NATURE AND FACTORS OF ORGANIZATION ARCHITECTURE

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Abstract

Background. The complexity of a contemporary organizations' operational environment requires searching for the best ways for them to function in the existing conditions. The search is reflected in organization architecture, ie. in the prepared plans for building and development of the organization, the nature and range of changes, and also in the methods of management.
Research aims. This article attempts to determine the nature and types of organization architecture and its impact on the activity's efficiency.
Method. The present dissertation was elaborated on the basis of the subject literature and the author's own considerations. Fundamental methods used in the paper are analysis and synthesis as well as induction, deduction and abduction.
Key findings. The conducted considerations resulted, *inter alia*, in a conclusion that the organization architecture should be based on a system approach taking into account each area of an organization's activity, from the business type and scale (e.g., production volume), through its financing and sales, to operational effectiveness.

Keywords: Organization, Management, Architecture, Changes, Development

INTRODUCTION

Nowadays, the needs regarding organization architecture management are growing, which results from the complexity of organizations' operational environment and the search for the best ways for them to function in the existing conditions. The search is manifested in a flexible response to occurring changes and openness to knowledge coming from the organization and its environment, which is reflected in the prepared plans for organization building and development.

Taking into account the growing role of organization architecture and the needs for its improvement, the article attempts to determine the nature and types of organization architecture, management methods applied in the process of organization architecture development as well as the impact and factors of an organization's architecture with respect to the effectiveness of its activities, including improvement of the existing management system. The article's fundamental thesis is the assumption that the complexity of an organization's operational conditions influences its activities in the process of organization architecture building and there are no universal methods of management in the process of its implementation.

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REVIEW

Nature and Types of Organization Architecture

Organization architecture – is a model of building an organization's structure as well as activities and processes encompassing decisions regarding its forming, functioning and restructuring. It is done by determining the domain of the organization's activity and methods of producing and providing products/services to selected markets, and cooperation with counterparties in line with the adopted operational objective (Brickley, Smith, & Zimmerman, 2007; Mendelson, 2000; Nadler, Gersten, Shaw, and Associates, 1992, p. 1–8; Obłój, 1998, p. 285–335). Consequently, organization architecture includes the preparing of all fundamental activities associated with strategy preparation and implementation, such as, i.a.:

1. Vision, mission and operational objectives system;
2. Activity location;
3. Purchase and use of production resources;
4. Objectives achievement processes;
5. Organizational structure;
6. Scope and directions of joint actions undertaken within the organization and cooperation with counterparties;
7. Scope and directions of activities financing;
8. Interactions between the above elements.

Decisions regarding organization building and reconstruction depend on various factors being the result of a conscious choice or a choice forced by occurring market processes. The fundamental factors determining an organization's architecture include:

1. Creation of a new organization or implementation of a new undertaking;
2. Organization development strategy determining the scope and directions of changes in its functioning;
3. Own choice of the management team regarding improvement of organizational forms of the organization;
4. Own choice of the management team regarding starting cooperation with another organization;
5. Starting cooperation with another organization as a result of market processes and competitive activities;
6. Forced choice — business difficulties.

The above factors have an impact on the scope and directions of changes in the organization architecture being the system encompassing all aspects of its functioning. In connection with the above, the following can be distinguished, respectively (Hamel & Prahalad, 1999, p. 117–138; Mendelson, 2000, p. 513–529; Obłój, 1998, p. 285–335; Sobczak, 2008, p. 47–48):

