

ORGANIZATIONAL FLEXIBILITY AS A CHALLENGE OF CONTEMPORARY MANAGEMENT. DETERMINANTS AND METHODS OF MEASUREMENT

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Purpose: This paper has been aimed at defining contemporary management flexibility determinants and the methods of its measurement.

Problem investigated: This paper presents an analysis of organizational flexibility determinants related to the contemporary concepts and challenges within the area of management. The discussion includes two types of measurement of organizational flexibility based on declarative tests and quantitative criteria. The described methods are subject to evaluation. The paper also presents authors' own proposal for determinants classification, organizational flexibility assessment and an exemplary application.

Methodology: The paper has been based on the results of research on organizational flexibility conducted by the Department of Business Studies Aalborg University (Denmark) and Wrocław University of Economics (Poland).

Conclusion: Organizational flexibility constitutes one of the major challenges of contemporary management. This issue has already been extensively discussed, however, despite numerous publications and relevant research projects many issues still need to be resolved. One of them is organizational flexibility measurement. In the first place, it needs a description of flexibility determinants relevant to a certain organization. There are no objective methods that would allow a description of the set of determinants since they are dependent on organization's special features and individually set objectives. In addition, it should be noted that those factors are subject to change, in line with the development of theory and concepts of management. The very flexibility measurement requires simultaneous application of various methods of factor analysis and polling stakeholder opinions.

Key words and phrases: organizational flexibility, management flexibility, organizational flexibility determinants, modern management concepts, organizational flexibility measurement.

INTRODUCTION

Organizational flexibility is one of the major challenges posed to contemporary management. Growing dynamics of environmental changes, rapid development of IT and communication technologies, on-going globalization, new forms of organizational structures are the crucial factors enforcing continual changes in organizational management process. Under those circumstances only those organizations which are capable of keeping pace with the changes and turning them into opportunities will be able to sustain high competitive advantage and secure conditions for development. That problem is not specific to business, but it is equally important in the area of public activity, and it has become one of prerequisites for the adjustment of those entities operation to changing social needs.

Organizational flexibility is not a new concept of the theory of management. It was propagated in the 1950s and 1960s within the then developed "open system" of management model (Quinn, Faerman, Thompson, McGrath, 2007: 26).

Despite the passage of time, organizational flexibility has still remained a current problem. This finds proof in modern management concepts, each of which embraces some indications for flexible management. Currently flexible management is a much more complex issue than it used to be in the time of the "open system".

THE ESSENCE AND DIMENSIONS OF ORGANIZATIONAL FLEXIBILITY

Many definitions of organizational flexibility may be found in the writings on that subject (De Toni & Tonchia 1998, 2005; Osbert-Pociecha, 2004, 2008; Krupski, 2008). Searching for a common interpretation of various authors, it may be assumed that organizational flexibility stands for the organization's capability to adopt to changes taking place in its environment. That adaptation may be external – here it means impacting the environment – or internal – meaning making adjustment within an organization.

According to Golden & Powell (2000: 373), organization flexibility should be examined in four dimensions:

- time – related to time the organization needs to react (or create) in response to occurring changes;
- scope – related to the degree of adaptation of particular elements of the organization to changes in the environment;
- purposefulness – related to the selection of a relevant way of responding to on-going changes; an "offensive" response is not always a relevant one. Adoption of a defensive attitude may, in certain situations, be also an effective way of adapting to changes;
- impact area – related to the selection of adapted impact area of the organization – with regard to interior or attempting to have an impact on the external environment.

Flexibility may pertain to various areas of organization functioning such as the use of machinery, labor, material flows, range of products, operations, development, volume of operations, product portfolio, financial management, innovation and new product launches. Hence flexibility is frequently considered within the organization subsystems such as finance, information, production, market and strategic management (Koste & Malhotra, 1999: 81).

Management flexibility pertains both to the operating as well as strategic level. Operating level flexibility is usually identified with the flexibility of production viewed from the angle of product range and technological changes. Strategic flexibility is more complex. According to de Toni & Tonchio (2005: 532) there are four distinctive levels of strategic flexibility:

- *strategic flexibility as the scope of the strategic options within a business;*
- *strategic flexibility as the speed of variation of the competitive priorities within a business;*
- *strategic flexibility as the variety of the possible new business;*
- *strategic flexibility as the swiftness of movement from one business to another.*

Reaching flexible organization effect requires the application of flexible management on both strategic and operating level.

