

BARRIERS IN THE ORGANIZATION DESIGN PROCESS

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Purpose: identifying barriers that occur at each stage of the organization's design process.

Design/methodology/approach: the research project uses literature analysis and interviews with experts. The research was based on the opinions of managers and experts related to the design of the organization. A questionnaire was used to collect opinions.

Findings: research results show the fundamental importance of gathering information in the process of designing an organization. The respondents also pointed to the barriers related to the use of internal experts and to tensions and conflicts between project stakeholders. The research confirmed the hypothesis about the different intensity of barriers at different stages of the organization design process.

Research limitations/implications: research findings indicate the need for a deeper investigation of the information gathering process in the organization's diagnosis and design process.

Practical implications: the results indicate that in the designing process of the organization particular attention should be paid to problems related to information gathering. The article synthetically discusses the recommended methods of obtaining information.

Social implications: research results can be helpful in the implementation of improvement processes in profit and non-profit organizations.

Originality/value: emphasizing the role of qualitative information in shaping organizational solutions. The research results can be used by practitioners, consultants and other researchers.

Keywords: organization design, organizational structure, design process, qualitative information gathering methods.

Category of the paper: research paper, general review.

1. Introduction

Designing an organization is the process of defining system components, defining the functions of these components, and establishing relationships between them. The result of the design process should be a system enabling a smooth implementation of the strategy and proper adaptation of the organization to the environment. In designing the organization, situational conditions should be taken into account, i.e., the subject of activity, the company's strategy,

organizational culture, stakeholder expectations and many other factors. A well-designed organization answers a number of important questions. What organizational units should be distinguished in order to achieve strategic goals? How will these units be related to each other? What roles should we assign to members of the organization? How to coordinate work between separate units?

Designing an organization is based on specific assumptions. N. Stanford lists five such assumptions. 1. The basis for design should be a business strategy consistent with the operational context (environment). 2. Designing requires a holistic view of the entire organization. 3. Designing an organization is about the future, not the present. 4. Designing an organization involves a significant use of resources. 5. Designing an organization is a fundamental process, not a set of corrective actions (Stanford, 2007, pp. 8-19). In practice, the fulfilment of these assumptions encounters a number of barriers related to a widely understood design process.

There are two different interpretations of the design process in the theory of organization. According to the first one, designing an organization comes down to the decision-making process (Nadler, Tushman, 1997). According to the second interpretation, the design process represents the sequence of activities related to shaping the components of the organization model (Burton, Obel, DeSanctis, 2011). Regardless of the adopted interpretation, this process includes two phases - organization diagnosis and basic design.

The aim of the article is to show the importance of barriers in the process of designing an organization. Based on the analysis of the literature on the subject and interviews with experts and practitioners, six typical barriers in the design process were identified. Barriers are understood here as certain limitations, difficulties or challenges. The study assumes that the occurrence and intensity of these barriers are related to specific stages in the process of designing an organization. Therefore, three interrelated research hypotheses were formulated:

H1 - the intensity of barriers at different stages of the organization design process varies.

H2 - obtaining the necessary information, communication problems in the project team and the use of experts' knowledge are barriers characteristic of the initial stages of design (organization diagnosis).

H3 - the complexity of the conducted analyses, difficulties with the selection of appropriate research methods and techniques, as well as tensions and conflicts between project stakeholders are barriers characteristic of the basic design phase.

2. Methods

The research was based on the opinions of people directly related to the design of the organization. The subjects were divided into two groups. The first group consisted of people holding managerial positions in enterprises (202 people), the second group were people holding the positions of external experts (56). In total, 258 people were surveyed, including 51% of respondents with technical, 33% with economic and 11% with humanities education. Out of 258 respondents, 76% were men and 24% were women. Two groups were dominated by people with relatively extensive experience in designing an organization; in the first group, people with seniority over 5 years accounted for approx. 76%; in the second group, people who acted as external experts in more than 5 projects of the organization accounted for approx. 62% of all 56 respondents. Opinions were expressed by people employed in 185 enterprises of various size and operating in various industries. Out of the surveyed enterprises, 45% are companies with 10 to 49 employees, 27.5% are companies with 50 to 249 employees and 27.5% - more than 249 employees. The dominant activity of the surveyed enterprises was services (39.4%), production (37.2%) and trade (23.4%). The vast majority of these enterprises are companies with their headquarters in the region of south-east Poland¹.