1. Operational architecture which is associated with the selection of directions and the scope of activities (operational domains) along with the manners of their performance resulting from applied production technologies and manufacturing techniques and cooperation with counterparties, in particular with suppliers. While designing this architecture questions should be asked regarding the need and manner of their implementation in an organization, scope and type of cooperation with counterparties, economic calculation of particular activities, etc., in order to indicate the most suitable variant of one's own activity and the manner of its performance. This type is the foundation of other types of architecture, and the choice made influences changes in the organization's structure and its operational objectives.
2. Financial architecture is a result, to a large extent, not only of the operational architecture but also of being the consequence of taking a decision regarding the manner of procuring and employing financial resources (own and external), investing and current activities, the period of their employment and transformations in the capital structure, etc., of own resources and procuring external ones. The process of financial management selection should be made from the point of view of the implementation of the adopted operational objectives and effectiveness of actions performed in the organization's existing operational conditions, therefore, economic calculation and associated risk assessment should be made in relation to the proposed financial activities.
3. Social architecture determines the requirements set for employees in an organization and the standards of their conduct, building a sense of belonging and loyalty in employees with respect to the organization, observance of the organizational culture and adherence among employees to the organization's mission and strategic goals, etc. Team building is performed through implemented HR strategy and policy reflected in labour resources planning and recruitment mode, motivating employees, employee improvement and development, determining their career paths, remuneration policy and its connection with work results, etc.
4. Organizational architecture including the manner of an organization's arrangement (structure) for the implementation of the adopted objectives, set within the framework of the operational architecture. Building the organizational architecture is connected with determining the organizational structure, centralization and formalization of the organization's activities, manners of organizing and coordinating activities, decision taking and problem solving procedures, etc.

5. Information architecture determines the tools of data collecting, processing and protecting for the aims of communicating within the organization and with counterparties. Information architecture comprises (Sobczak, 2008): (a) data architecture encompassing activities associated with collecting, storing, distributing and using data; (b) information systems architecture including systems necessary for servicing operations performed on data architecture elements; and (c) IT architecture comprising equipment, software and communication devices, infrastructure as well as know-how and expertise regarding its operation.

Management Methods Applied in the Organization Architecture Building Process

In organization architecture building, various methods and support tools are applied, starting from simple management techniques, facilitating management and executive tasks (e.g., Management by Objectives), through benchmarking and outsourcing, to reengineering. Application of particular methods may entail – depending on the needs resulting from an organization's building or reconstruction – changes to its structures, processes, technologies and work organization, employment, innovations, etc. In connection with the above, a selection of appropriate methods, suitable in view of the extent of implemented changes, plays an important role.

Although various management methods can be used in organization architecture, the following, in my opinion, are fundamental: outsourcing, lean management and total quality management (TQM), with which the other methods can be associated (e.g., balanced scorecard).

Outsourcing is a management concept involving entering into lasting cooperation with other organizations in order to purchase products or services which so far have been provided by the given organization (Brickley, Smith, & Zimmerman, 2007). It means separating particular activities from an organization's past auxiliary or support operations and transferring them to external entities. Such attempts can be and are made by various organizations looking for the best solutions for themselves, leading to operational rationalization (e.g., allocating organization resources to other applications). This is done by conducting the relevant economic calculation and determining which of the performed auxiliary activities create the lowest added value and can be replaced by external activities. Such choices can be made by each organization and should not be problematic as an organization's objective is not only to survive but also to use its production resources in the best possible manner and to search for possibilities of increasing its competitive capacity.

Interest in outsourcing can stem from a variety of reasons which, for managers, are foundations of organization architecture reconstruction,

mostly not connected with any change in its philosophy of operation. Outsourcing is based in particular on the rationalization of structures and operations, but in some organizations such changes can be the nucleus of major transformations. The reasons influencing an organization's interest in outsourcing, and at the same time constituting the benefits of its application, are through the following (Cyfert & Krzakiewicz, 2009, p. 159–177):

1. Focusing on the processes in which the given organization has strategic advantage;
2. Focusing on the primary activity of the organization and releasing resources or limiting capital investments in supporting activities;
3. Management process simplification;
4. Gaining access to resources and knowledge which the given organization does not have or has them to an insufficient extent;
5. Faster improvement of restructuring processes in the organization and mitigating operational risk;
6. Improving the quality of performed activities and the quality of products and services;
7. Operating costs reduction.

The list of reasons and benefits associated with using outsourcing, as well as its length, differs depending on particular organizations, though it is quite long, but potential risks connected with applying it should also be taken into consideration. The fundamental benefit is a reduction in operational costs but it may turn out that while using it, various transaction costs may grow, decreasing the effectiveness of changes. Moreover, a lack of sufficient control over all processes, a possibility of risk to operational continuity or a decrease in a company's own operational opportunities as a result of a drop in products and services quality, etc., should also be taken into consideration.

