

TOWARDS A MODEL OF DESIGNING AN ORGANIZATIONAL STRUCTURE IN A KNOWLEDGE BASED SOCIETY

Mihai Vărzaru^{1*} and Eric Jolivet²

¹⁾Universitatea din Craiova, Craiova, România

²⁾Toulouse Graduate School of Management, Toulouse, France

Abstract

The role of the manager in the knowledge society is to lead, in a productive and cost effective manner, a system that is at the crossroads of three worlds: the environment, the human and the organization. To ensure the continuity of the organization, the manager must choose an appropriate structure that would enable it to increase productivity, improve quality of goods and maintain the motivation, satisfaction and involvement of the human factor. Changes promoted by the influences of organizational theories and knowledge management have resulted in reducing the emergence of hierarchical levels, formal control, in a low degree of formalization in general and in the emergence of deconstructed forms. The concept of organizational design is promoted by structuring the organization and seeks to ensure consistency among strategy, structure and incentive systems of the organization, an idea which also represents the basis of the organizational perspective imposed by Mintzberg(1990). This paper builds upon the three main theories that have influenced the design of organizational structure and proposes an integrated model that takes into account the changes promoted by knowledge management and aims at satisfying human resources quantification.

Keywords: structure, organizational design, knowledge management, contingency, model, approach

JEL Classification: M 12

Introduction

In an environment with deep and constant change, organizations must adapt as quickly as possible in order to survive. Therefore, they must find new ways of organizing their own components and establish new structures that allow them to increase productivity and improve product quality. Among the emerging trends in organizational structure is a reduction of hierarchical levels, greater autonomy granted to employees, a new division of labor, a smaller degree of segmentation, and less formal control mechanisms. These trends

* Corresponding author, **Mihai Vărzaru** - mihaivarzaru@yahoo.com

are extremely necessary also to the integration of knowledge management into the activities of the enterprise and to achieving the conditions for the manifestation of creativity and of innovation at the level of its human capital.

The decrease of the formality degree, the bureaucratic aspects of organizational structures and the emergence of deconstructed forms promoted the concept of organizational design. This concept refers to both physical structure, and the art to increase its adaptability by unleashing and using the mental, physical and spiritual energy of workers (LaFasto and Larson, 2001). It seeks to ensure consistency among strategy, structure and incentive systems of the organization, an idea which also represents the basis of the configurational perspective (Mintzberg 1982 as cited in Koeberle, 2009).

Current developments complicate even more the process of designing the organizational structure, shifting from vertical design and linearity to flattening and non-linear planning. This paper starts from the three major theories that have decisively influenced the design process and proposed organizational structure. Taking into account all the restrictions they bring, a general model with potential for use in carrying out this type of process. The model considers the changes which are determined by knowledge management at the level of the conceiving process of an organizational structure in the enterprise, such as decreasing formalism and strictly determining the size of personnel

1. Theoretical and practical references in organization

Designing an organization is a process that consists of determining an appropriate structure of an entity and its implementation. Designing an organizational structure raises many issues, most notably the prominence of the human factor that makes it difficult to draw parallels with traditional design, architecture or engineering. The designed formal system has only a loose (if important) connection with the roles and routines as they actually develop (Van Aken , 2007).

The organization theory offered new knowledge and instruments, to support the manager in his role as an organizational designer and in realizing structures to sustain the performance. These attempts can be included in three groups (Van Bree, Copier and Gaanderse, 2010):

- the rational systems perspective;
- contingency theory;
- managing as designing.

The rational systems perspective. The first major organization develops reflections related to the early twentieth century, with the acceleration of industrialization and the emergence of large enterprises, where the capital and power are dissociated, and are the result of empirical approaches. Taylor, Fayol, Ford and Weber promote a mechanistic and scientific vision of work organization, Mayo, Maslow, McGregor, Herzberg and Argyris point at the importance of interpersonal relations and the human factor in increasing organization performance, while Lewin and Lickert reveal the importance of social phenomena within human groups, highlighting the leadership styles within the same performance range.