The aim of the research was to identify barriers in the organization design process. As mentioned in the introduction, the issue of design in the theory of organization is considered in two ways. In one of these approaches, design is treated as a decision-making process. We can also find such a general approach to design in engineering sciences. For example, E.V. Krick in the process of technical design, lists the following stages: problem formulation (general problem definition), problem analysis (problem definition with the necessary details), search for solutions (gathering a certain number of variants), decision (evaluation of the collected variants and selecting the best one) and documentation, i.e., the development of detailed documentation for the selected variant (Krick, 1975, p. 129). Based on this approach, five stages of designing an organization were formulated. The research tool was a questionnaire, which listed the following stages in the design process:

- I. Identification of the organizational problem.
- II. Analysis of the situation and formulation of the project goal.
- III. Development of variants of organizational solutions.
- IV. Assessment of variants and selection of the optimal variant.
- V. Detailed design of the selected variant.

¹ The presented results are a fragment of broader research, which for the purposes of this article has been supplemented and expanded (Stabryła, 2014).

Respondents were asked to assign at least one of the above-mentioned stages to the following statements:

- A. Obtaining the necessary information is critical in the stage/s.
- B. The high complexity of the analyses carried out is characteristic of the stage/s.
- C. Problems with communication in the project team most often occur in the stage/s.
- D. Tensions and conflicts between project stakeholders emerge at stage/s.
- E. Difficulties with the selection of appropriate research methods and techniques occur in the stage/s.
- F. Using the knowledge of external experts is the best in the stage/s.

The task of the respondents was to assign the stages of the design process (I, II, III, IV or V) to specific barriers (A, B, C, D, E and F). The respondents could assign more than one stage to a given barrier. As a result, a specific "map" was created, reflecting the distribution of challenges related to the implementation of subsequent stages of the design process in terms of the distinguished categories.

3. Results

The respondents most often assigned one or two stages to the statements given in the questionnaire (65% and 25% of all indications, respectively). It is interesting that in the case of the statement referring to the importance of obtaining the necessary information (barrier A), eight respondents mentioned all of the five distinguished stages of the design process. These indications are fully understandable due to the importance of information in the diagnosis and design of an organization. In most cases, however, the respondents tried to point to the dominant connections. The list of indications of all the people surveyed is shown in Table 1.

Table 1.
Distribution of indications of all respondents

Barriers	Stages in the design process					Sum
	I	II	III	IV	V	
A. Information gathering	175	126	51	36	29	417
B. Complexity of analyses	31	107	105	63	65	371
C. Team communication	50	60	77	122	61	370
D. Tensions and conflicts	37	40	80	144	76	377
E. Choice of methods	44	105	76	69	64	358
F. Use of experts	72	69	82	61	110	394
Sum	409	507	471	495	405	2287

Source: own study.

The collected data show that the greatest problems with obtaining the necessary information (A) occur when identifying an organizational problem (stage I) and analysing the situation and defining the project's goal (stage II). The complexity of the necessary analyses (B) is revealed

most strongly during the stage consisting in examining the situation and formulating the project's goal (II) and during the development of variants of organizational solutions (stage III). Communication problems in the project team (C) are most pronounced in the stage related to the assessment and selection of the optimal variant (IV). The fourth stage of the design process was also indicated most often in the category described as tensions and conflicts between stakeholders (D). In terms of difficulties with the selection of appropriate research methods and techniques (E), the most frequently indicated stage was the second stage of the design process, i.e., the analysis of the situation and formulation of the project's goal. On the other hand, in terms of the use of experts' knowledge, the last stage (V), i.e., a detailed design of the selected variant, was most often indicated.

The data presented in Table 1 can also be read differently, i.e., taking into account the number of indications of barriers at individual stages of the design process. In this way, we obtain information on the significance of the categories of barriers adopted in the research with regard to each stage. This data allows us to conclude that:

- in the stage of identifying an organizational problem (I), the most important thing is obtaining information (A): 42% of 409 responses out of all the barriers listed, other barriers do not play a dominant role (except for category F, which means the need to use experts),
- at the stage of analysing and formulating the project's goal (II), the most important thing is also obtaining information (A): 25% of 507 indications in all categories of problems, but also factors B and E play an important role, i.e., the complexity of the analyses and the selection of methods,
- in the stage of developing variants of organizational solutions (III), the most important factor is the complexity of the analyses (B): 23% of all 471 indications, but also tensions and the use of experts (F) as well as tensions and conflicts (D),
- at the stage of variant assessment and selection of the optimal variant (IV), the tensions and conflicts between stakeholders (D) are the most important: 29% of 495 indications; communication in the project team is also relatively important (25%),
- at the stage of a detailed design of the selected variant (V), the most important thing is to use the knowledge of experts: 27% out of 405 indications, as well as tensions and conflicts between the project's stakeholders (19%).