Another method – similar to outsourcing but broader, encompassing the whole activity of an organization, and also basic – is lean management. Managing an organization according to this concept is a slow and continuous process of rationalization of the whole organization and its relations with its environment. It applies to changes in the scope of activity, assets structure, employment and employee improvement, management methods, etc. Adjustment of past concepts of the organization's functioning is a starting point, while the tool of verification are divestments – i.e. limiting the current scope/profile of the organization's activity through sales of held production resources which are either not productive or are insufficiently productive, or discontinuing such an activity (Trent, 2008, p. 3–16). The aim of divestment activities is the continuous rationalization of operational processes through procuring capital from the organization and minimizing current and future losses, and thus improving the achieved results.

The selection of a particular organization architecture is associated with the undertaking of actions aimed at changing the organizational structure. It is done in five stages: analysis, selection, implementation – in the form of reduction, consolidation and development. The foundation of actions – an introduction to the lean management concept – is a collection of information and the analysis of it and then – on such basis – taking decisions on the nature and direction of changes. Further stages are connected with introducing such changes where the ultimate objective is to improve the results and strive for the organization's development. Such an operational method can be applied by all organizations which see the need for improvement and the implementation of changes in order to increase their competitiveness.

The essence of actions undertaken under lean management is similar to those undertaken in outsourcing, while the scope of works – due to encompassing all activities of the organization – is wider and more radical. The activities are based on reducing costs via prioritizing the implementation of the most efficient processes and eliminating waste. The starting point for this concept is organization leaning in connection with focusing on the customer's needs, which in turn influences the implementation of process, organizational, product and marketing innovations. As a result, not only organization leaning takes place, but also acceleration of new product development and continuous improvement of their quality, which additionally boosts the advantages of this management method. However, the implementation of the lean management concept may entail a decrease in motivation and higher stress in employees resulting from the fear of losing their job as part of the leaning process (Trent, 2008, p. 77–100).

Yet another method, approaching the organization architecture in a multidimensional and broad manner, may be Total Quality Management (TQM), which encompasses the management and quality complexity, applied to the entire organization and its objectives for quality of the organization's particular parts. TQM is a vision and organization management method based on (Łunarski, 2008, p. 445–476; Nadler et al., 1992, p. 137–154):

1. Quality applied jointly to the product and customer service along with after-sales service;
2. Subordinating the company's activities to external and internal customers' requirements;
3. Quality-focused activities and engaging all members of the organization in their performance, starting from the management team;
4. Applying such production technologies and techniques as well as management methods which are aimed at achieving the adopted objectives;

5. Organizational culture focused on customer satisfaction through the continuous improvement of quality and of the performance skills of employees;
6. The continuous improvement of the organization management system and the organization's functioning.

In a TQM-based organization, quality is the major factor determining its functions and the activities it undertakes. It is reflected in developing a comprehensive quality management system along with plans and schedules relating to the extension of the existing quality systems and customized development plans, followed by their implementation. All employees are involved in the performance of the adopted activities, and their engagement and motivation are based on management team leadership expressed in the readiness to carry out changes and undertake new challenges. The essence of the management function in the TQM is interaction between three areas: achieving objectives and performing tasks of the organization, maintaining the team and satisfying the needs of individual employees (Hamrol, 2008). Providing interaction not only favours employees' motivation to achieve the adopted objectives and to perform quality tasks but also acts in favour of creative and innovative behaviours.

The above management methods can be complemented by various supporting tools and systems, such as (Hamrol, 2008; Łunarski, 2008, p. 445–476): (a) Balanced Scorecard, (b) Value Chain, (c) Just in Time, (d) Benchmarking, (e) Kaizen, (f) QFD – Quality Function Deployment, (g) FMEA – Failure Mode and Effects Analysis, (h) FTA (Fault Tree Analysis) – ordering and linking fault factors, (i) HAZOP (Hazard and Operability Studies) – hazard and operational capacities analysis, (j) TPM (Total Productive Maintenance) – comprehensive productive maintenance of equipment, (k) EFQM Excellence Model, (l) 6 Sigma, etc.