Administrative theorists at the beginning of the twentieth century such as Fayol “busied themselves constructing lists of ‘do’s and don’ts’ as guides to managerial decision making” (Scott and Davis, 2007). From this perspective organization is a machine designed and constructed by management to achieve desired objectives and the elaboration of theory procedures necessary to its operation. The manager is an engineer who designs, builds and manages organizational tools. Regarding information, a good management must ensure stability and control of uncertainty and must strictly limit the communication and control circuits (Tabourier, 1983). As a response to the classical approach of the organizational structure, human relation movement has contributed to a better action against the incentive mechanisms of the organization, thus enriching the concept and evolving to the new concept of “organizational design”.

The contingency theory. After reflexive classical currents, seeking the "one best way", i.e a single model applicable to all organizations, new authors reflect to identify a satisfactory solution for specific business in a specific context. According to these theories organization will be subject to contingent factors, such as the evolutionary characteristics that influence decisions and actions (Charron and Separi, 2004).

The realization that there are no general rules for how to design an organisation led to an approach that emphasizes that design decisions depend on environmental conditions or the type of organization they are applied to. This constitutes the essence of contingency theories noted by Woodward (1965), Burns and Stalker (1966), Lawrence and Lorsch (1967) and Mintzberg (1982, 1989) as cited in Charron and Separi (2004).

The contingency theory showed a promise of useful implications for managers and

has been the dominant approach to organisational design (Lawrence, 1993; Galbraith, 1977; Nadler and Tushman, 1997; Goold and Campbell, 2002). The innovations brought by these theories have not proved sufficient in practice, because of the emphasis on structure and control (Jelinek, Romme and Boland, 2008).

Managing as designing. Current environment and improving the knowledge dynamics have increased interest in organizational design, which begins to be guided in such fields as industrial design and architecture, from taking over the "design attitude" (Boland and Collopy, 2004). For these areas, a design and a unique approach in solving problems is an inspiration to managers.

This attitude is characterized by a human-centred perspective, solution-focusing strategies and abductive – or productive, conjectural – reasoning (Cross, 2007; Frazer, 2007; Brown, 2008). This design attitude was contrasted with normal management practice that tends to take existing structures for granted instead of cutting through accumulated labels, schemas and stereotypes (Weick, 2004). Managing as designing means also organizational design methods closer to action and implementation (Jelinek, Romme and Boland, 2008).

Designing organizational structure by design is the delimitation of the excess process technology, the rigorous use of patterns to the smallest detail. There needs to be a focus on elements that can be designed, controlled and reconfigured, such as offices and information systems, while other elements of organisational life, such as individuals’ behaviour and social interactions, cannot be designed, cannot be imposed.

This move to designs that allow more emergence, and are thus more adaptive and responsive, is made necessary by the instability of the current economic environment (Eisenhardt and Sull, 2001; Davenport, 2005; Edmondson, 2008; Garud, Jain and Tuertcher, 2008; Davis, Eisenhardt and Bingham, 2009). Excessive organization of tasks, which limits thinking, is replaced with a better participation and full use of the skills of the employees. This structural design process is based on models that enable and retain the vitality of the employees in the organization. (Weick, 2004; Spear, 2004; Jelinek, Romme and Boland, 2008).

Less structure in organizational design is not easy. To balance studies that want more with those that want less, from this perspective, a general consensus would be that high performance is generated by a moderate amount of structure (Davis, Eisenhardt and Bingham, 2009). One way to achieve this dimension has been studied in terms of minimal structures (Kamouche, Pinha e Cunha and da Cunha, 2003), characterized by a set of rules that guide the action of an organization while retaining its resilience.

2. Knowledge management and organizational issues

The knowledge society favors the emergence of new networks of actors around the intangible economic activities, based on final value registered on customers. For all traditional enterprises, the entry in the knowledge society is not easy and will be managed as a real enterprise project (Prax, 2003). The main role held by the human factor and by the client in the new economic model, e-business, new concepts on enterprise networks requires deeper rethinking even of their own strategies, value creation mechanisms, its cultural values and all their operating methods. Although it is vital, taking action is difficult because it clashes with cultural resistance, managerial and organizational, old structures of power.