According to Krupski (2008: 70) building of an organizational system focused on flexible management should begin at the strategic level, following a scenario. It is important to stress management through opportunities. The implementation of such a strategy requires increased decision making freedom at various levels of management, through delegation of responsibility and creation of appropriate motivation mechanisms. It is also prerequisite to lower management formalization and launch processes streamlining implementation of organizational cycles, monitoring environment, managing changes. Such a model involves much higher level of organizational freedom in comparison to the traditional approach to management. As a result, apart from the benefits brought about by more flexible management, there are also some negative consequences and threats for the organization. Undoubtedly, one of the biggest threats is the increased level of risk involved with decision making. Hence, it is prerequisite to establish an efficient system of risk management in an organization functioning in this way, oriented on defining the limits of risks and monitoring potential threats.

FLEXIBILITY AS A PREREQUISITE OF CONTEMPORARY MANAGEMENT THEORIES

Openness to the environment and swift reaction to the on-going changes underpin practically all modern concepts of management. The most popular include knowledge management and learning about an organization, process management and TQM, lean management, time based competition, and concepts of virtual and network organization.

The main provision of knowledge management and learning about an organization is ensuring knowledge on a broadly understood environment, prerequisite for organization's development. Reaching high efficiency in the application of the acquired knowledge depends on the speed of adjustment changes (adaptation to the changes found within the environment) (Mikuła, 2006).

Process management and TQM are primarily oriented on maximizing customer satisfaction by the way of concentrating all activities on creating value expected by the market. Reaching set objectives requires continual monitoring of market situation and the changes of customer expectations. Signals obtained in this way are then used for continuous improvement of business process (Grajewski, 2003: 114).

The requirement of management flexibility underpins the concept of lean management. In this case, it is connected with the necessity to understand the environment in which the company operates. According to Martyniak (2002: 102), the achievement of "lean management" effect may occur only by the way of changing the way of thinking, which in a lean system should be based on the following five principles: prospectiveness, sensitivity, globality, dynamism and efficiency. Reaching all the foregoing principles ensures creation of a highly flexible system of organization.

Flexibility is also one of key factors of success in time based competition. This concept consists in creating market advantage by pursuing organizational processes within a time shorter than competition. As it is shown in tests conducted by McKinsey and Company (Bogan & English, 2006: 268), launching a new product six months later than the competition involves a loss of gross profit during the life cycle of this product by as much as 33% (Table 1).

Table 1: The Cost of Being Late to the Market

If your new product is late to the market by:	Your gross profit potential over the life of the product is reduced by:	A one-month improvement in time-to-market improves the product's lifetime profit by:
6 months	33%	11.9%
5 months	25%	9.3%
4 months	18%	7.3%
3 months	12%	5.7%
2 months	7%	4.3%
1 month	3%	3.1%

Source: (Bogan & English 1994: 198)

Time based competition requires continuous comparing with the competition and immediate responding by introducing appropriate changes. The actions in this respect focus on the following aspects:

- time of launching a new product or introducing the owned product into a new market;
- service time – the period from order placement until delivery of a product to the customer;
- response time – the period which passes from the change in demand until reaction of the company to that change (Laskowska, 2001).

In virtual and network management, flexibility involves search for the opportunities of better adjustment of the organization to the environment by creating various systems of partnership and making use of spatially dispersed competencies and resources. A virtual organization is defined as a set of spatially dispersed organizational units, pursuing common undertakings for the purpose that is supposed to bring them benefits, greater than as if they operated in a traditional manner (Brzozowski, 2010: 34). In this case, the management effectiveness should be examined from the angle of taking advantage of market opportunities by a fast employment of resources and competencies, using modern ICT technology.

In the above contemporary management concepts, flexibility is shown as a principle or recommendation for management, constituting one of the key factors of success. Organizational flexibility appears also in contemporary management as a "natural" result of certain actions.

PROBLEM STATEMENT AND METHODOLOGY

This paper is aimed at showing the factors and the measurement methods of organizational flexibility. It describes the contemporary determinants of organizational flexibility. The analysis includes methods based on declarative tests targeted on the incidence of flexibility factors as well as the methods

employing quantitative factors and criteria. The described methods will be the assessed. The authors will present their own method of determinants (factors) identification and assessment of organizational flexibility. This paper also employs the method of a case study which shows the recommended method of determinants identification and presents the assessment of organizational flexibility level. This paper has been based on the research results on organizational flexibility conducted by the Department of Business Studies Aalborg (Denmark) and Wrocław University of Economics (Poland) as well as the results of authors' own research into organizational flexibility measurement.