The aim of the above mentioned management methods and concepts, is to support management in the process of organization building and reconstruction. For example, the balanced scorecard enables us to look at an organization from four perspectives: those of customer (recipient), internal business processes, learning and growth and financial. The concept is situated at the border between strategic and operational management, focusing on the strategy and its implementation process managing. Such an approach makes it possible to (Kaplan & Norton, 1996, p. 21–42):

1. Translate the company's vision, mission and strategy into operational objectives for particular separated organizational units and employees;
2. Set the organization's objectives to exceed the area of financial goals and indicate appropriate measures for the achievement of objectives;

3. Determine relationships between investments aimed at company development, process efficiency improvement and the organization's market and financial results;
4. Provide information on the organization's current situation and its application in the process of taking decisions regarding the organization's functioning and managing of it;
5. Determine key factors of the organization from the point of view of particular perspectives and its overall business efficiency.

The balanced scorecard concept is the process of regarding an action as one which is developed, communicated, integrated within the organization management system, and then monitored and reviewed. The process approach and comprehensive approach to collecting and analysing information on the organization enables balancing different, often contradictory objectives of the company, e.g., financial goals with non-financial goals, long-term objectives with short-term ones, etc. As a result, an organization's building and reconstruction is facilitated, forming the basis for its architecture. The implementation and the application of other practices on the above listed management methods and concepts can also have similar effects.

Impact and Factors of an Organization's Architecture with Respect to the Effectiveness of its Activities

Whilst performing organization architecture design the perspective of business efficiency must be taken into account resulting from the application of the principle of economical production. Business efficiency is a consequence of the choices made and the degree of adjusting the organization's operational directions to environmental conditions. Its level is indicated by the degree of correctness that taken decisions and selected management methods have been adapted to the existing conditions and the given organization. It is expressed in the system approach to the organization's activities determining the organization as a purposeful and open system, i.e. connecting operational objectives with their internal and external conditions and their assessment by means of various measures and standards, which are adjusted to the specific operation of the given organization (Bielski, 1992). The system approach addresses the complexity of phenomena and problems associated with the organization's functioning and its cooperation with the environment in a comprehensive manner.

Basic factors of organization efficiency are its productive resources and their use and also the procurement of further resources for implementation of the adopted objectives. While taking decisions in this scope, the following needs are to be determined: (a) type of activity (current or new), (b) size of activity (extension, reduction or modification of structure), (c) market — limitation, modification or searching new ones, (d) technology

type — modernity level selection, and (e) resources, i.e. basing operations on own or borrowed resources or cooperation with others.

The market verifies these choices, therefore, while taking particular decisions, market analysis should be conducted, regarding its absorption, required quality of the products provided, sale prices, meeting competition requirements, etc. As mentioned above, effective organization is determined by a variety of factors, e.g.: productivity, profitability, plan execution, change adaptation capacity, development, innovations implementation, work satisfaction, etc. Furthermore, it should be taken into consideration that each organization has its philosophy of operation and a system of values influencing the system of activities selection and assessment. It is reflected in various types of organizational efficiency and criteria determining them, namely (Bielski, 1992, p. 114–122):

1. Material effectiveness, which is reflected, inter alia, in product and execution plan;
2. Economic effectiveness, which is reflected, inter alia, in efficiency, productivity and profit;
3. System effectiveness, which is reflected, inter alia, in adaptation, survival and development;
4. Political effectiveness, which is reflected, inter alia, in bidding position (internal and external) and monopolist position;
5. Cultural effectiveness, which is reflected, inter alia, in cultural identity and cultural adaptability;
6. Behavioural effectiveness, which is reflected, inter alia, in morale and work satisfaction.