As mentioned above, the research was conducted in two groups of respondents. Therefore, the question arises to what extent the distributions of managers and experts' answers are consistent with each other. Pearson's correlation coefficient was adopted as a measure of agreement. The critical value of the r coefficient in the one-sided test (we test the hypothesis of positive r) is 0.805 at the level of 0.05 for $df = 3$ ($df = n - 2$, where n is the number of observations, in our case equal to the number of stages in the design process). The values of the correlation coefficients between the summary indications of managers and the summary indications of experts are shown in Table 2.

Table 2.

Values of correlation coefficients between the indications of experts and managers from the perspective of barriers

Barriers	<i>r</i>
A. Obtaining the necessary information	0.991
B. High complexity of the conducted analyses	0.932
C. Problems with communication in the project team	0.848
D. Tensions and conflicts between project stakeholders	0.994
E. Difficulties with the selection of appropriate research methods and techniques	0.965
F. Using the knowledge of external experts	0.622

Source: own study.

Based on the data in Table 2, we find that the agreement between the indications of managers and experts is high and not accidental (at the significance level of 0.05) for categories A, B, C, D and E. However, in the case of category F, there are no sufficient grounds ($r = 0.622 < 0.805$) to conclude that the agreement is not coincidental.

4. Discussion

With regard to the first research hypothesis (H1) put forward in the introduction, it can be stated that the intensity of the identified barriers at different stages of organization design varies. These differences, however, are not large, which seems to be justified by the complexity of the design subject. The organization is an open and dynamic system, it is influenced by many internal factors (organizational culture, number and attitudes of employees, technologies used, etc.) and external factors (customers, competitors, collaborators, etc.). Together, these factors determine the optimal configuration of organizational solutions. The above-mentioned barriers are visible at every stage of the design process and at the same time constitute challenges faced by those responsible for shaping the organization. Regardless of the design stage, the rank of these barriers based on the frequency of indications (last column of Table 1) is as follows: obtaining information (A), using experts (F), tensions and conflicts (D), complexity of analyses (B), communication in the project team (C), and the selection of methods (E). In the light of the data obtained, it is clearly visible that the most important thing in designing an organization is obtaining information.

Obtaining information plays a fundamental role in the first two stages of design, i.e., identifying the organizational problem (I) and analysing the situation and formulating the project goal (II). These stages relate, in fact, to the diagnosis of the organization. Information needed for a reliable diagnosis of an organization is often qualitative in nature, and obtaining it requires the use of appropriate methods. In practice, interviews, questionnaires, observations and document analysis are used to gather information (Swanson, 2007, pp. 107-120). Sometimes workshops are used (Harrison, 2005, pp. 21-22). Each of the above-mentioned methods comes in many varieties (Brewerton, Millward, 2001). Each of them has specific

advantages and disadvantages, and also requires specific skills. The synthetic characteristics of the information gathering methods are summarized in Table 3.

Table 3.