FLEXIBILITY DETERMINANTS IN CONTEMPORARY ORGANIZATIONS

Flexibility determinants should be considered as factors whose occurrence and incidence decides about organizational flexibility of an organization and the processes of its management. Regrettably, there is no objective method which would allow to determine such a set of factors for a given organization. Making such a list necessitates making note of the contemporary management trends and the resultant postulates pertaining to flexibility, specific character of an organization and its needs in the area of flexibility.

However, some universal (typical of the majority of contemporary organizations) flexibility determinants may be discussed. According to Hautum & Pittgrew (2005: 115) they may be either a derivative of the applied structural solutions, or the culture and behaviors of the organization's members, consciously striving to increase organizational flexibility. In highly flexible organizations both groups of these determinants are present.

The first group of determinants – related to the applied structural solutions – is a derivative of the ideas on organizational flexibility presented by Ackoff (1977), Overholt (1997), and Foss (2003). They point to the following flexibility determinants within the discussed group: decentralization on both the organization, as well as decision making level, low formality of procedures, co-operation, diversification of operations.

The second group of determinants corresponds to the concepts presented mainly by Bahrami (1992) and Volberd (1999). Both authors considered two issues: the awareness of the continual need to transform an organization so that to fit it in best possible way to the environment, and the aptitude of managers to achieve that objective. To their mind, the two are the main factors of organizational flexibility. Those factors embrace such behaviors as learning, polling clients and competition, product and organizational innovation. The key issue in building a flexible organization is the selection of staff for managerial positions who must be able to react very quickly to various signals. That ability is largely dependent on individual characteristics such as risk taking, ambition, the desire for success, motivation and self-control level, identifying with the organization, understanding of market mechanisms.

Creation of a flexible organization requires the provision of both flexible structural solutions as well as the selection of managerial staff who are aware of flexible organizational behaviors and capable of developing them. According to Volberd (1999: 104) the stage of flexible management may be reached only through striking balance between the level of individual skills and conditions provided by an organization to implement them. When the balance swings one way or another, the desired result will not be reached. This is a unique paradox of flexible management implementation.

ORGANIZATIONAL FLEXIBILITY MEASUREMENT METHODS

Organizational flexibility measurement is a complex problem which, as yet, has not been fully researched. In practice there are various methods applied in this area such as declarative testing, identification of symptoms, observation, and factor analysis. To date there has not been a single, comprehensive, and fully objective method elaborated in this area. Neither is there a universal, synthetic measure to help to decide organizational flexibility level. Similarly, an objective model for the purposes of assessment of the impact made by organizational flexibility and the economic results of a company has not been elaborated.

Declarative testing of organizational flexibility

This method consists in identification of determinants (factors) of flexibility peculiar to a certain organization, and gathering information on their incidence. It is applied mostly in research projects comprising a wide spectrum of organizations, and is implemented by scientific hubs and consulting companies. It may also be applied by individual enterprises.

The tests commence with the preparation of a list of flexibility symptoms peculiar to an organization or of their certain type. There are no methodological guidelines on preparation of such lists. To make the process possibly objective it is customary to apply Delphi method. In this case it means polling a possibly extensive group of stakeholders on flexibility factors, peculiar to a certain organization. The factors which are most recurrently used by the respondents are then included in the questionnaire whose function is to assess the recurrence, or absence, of a certain factor. Internal stakeholders are most common respondents engaged in this poll. Also, the survey includes mostly managerial staff and other staff well acquainted with the system of management of a certain company.

One of the most extensive surveys of this kind embracing 1900 Danish enterprises was conducted in 1996 by the Department of Business Studies of Aalborg University in Denmark (Lund & Gjerding 1996). The survey was based on a 27 closed question questionnaire targeted on flexibility factors pertaining to four areas: management and work organization changes, changes in the scope of work and demand for special skills of workers, process and product innovation, changes in the co-operation with the external stakeholders, and finally the forms of competition. The respondents ticked either "yes" or "no" indicating occurrence of a certain factor, or its absence. Then a comprehensive indicator was constructed on the basis of 14 factors (questions) scaled from 0 to 14. The indicator included the following categories: weekly schedules, work supervision, functioning of interactive teams, quality circles functioning, delegation of authority, integration of management functions, rotation of staff within functional areas, Kaizen (continual training), general educational activity of staff, long-term training planning, introducing significant product innovations, penetrating new markets with new products, the application of ICT technologies, the use of various technologies.

The presented research results had primarily academic merit, showing the level of flexibility attained by Danish enterprises. A cross-sectional flexibility indicator elaborated in this way might be useful to a singular organization only for comparative studies or using it as a point of reference. The very procedure of the survey was not quite objective either. The survey did not recognize the intensity of a factor, but just its presence. Hence, the occurrence of a series of flexibility factors on a small scale is not yet a signal that the organization may be considered flexible.