Within the company engaged in the implementation of knowledge management, development and transfer of knowledge becomes a second nature. Its management structure, distribution of roles and responsibilities are circumscribed to ensure maximum fluidity of exchanges of tacit and explicit knowledge through collaborative networks (Prax, 2003). The tasks and responsibilities of each actor of the enterprise should integrate the creation and capitalization of knowledge and to function along with the operational and functional responsibilities exercised in the enterprise.

From this perspective, it is made that enrichment of all posts, which means, on the one hand, a transfer of power from management, focused on mission issues, strategic and knowledge and, on the other hand, to all other employees who being in a position to prove their usefulness and knowledge, feel useful and respected.

Regarding the relationship between knowledge management and organizational structure has to be noted a reciprocal influence of the two concepts. Isaac and Josserand (2002) estimated that the success of the organisations in knowledge management depends, besides technical instruments, on a favorable organizational environment. Technological instruments are useful to support knowledge management when the organizations have adequate structural conditions (Walsham, 2000). Adhocratic structure is considered by most researchers the ideal medium for expression of knowledge management.

Knowledge management is considered to be either a new position of management, or an activity that is distinguished by its interference with all areas of business activity. Professions which are typical reveal, in turn, its influence on quantitative and qualitative aspects of organizational structure.

Being a new activity that is very time consuming, knowledge management will influence the structure through need to be covered by the new or relocated human resources, due to lower balance of control and reductions in the volume of other activities (due to its own positive effects). The non-linearity of individual results and, above all, collective, and as its mostly positive effects, should attenuate the management tendency towards personal savings. If in classical economics, production is subject to the rules of "decreasing returns", in the sense that achieving an additional unit of a product costs more and more, in the knowledge economy on the contrary, each copy (CD, software, electronic document, etc.) costs less and less to produce. The more is the product spread, the easier it is to sell, according to a new law, of "decreasing returns" (Systèmes & Ressources, 2010).

3. A possible model for organizational design

The organizational concept is the process of determining the appropriate structure of an organization and its implementation. The approach does not specify only the relationship between hierarchical levels and job mix in each compartment. It is based on fundamental structural elements such as strategy and organizational goals, division of labor, vertical specialization, control, horizontal specialization, coordination and bureaucracy, shaped by the desires, demands, constraints and decisions of the organization (Schermerhorn, Hunt, Osborn and de Billy, 2006).

Choosing an appropriate structure is influenced by several factors such as age and the size of organization, the technology used in operating activities and information, the environment in which it evolves, the privileged strategy to ensure growth and survival and power relations.

Simons (2005) considers that there are four main elements or levers to support any process of organizational design:

- *Strategy* (structure follows strategy) versus *structure* (organizational design affect future strategies);
- *Responsibility* (for today purposes) versus *adaptability* (future changes);
- *Vertical-hierarchical* versus *network* (horizontal network);
- *Personal purpose* (individual) versus *mission success* (service, business unit, organization).