Methods of collecting information in the diagnosis of an organization

Name of the method	Characteristics of the method
Interviews	Directly asking questions to employees or people related to the organization. Requirements: formulating relevant questions, creating an atmosphere of trust, the ability to take notes. Advantages: allows you to study a wide range of problems, facilitates the understanding of complex situations, allows you to gain the trust of the respondents. Disadvantages: costs, subjectivism, difficulties in interpreting the answers, difficulty in developing a synthesis.
Questionnaires	Closed or open written questions. Requirements: precisely defined information needs, the ability to analyse data, preparing a questionnaire in a simple and transparent manner. Advantages: quantification of results, simultaneous testing of many people, low costs, possibility of multiple use, impartiality. Disadvantages: no direct contact, possibility of omitting important issues, difficulty in preparing a good questionnaire, possibility of misreading questions and giving incorrect answers, data may be misinterpreted.
Observations	The observer follows the work done by employees who are or are not informed about what aspect of their work is being examined. Requirements: choosing the right people at the right time, openness to new ways of doing work, the need to be on site, the ability to register data. Advantages: the observer has first-hand information about the work being performed, observations are made in the course of the work in progress, they can reveal a series of unexpected problems or a more effective method of performing the work. Disadvantages: difficulty in interpretation, selection of people and observation time, observer's attitude, necessity to conduct supplementary research, high costs.
Document analysis	The analyst examines, classifies and interprets the meaning of the information contained in the organizational documentation. Requirements: skills in classification, synthesis, selection and proper use of statistical methods, data interpretation. Advantages: organizational documentation is unambiguous, numbers and data are easier to understand, possibility of precise identification of problems. Disadvantages: difficulties in determining the validity of individual documents, reports can be biased, difficulties in quantification.
Workshops	Selected employees jointly discuss the problems of the organization with the participation of a moderator. Requirements: selection of employees representing different views and familiar with the system, appropriate qualifications of the moderator in managing the discussion. Advantages: useful in the analysis of particularly complex organizational problems, enables the exchange of views between the participants of the organizational system, allows for a better understanding of the causes of existing problems. Disadvantages: the need to involve employees at the same time, polarization of opinions, dominance of strong personalities.

Source: own study based on Swanson, 2007, pp. 107-120 and Harrison, 2005, pp. 21-22.

Obtaining information, communication problems in the project team and using the knowledge of external experts were recognized in the second hypothesis (H2) as characteristic barriers in the initial stages of design (organization diagnosis). This hypothesis was clearly confirmed with regard to obtaining information (175 indications for stage I, and 126 indications for stage II). As for the other two factors, their importance is less clear, but visible especially in the first stage of designing an organization, i.e., when identifying an organizational problem (use of experts - 72 indications, communication - 50 indications).

Referring to the third hypothesis (H3), we believe that the basic design applies to activities initiated after the diagnosis of the organization, i.e., including the stage of developing variants (III), the stage of variant assessment and selection of the optimal variant (IV), and the stage of detailed design of the selected variant (V). According to this hypothesis, the barriers

characteristic of these stages are the complexity of the analyses (B), difficulties with the selection of appropriate research methods and techniques (E) as well as tensions and conflicts between project stakeholders (D). Considering the cumulative indications for these three stages of design, one can only acknowledge the validity of the statement about the importance of conflicts and tensions between project stakeholders. This factor was indicated as the third one in the order of indications (377 times in total in stages III, IV and V), more indications were obtained by barriers related to obtaining information and using experts).

5. Summary

Summarizing the presented research results, attention should be paid to the most frequently indicated barrier in the process of designing an organization, which is obtaining information. Special attention should be given to the importance of "soft" factors in design, which, in practice, implies the need to collect qualitative information. In fact, an organization is defined by people's behaviour. How people behave depends on the recognized norms and values, the history of an organization and long-established habits. These, in turn, can change under the influence of mission and strategy, leadership, environment, and many other factors. The role of these "soft" issues in the design of organizational systems must not be underestimated. This is confirmed by numerous examples of organizations in which proposals for wide-ranging changes to structures and procedures without taking these factors into account lead to apparent changes. Therefore, when designing an organization, we emphasize the need to use qualitative methods of collecting information, the synthetic characteristics of which are presented in Table 1.

When designing an organization, we should remember that we shape the structures which, in turn, shape us. This fact indicates the great responsibility of senior management, but also the need to involve employees in the process of designing an organization. In the past, an important role in design was played by the pursuit of consistency, stability and even harmony within an organization. Looking to the future, we find that organizations which, in the conditions of radical changes in the environment, will shape structures only to ensure an artificial sense of internal stability, will become their own greatest enemies (Nadler, Tushman, 1999 p. 58).

Progressive digitization, the development of artificial intelligence, pandemics and armed conflicts accompanied by increasing complexity and unpredictability will force a change in the approach to organization design. Even so, it seems that the classic organizational design dilemmas remain valid today. How to maintain diversity (differentiation) while ensuring consistency (integration) of action? How to connect people, processes and operational units so that they are adapted to the environment and to the entire organization? How to make employees original and unanimous at the same time? Overcoming natural barriers in the complex design

process gives hope that organizations will not only be more efficient, but also become a better place for people to work.

Acknowledgements

The publication was financed from the subsidy granted to the Cracow University of Economics – Project no. 064/ZZP/2022/POT.

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