A similar survey on Polish enterprises was conducted by Krupski of Wrocław University of Economics (Poland) (Krupski 2005: 10-11). The survey comprised a group of 201 enterprises located in the south of Poland. The project commenced, similarly to the approach adopted by Aalborg University team, with determining the list of flexibility determinants. The selection was preceded by an extensive study of literature and expert opinion. Consequently, eight flexibility determinants were selected and then included in the questionnaire. The selected determinants were as follows: product innovation, co-operation and partnerships with other institutions, customer needs analysis and benchmarking the competition, launching on new markets, training and educational activity of staff, availability of financial resources. It has been assumed that the higher the level of determinants in a certain organization, the higher its flexibility. The questionnaire used for the survey was slightly different from the one prepared by Aalborg University. Respondents evaluated concurrence of each symptom on a scale of 0 – 10. Additionally, they ranked each criterion from the surveyed enterprise's perspective assuming that the total of all criteria will come to 1. On these grounds each enterprise was granted a flexibility coefficient calculated as weighted average of all criteria (the total of weights products of particular criteria and set with their use individual grades).

Due to the fact that the survey considered the concurrence of symptoms of flexibility and ranked them, that method is more objective than the Danish example. Similarly, the results are useful only for comparative purposes. It should be noted that each survey based on polling respondents opinion is encumbered with an error of subjective judgment.

Measurement of organizational flexibility based on indexes and quantitative criteria

The main method applied to flexibility measurement, used within the framework of a certain organization consists in gauging it with various indexes and quantitative criteria. The method finds use in flexibility audit or it becomes an element of organizational effectiveness.

According to Krupski (2008), certain general measures, previously applied in economic analysis, may be used for evaluation of management subsystems deciding about flexibility. Depending on the context, those measures may be interpreted as the assessment of flexibility. Consequently, flexibility measurement of financial management may be conducted with the use of long-term indebtedness coefficient, informing about the proportion of external capital to company's own capital. For the assessment of production we can apply the coefficient showing the proportion of revenue generated from sales of new products to total sales. For the assessment of HR flexibility staff turnover rate would be most appropriate. High staff turnover rate, with properly functioning social environment, may signify a rapid increase of requirements within staff competencies.

Flexibility assessment is also apparent in modern organizational efficiency concepts. That aspect is present in Balanced Scorecard by Kaplan & North (2007: 124). The two scholars suggested the following criteria for the purposes of assessment of organizational flexibility (which they considered as dynamic efficiency): percentage of initiatives that brought about new products or streamlined production processes, the number of inventions made in a company over one year, percentage of profits generated by products designed less than five years ago, lead time for new products, frequency of product modification, etc.

The selection of criteria and flexibility coefficients is individual and it should correspond to the type of operation and the dimension of assessment to be included in the study. It should be noted that not all flexibility factors may be measured with the use of coefficients and quantitative criteria (eg the degree of decision making decentralization).

Authors' own methodological suggestion

At times creation of an efficient system of organizational flexibility assessment requires simultaneous application of various methods. The method of flexibility assessment suggested by the authors incorporates three stages.

Stage one consists in the identification of flexibility factors proper for a certain organization. While drafting such a list of factors one should remember about the current management tendencies (current management concepts). The type of operation a company is engaged in, and company's mission. A brainstorming session may be an appropriate tool used for this end. The list that emerged in this way should be presented for the stakeholders' evaluation, so that they may decide how proper the factors are for the organization.

In stage two the co-ordinating team describes the methods of assessment of a given factor. There are two possible approaches to this issue: polling the opinion of stakeholders or measurement with the use of coefficients and quantitative criteria. The choice of method depends on the character of a factor. The factors to be assessed quantitatively are assigned one to three coefficients (or quantitative criteria), selected in such a way that they best reflect concurrence of a feature in a certain organization. The factors to be polled are provided with properly formulated questions. However, in this case the question is not asked directly about the concurrence of a factor, but rather probes the barriers and impact on the efficiency of management of a certain flexibility factor.

Stage three comprises research and synthesis of results. The scheme of research and the distribution of research tasks are elaborated in this stage. The assessment with the use of quantitative factors and criteria may be incorporated into the continual system of organizational effectiveness monitoring.