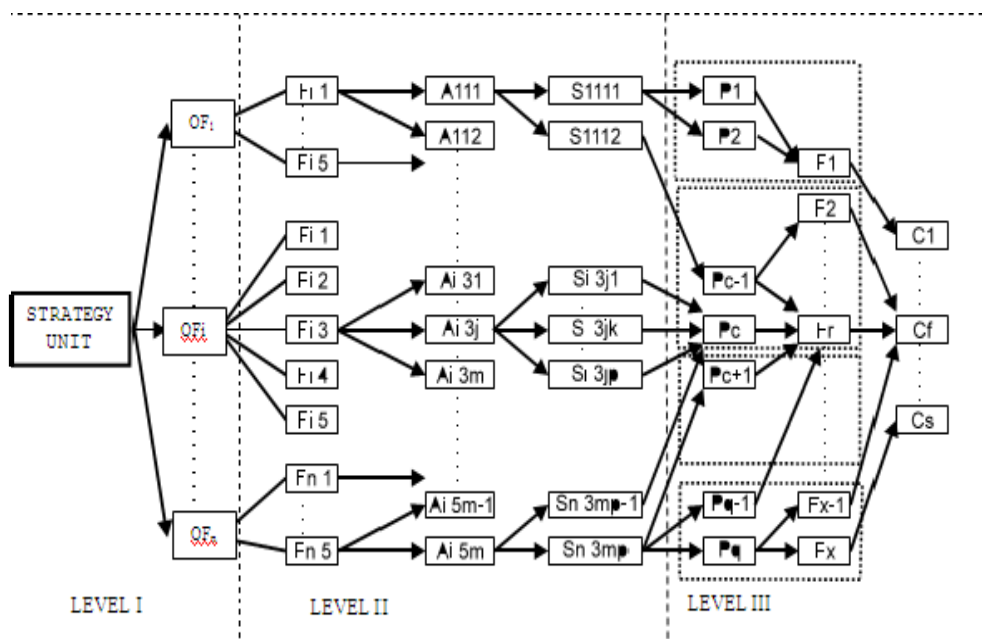
The model we propose is based primarily on the synthesis of Mintzberg from 1982 and takes into account the above-mentioned groups of theories. It provides an overview of the design process and organizational structure which is operational the ordering of actions and showed desire to give as many content items to each of its stages. The configurational perspective of organizational design, imposed by Mintzberg, is based on the same idea of the coherence of its five components, which are strategy, structure, stimulation systems, personnel and process. It distinguishes itself from the other perspectives by the fact that it defines the organizational design as a more or less ideal state of the organization, and not as a decision process.

Its operational potential is also sustained by the integrated nature of knowledge offered by all theories of organization, from the classic ones, continuing with the contingency, sociological, economic and cognitive approaches.

Romanian specialist tests (Dumitrescu, et al., 1981; Petrescu, 1999; Burduş and Andronicănu, 2000; Roşca, Varzaru, Roşca, 2005; Nicolescu and Verboncu, 2008) focus on the ways classic structures are designed, as they aim at a highly detailed definition.

1. Designing an organizational structure is a complicated process that involves the *existence of a team and a program of action*. Documentation and theoretical knowledge of reality, setting tasks and responsibilities of each team member, intermediate and final deadlines of actions to be undertaken, how the collaboration, the selection methodology and tools that are to be used which methods are to be used in order to increase the precision of design and results, should constitute the main parts of such a program.

2. The first level is the organization that manifests *organizational strategy* (Figure no. 1), a process that positions the organization in the competitive environment and allows the implants to support measures for an effective competition. It is a specific combination of a set of decisions (Schemerhorn, Hunt, Osborn and de Billy, 2006).



LEGEND: OF_i - fundamental objective
 F_i - objective derived by 1 degree of the objective for function 3
 A_{ij} - j activity specific to function F_i
 S_{ijk} - k load, specific to activity A_{ij}
 P_e - post e; F_r - function r ; C_f - compartment f
 ---- - project g

Figure no.1: General scheme of the enterprise organization
 Source: adaptation, Roşca, Vărzaru and Roşca, 2005, p.322

Contingency theories demonstrate the link between modalities of organization (structural choices) and strategy. These theories say the manager must determine its structural choices and support the efficiency of the chosen strategy (Chandler, 1962, as cited in Godelier, 2003)

Starting from the current typology of strategic schemes (innovation, reduced costs and imitation), Robins, Gabilliet and Judge (2006) describe structural options best suited to each strategy (Table no.1), which still gives some guidance in this phase to the team dealing with organizational design.

Table no. 1: Strategy-Structure relation

No.	Type of strategy	Structural option
1.	Innovation	Organic: relaxed structure, weak specialization, limited formalization, decentralization
2.	Reducing costs	Mechanistic: close control, extreme specialization, high formalization, strong centralization
3.	Imitation	Mechanistic and organic: combining the two, close control on current activities, relaxed in hiring new ground

Source: Robbins and Judge, 2006, p.568

3. The second level is the development of a *strategic approach*, in terms of identifying objectives and actions that accompany the strategic option chosen which are to be made to fulfil it. Regardless of the final structure, the nomination of these objectives and actions can go down to the level of departments or individuals. In the case of mechanistic or bureaucratic structures such nomination will be completed at the level of the position, and in the case of an adhocratic structure the identification is made at the level of the department and individuals. Performing classic strategy aims at route function- activity-task-phase-shift etc., which is the most operational.

