification of production, investment activity etc.). These enterprises represented various trades. They were running in the machine industry (13 units), chemical industry (9 firms), textile industry (8 firms), furniture industry (7 firms), motor industry (7 firms), artificial materials industry (6 firms) and the last 29 enterprises were working singly in other industries. Considering the organizational form of studied companies, 44 of them had one mill, 17 enterprises had a few mills, 8 firms were holdings and 6 companies were concerns. The organizational forms of four enterprises were different - 3 companies were capital groups and 1 enterprise was the dependent company at holding. The various types of the organizational structures appeared in the studied enterprises. Detailed information is presented in table 2.

Table 2 Types of organizational structures in studied enterprises and the geographical area of their activity

Type	Geographical area of the activity							
	Whole enterprises 79=100%		National enterprises 52=100%		International enterprises 14=100%		Global enterprises 13 =100%	
	N	%	N	%	N	%	N	%
Functional structure	32	40,5	19	36,5	8	57,1	5	38,5
Line and staff structure	18	22,8	15	28,8	1	7,1	2	15,4
Divisional structure	8	10,1	4	7,7	1	7,1	3	23,1
Project/ team based structure	5	6,3	4	7,7	1	7,1	0	0,0

¹ The research's results presented in this paper are the fragment of the wider research „The strategy's influence on the enterprise's organization”. This project was realized within the Department of Management in 2006. Telephone interview supported by the post and internet inquiry was the research's tool. Top managers or persons indicated by them were respondents of this research.

Matrix structure	3	3,8	2	3,8	0	0,0	1	7,7
Process structure	7	8,9	5	9,6	1	7,1	1	7,7
Networked structure/ boundaryless organization	4	5,1	2	3,8	2	14,3	0	0,0
Others	2	2,5	1	1,9	0	0,0	1	7,7
Total	79	100	52	100	14	100	13	100

N - the number of enterprises

% - the percentage of the group

Source: Own research

Analyzing the data from the table 2 one can notice, that 40,5 % studied enterprises had the functional structure. This type of the organizational structure predominated regardless of the activity's area. Line and staff structure was characteristic for 22,8 % researched companies, the divisional structure for 10,1%, the projects structure for 6,3 %, the matrix structure for 3,8 % and the process structure for 8,9 %. Four of 79 researched enterprises were functioning within the networked structure and 2 enterprises within the hybrid structure.

The organizational structure is determinate by many various factors - conceptual variables. In the face of this respondents were asked for the opinion about the chosen conceptual variables' influence on the shape of the organizational structure. Table 3 represents the results of their answers.

Table 3 Conceptual variables and types of organizational structures in studied enterprises²

Conceptual variables	All enterprises in general				Functional structure			
	\bar{X}	S	M	Q	\bar{X}	S	M	Q
size	3,34	1,22	4	1	3,31	1,25	4	1
technology	3,98	1,17	4	1	3,94	1,34	4	1
strategy	3,78	1,14	4	2	3,65	1,09	4	1
environment:								
- government policy	2,69	1,5	3	2	2,65	1,59	3	3
- trade	3,61	1,27	4	2	3,5	1,5	4	2
- customers' requirements	4,05	1,26	4	1	3,75	1,56	4	2
	Line and staff structure				Divisional structure			
	\bar{X}	S	M	Q	\bar{X}	S	M	Q
size	3,22	1,47	4	1	3,62	1,59	4	1
technology	3,94	1,21	4	1	4,0	1,19	4,5	2
strategy	3,44	1,19	4	1	4,37	0,91	5	1,5
environment:								
- government policy	2,61	1,37	3	2	2,0	1,31	2	2
- trade	3,72	1,22	4	2	3,12	0,83	3	1,5
- customers' requirements	4,22	1,26	5	1	4,0	0,92	4	2
	Project/ team based structure				Matrix structure			
	\bar{X}	S	M	Q	\bar{X}	S	M	Q
size	3,6	0,89	3	1	3,0	0	3	0
technology	4,0	1,22	4	1	4,33	0,57	4	1

² The respondents were asked for the assessment of the chosen factors in the scale 0-5, and 0 meant that the factor was unimportant, and 5 that it was the key factor, which strong influenced on the enterprise's organizational structure.

strategy	4,2	0,83	4	1	4,33	0,57	4	1
environment:								
- government policy	3,2	1,48	3	1	2,66	2,31	4	4
- trade	4,0	1,0	4	2	3	2,0	3	4
- customers' requirements	4,0	0,7	4	0	4,66	0,57	5	1
	Process structure				Networked structure			
	\bar{X}	S	M	Q	\bar{X}	S	M	Q
size	3,28	0,95	3	1	3,75	0,96	3,5	1,5
technology	4,0	1,0	4	2	4,0	0,81	4	1
strategy	3,57	1,51	4	3	4,0	1,41	4,5	2
environment:								
- government policy	3,57	1,81	4	2	2,5	1	3	1
- trade	4,14	0,89	4	2	3,75	0,5	4	0,5
- customers' requirements	4,57	0,78	5	1	4,25	0,95	4,5	1

\bar{X} - average S- standard deviation M- median Q – quantities deviation

Source: Own research

The customers' requirements are the most important for the shape of the organizational structure according to respondents (the average assessment of this factor was 4,05). They also indicated technology (3,98) and strategy (3,78) as quite significant conceptual variables. Except high average, the median's value (median equals 4) confirms this. It means that by 50% respondents' opinions these mentioned above conceptual variables were large and very large signification for the organizational structure's shape. Low values of standard deviation and the quantities deviation ($Q = 1$) testify the small differentiation of respondents' opinions. The government policy was the most insignificant as the determinant of the organizational structure (the median equals 3). However, respondents' opinions about this variable were the most differential. Some respondents were of opinion that this factor was quite essential and some that it was not (it confirms the value of quantities deviation, which equals 2). Taking under the attention the type of the organizational structure one should notice, that:

- the technology was one of the most essential conceptual variable, which influenced on the organizational structure regardless of its type; it is probably caused by productive character of researched enterprises;
- the strategy was the most significant in the enterprises with divisional, projects and matrix structures;
- the enterprise's size was more important in the case of the functional, line and staff and divisional structure (the median equals 4);
- considering the environment, the customers' requirements influenced on the organizational structure the strongest and the government policy the weakest. Trade as the determinant of the organizational structure was estimated on the moderate level. It is probably the result of the fact that the researched enterprises were running in various trades.

4. Conclusion

Organizational structure and design have always been important factors influencing the behaviour of individual and groups that comprise the organization. The new rules of operating in today's global business environment make structure and design consideration even more critical [7, p.735 -52]. Today's managers are faced with an array of different structural possibilities. In the researched productive companies the organizational structures are traditional. Most of them are functional organizations and only in 16 enterprises there are newer forms of organizations, such as project, process or networked structures. Customers' requirements and technology were the key determinants of the organizational structures in studied enterprises. It has resulted from their productive character. However, you should mark that the conceptual variables are changing in the time. More and more advanced technologies and turbulent environment will require more flexible structures from polish productive enterprises, such which allow „fleet-of-foot” responses to strategic opportunities and competitive challenges.

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