In connection with the above, efficiency should be addressed comprehensively, by analysing multiple conditions associated not only with the current organization's functioning but also with planned changes and its future form. While conducting analyses and making choices, managers need to take into account their past experience regarding management and implementation of the organization's development strategy. In the first place, dominant logic of the organization's functioning should be accounted for, determined by (Obłój, 2003, p. 9–22, 171–180):

1. Environmental and management paradigm being a way of seeing the organization's functioning in a given period, its place in the environment, applying particular approaches and methods in management, solving existing problems, etc.
2. Routines – as formalized solutions restricting the freedom of activity selection by members of the organization on the one hand, but on the other – minimizing the risk of error, facilitating tasks performance or reducing the time of their performance.
3. Key choices – as taking strategic decisions by a dominant coalition in the organization, usually limiting not only the freedom of deci-

sion-taking but also information collecting, preparing other solutions, etc.

4. Enforcements – as applying operational tools resulting from choices made and past experience.

The existing model of operational logic of an organization acts in favour of its behaviour and operational model consolidation. As a result creating a new logic can become a barrier, can be difficult in view of taking actions and act in favour of making past routine choices. On the one hand, routines can have a positive impact resulting from created conditions for rational operation according to an established procedure and change monitoring, and on the other – a negative impact resulting from the schematic approach to organization management, taking into account innovative modifications only to a small extent. It is particularly difficult to conduct amendments to the logic in successful organizations, insufficiently looking ahead, although their success creates for them the best conditions for modifications and building a new organization architecture. One should attempt to take advantage of such conditions by breaking the organization habits – as a process of changing the dominant logic of its operation, where past logics and behaviours are discarded and a place for the new ones is created. It is done through establishing new variants of organizational development and selecting the one which is the most optimal and rational from the dominant coalition's point of view.

CONCLUSIONS

Based on the conducted deliberations regarding organization architecture, the following can be concluded:

1. Organization architecture is multidimensional and may address all areas of its functioning, starting from determining the domain of an organization's activity and methods of producing and providing products/services to selected markets, and cooperation with counterparties in line with the adopted operational objective.
2. In organization architecture building, various methods and support tools are applied, starting from simple management techniques, facilitating management and executive tasks (e.g., Management by Objectives), through benchmarking and outsourcing, to reengineering.
3. Application of particular methods should depend on the nature of problems solved and choices made.
4. The choices should be made based on a system approach taking into account each area of an organization's activity, from the production type and volume (scale of operation), through its financing and sales, to operational effectiveness.

5. Efficiency is understood differently depending on the organization's adopted operational objectives.
6. Effective organization and changes are determined by a variety of factors, like productivity, profitability, plan execution, change adaptation capacity, development, innovations implementation, work satisfaction, etc.
7. The existing model of operational logic of an organization acts in favour of its behaviour and operational model consolidation, but its further development requires discarding the existing solutions.
8. Each organization has its philosophy of operation and a system of values influencing the system of activities selection and assessment.

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ISTOTA I UWARUNKOWANIA ARCHITEKTURY ORGANIZACJI

Abstrakt

Tło badań. Złożoność środowiska działania współczesnych organizacji wymaga poszukiwania sposobów ich najlepszego funkcjonowania w istniejących uwarunkowaniach. Poszukiwanie to znajduje odzwierciedlenie w architekturze organizacji, tj. w przygotowanych planach budowy i rozbudowy organizacji, rodzaju i zakresie wprowadzanych zmian oraz w stosowanych metodach zarządzania.
Cele badań. W artykule podjęto próbę określania istoty i rodzajów architektury organizacji oraz jej wpływu na efektywność jej działań..
Metodyka. Opracowanie zostało przygotowane na podstawie literatury przedmiotu i własnych przemyśleniach autora. Podstawowe metody przygotowania, to analiza i synteza oraz indukcja, dedukcja i redukcja.
Kluczowe wnioski. Z przeprowadzonych rozważań wynika m. in., że podstawą architektury organizacji powinno być podejście systemowe, uwzględniające każdy obszar działania organizacji, poczynając od rodzaju i skali działania (np. wielkości produkcji), poprzez jej finansowanie i sprzedaż, a kończąc na efektywności działalności.

Słowa kluczowe: organizacja, zarządzanie, architektura, zmiany, rozwój