4. Identifying the elements of work processes is imperative to *determine the workload expected* to be made to achieve strategic objectives. For actual production processes determining the volume of work is accomplished through the use of rules and regulations (if any) and timing or other established methods. For the functional activities of specific personnel administration, there are ways that are difficult to apply in this case and the experience of specialists in organization and comparisons with similar organizations are welcome.

The volume of activity planned is a variable that depends on many factors, such as technology choice, method of work and individual skills. If the technology chosen appears as a factor that is easy to quantify, the method of work and individual skills have an influence that has a wide variation.

Whatever type of structure is chosen, determining the expected workload directly influences the number of personal and organizational performance. Behind a less structured organization, projects, etc. network often hide deficiencies that are caused by an improper setting of the number of personnel. The work easily and frequently exceeding eight hours in many organizations, as well as work accidents are proofs of this.

If the enterprise adopts knowledge management, the sizing of the activity volume must be based mostly on the experience of the teams specialists and on the cooperation of these with

other persons who work in the same field. The later adjustment of the differences is an effect of the attitude of permanent adapting of organizational structure to the demands of all contingency factors and of implementing and sustaining knowledge management.

5. *Choosing appropriate structural variant.* Contemporary theory, and especially Mintzberg, favors the analytical contingency approach, which consists of the defined parameters to be combined to design a structure acceptable in a given context, but not an ideal one. Within this processes (Charron and Separi, 2004) fundamental choices concerning the division of the company must be made, combining coordination mechanisms and design parameters.

In terms of division, management should establish outsourcing of certain activities or internalization, department bases and how to distribute power and control social dynamics.

Choice of structural variants depends on four contingency factors presented by Mintzberg in his synthesis. Size and age play a part in structural formalization and bureaucratization. The links between the technical system and structural configurations were highlighted over 40 years ago. One of the main conclusions of the paper is the fact that prosperous enterprises are structurally organized according to key technologies related to operating activities and the possibilities offer new information and communication technologies. (Schermerhorn, Hunt, Osborn and de Billy, 2006).

If the size, age and technology are internal factors that influence the structural configuration, the environment is an external force which, because of its uncertainty, determines final results. As uncertainty is a threat to the effectiveness of the organization, management will always seek to reduce it. The notion of environmental uncertainty is manifested by three of its dimensions, namely capacity, volatility and complexity (Shenkar, Almor and Aranya, 1995; Robbins, Judge and Gabilliet, 2006). The bidimensional model (de Person, 2001) and the three-dimensional model allow rational choice of structural dominance of the organization (Figure no. 2).

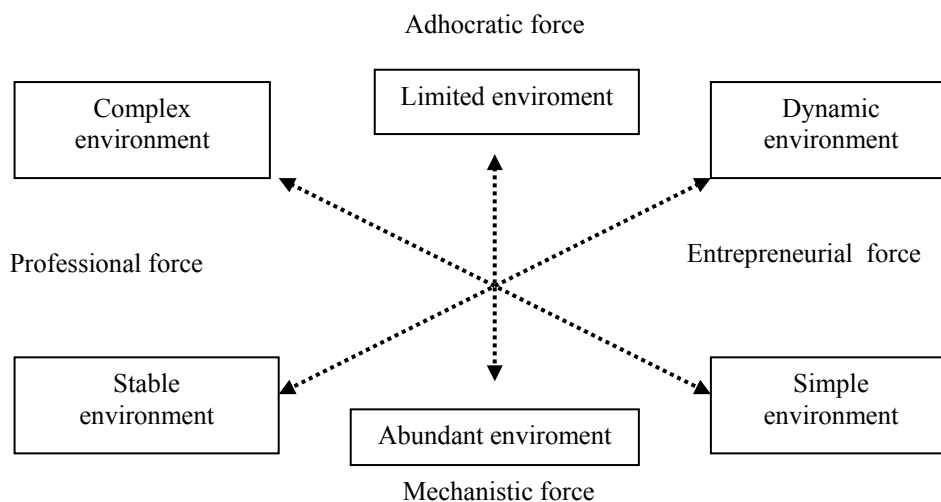


Figure no.2: Tridimensional model of the environment and structure configurations
 Source: adaptation, Robbins and Judge, 2006, p.571 and de Person, 2001, p.29