MANAGEMENT FLEXIBILITY DETERMINANTS AND THEIR MEASUREMENT. A CASE OF CRACOW SCHOOL OF BUSINESS

Cracow School of Business is an entity of Cracow University of Economics providing postgraduate studies and courses for business. Currently School's offer includes 57 majors for postgraduate studies and three MBA programs provided jointly with Stockholm University School of Business, St. Gallen Business School from Switzerland and Suffolk University from Boston. The School also offers trainings and studies dedicated to enterprises and public institutions. There are 2,000 students studying at CSB every year.

The reason for establishing Cracow School of Business was to form a dynamic entity within Cracow University of Economics framework, quickly responding to the needs of the postgraduate education market. Even though technically the School is an integral part of CUE, it has practically full autonomy within the area of curricula, taking solutions in support of educational process and syllabuses. Organizational flexibility of that entity is not merely a prerequisite for success, but also one of the main expectations of CUE Board.

The Cracow School of Business employs six full-time administrative employees, as well as the Principal of the School and the Coordinator for Education Quality. By hiring CUE faculty staff for its teachers, Cracow School of Business facilitates flexibility of management of this institution. Tutors of particular study majors have a very wide scope of decision-making autonomy. It relates to, among others, selection, as well as changes in the lecturers running classes under a given major, according to ranks obtained by them as a result of surveys conducted among the students; submitting applications with regard to modification of the program, organizing classes; selection of forms of granting credit points. The objective of such a wide scope of decision making autonomy is to empower the supervisors of majors to take swift action and respond to the needs and expectations of students. In the result the organization of classes within particular majors is being continually improved, there are numerous modifications to the hours allotted to particular subjects, forms of education, the applied tools, etc.

However, high decision making autonomy of the supervisors of majors at CSB increases the risk of lowering education standards. That is why the School called in the Coordinator for Education Quality, responsible for monitoring the quality of education and organization of studies. The opinions of students are crucial for the decisions on extending the contract for a major supervisor.

The School maintains on-going monitoring of the postgraduate studies offered by other schools, as well as the needs of the potential students. The information acquired in this way inspires to opening new majors. Cracow School of Business launches three to four new majors every year.

Over 50% of CSB lecturers come from beyond the CUE. Most often, these are business practitioners and coaches with many year experience. Hiring lecturers from the outside brings novel ideas into the education and makes the studies more attractive to the students.

Organizational flexibility is monitored by Cracow School of Business. This aspect of business is assessed mainly with the use of coefficients and quantitative criteria (Table 2).

**Table 2: Flexibility factors and the methods of measurement
in Cracow School of Business**

Flexibility factors	Measures, methods of measurement
New majors	<ol style="list-style-type: none">1. New majors (launched last year)/all majors2. Revenue from new majors/revenue from teaching activity3. Number of new subjects/total of taught subjects4. Lead time of a new major5. Frequency of major modification
Scope of autonomy of a major supervisors	<ol style="list-style-type: none">1. Number of decisions taken by the supervisors/total decisions taken to organize studies for one major2. Opinions of supervisors' coaches on the barriers in decision making
Flexibility of Human Resources	<ol style="list-style-type: none">1. New lecturers/all lecturers2. External lecturers (beyond CUE)/all lecturers
Partnership and cooperation	<ol style="list-style-type: none">1. Number of majors delivered jointly with other schools/total of majors2. Profitability of studies delivered jointly with other schools3. Polling CSB staff opinion on internal barriers and external cooperation
Diversification of operation	<ol style="list-style-type: none">1. Number of profit generating operations within CSB2. Structure of revenues from other teaching activity
Organizational learning	<ol style="list-style-type: none">1. Number of unique majors2. Surveys of client satisfaction and their opinion on the quality of studies3. Organizational innovation4. Distinctions and prizes conferred on the School

Source: Author's own

The factors, measures and measurement methods presented in the above table have been defined by the foregoing method. The assessment is conducted twice a year and it constitutes one of the factors of modification and setting objectives for the years to come. Management flexibility and openness to the environment brings increasing numbers of students to the School which translates directly into larger revenues and profits.

SUMMARY

Organizational flexibility is one of prerequisites for success in the contemporary business. The theoretical aspect of that issue has been widely described. However, despite numerous publications and research work many issues still need solution. One of them is organizational flexibility measurement which needs, first of all, identification of flexibility factors specific of a certain organization. There are no objective methods to define their set. What is more, it should be noted that factors are subject to change, in line with the development of management theory and concepts. The very measurement of flexibility requires the application of various methods: index analysis, polling stakeholders' opinions. Nevertheless, the crucial issue is the establishment of flexible organizational systems. This is a long-term process which requires both the recruitment of proper staff, as well as the establishment of an organizational system to facilitate and stimulate flexible behavior. Those factors must be developed uniformly.

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