The general conclusion derived from the above model is that degree of uncertainty determines the choice of structural configuration. As the environment proves to be more limited in terms of growth opportunities, it is more dynamic and complex, so the structure must be organic (adhocratic).

6. *Completion of the structural configuration.* The four sectors highlighted by tridimensional model are nothing else than the structural dominant, which means that at the level of the organization there can co-exist several types of structures. (de Person, 2001). Thus, in an organization with a mechanistic structure may exist sections whose work and whose environment require the existence of an adhocratic structure type, such as workshops, product design and technology (methods and research offices), the marketing department etc., but the reversed situation may also exist. From this perspective, an environmental analysis should be carried out at the activity level (departments).

Miles and Snow (1986) and Child (1997) approach the strategic choice perspective emphasizing the active role of leaders in the evaluation of the environmental characteristics and their impact on organizational design.

Scheme using Ernst's life positions, de Person (2001) concludes that any of the above structural configurations offer individual satisfaction and increase motivation, providing a democratic and modern leadership. Regarding the correlation between Mintzberg's organization and representations, both classic and modern schemes remain valid, given that organizations tend to flatten structure, act to increase autonomy and teams achieve organizational behavior to facilitate performance.

7. *Implement and maintain structure.* Several studies performed by groups like Gartner, Balanced Scorecard Collaborative (as cited in Jaulent, 2007) confirmed that 70% to 90% of the strategies do not translate into results thus partially blocking four points:

- communication-involvement, since only 5% of employees estimated they understood their business strategy;
- commitment, only 25% of managers have objectives aligned to strategy;
- lack of means, in 60% of enterprises the budget is not linked to strategy;
- time, because 95% of managers book more than one hour per month in discussions and reflections on strategy.

The analysis of the correlation between structure and strategy emphasizes the trend toward structural stiffness configurations (Jaulent, 2007). Most enterprises rarely identify a formal relationship between the new shares, environmental requirements, that aims to obtain progress (change) in some departments and strategic objectives. These enterprises do not have a transversal approach of these new shares, which means that physical resources, budgeting, human, organizational and relational are not well designed and properly distributed to attract any strategic objectives.

This drawback can be eliminated by a proper attitude and a permanent effort to align the structure to the strategic demands, through a continuous process of reorganization, especially given that the structural configuration chosen is far from ideal. This attitude is, in the same time, the only reply to the transformations that are determined by the results of implementing knowledge management, which, on one side capitalizes knowledge (changing volumes and structure of the previous activities) and, on the other side, mobilizes

the personnel in order to gain new information, process that should be considered by the structural changes that it determined.

Conclusions

Drastic environmental changes have caused companies specialists and their management to define new structural models, to improve their competitiveness. The internal structure of enterprises and their relation with factors that are influencing them are elements that have an impact upon the employees' attitudes and behavior, and ultimately on organizational efficiency. New structures are distinguished by a smaller number of hierarchical levels, expanding autonomy of employees, a less pronounced division of labor, less control, teamwork.

Motivation to achieve structural configurations in these conditions is higher and more difficult to attain. It is higher because the risk of inadequate structure endangers the existence of the organization, and more difficult, because its design puts management to face new problems, much more complicated.

Proposing a model for designing the structural configuration appears, from this point of view, a contribution to achieving this difficult process. The content of the proposal is based on the principles of organizational theory and highlight a large part of the problems that arise in the stages of determining the volume of work, the choice of structural configuration and style of leadership, the delegation of authority and responsibility.

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