REDEFINING OF THE CONTROLLING CONCEPTS

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Abstract: *The problem of controlling concepts should be considered as a complex issue. Controlling concepts are understood as a specific way of controlling implementation that is characterized by a peculiar choice of functional, organizational and instrumental solutions of controlling. In the literature, there are three basic concepts of controlling: information support of management, coordination of management and specific form of management. However, the results of empirical studies show that the other solutions are possible. In this context, the aim of the article is to present the results of empirical studies relating to the controlling concepts implemented in organizations, together with the presentation of the impact of situational determinants influencing the choice of controlling concepts.*

Keywords: *management method, controlling, controllership, controlling concept*

JEL Classification: *M10, M40*

1. INTRODUCTION

The Polish literature on the subject mentions the "unbelievable growth in interest in controlling in the last decade of the previous century" [Nowak 2004, p. 13]. Without a doubt, contemporary interest in controlling, both in theory and practice, is not declining. A proof are, on one hand, empirical research findings proving that controlling is one of the management methods most often implemented in Polish enterprises [e.g. Bieńkowska, Zgrzywa-Ziemak 2011, p. 214],], while on the other hand, the growing number of scientists representing the so-called young generation, taking up the subject matter of controlling and not only following the example of American or German studies, but using the experience of Polish controlling pioneers. These issues are now strongly diversified and concern virtually every sphere of operation of controlling in the organization – it refers also to the complex issue of the controlling concept.

The controlling concepts are, on one hand, an expression of diversity of controlling solutions in organizations, while on the other hand – of total presence of these various solutions in business practice, and thereby creating their specific configurations. The notion of the controlling concept should be understood as a separate, particular manner of controlling implementation, characterized by a particular (original) selection of functional, organizational and instrumental solutions of controlling [Bieńkowska 2015, pp. 140-141].

In the subject literature, three basic controlling concepts are enumerated: supply of information, management coordination and particular form of management [Bieńkowska, Kral, Zabłocka-Kluczka 2004, pp. 22-28]. Empirical research findings show, however, that it is possible to group controlling solutions into its homogeneous concepts in a different way. The purpose of the article is to present empirical research findings relating to controlling concepts implemented in the studied organizations, along with the presentation of the impact of situational conditions on selection of the appropriate concept.

2. THE ESSENCE OF THE CONTROLLING CONCEPT

The issue of the controlling concept applies, in its essence, to creation of certain configurations of controlling concepts. The controlling concepts are broad, relatively homogenous groups of controlling solutions influencing quite consistent method of its comprehension and functioning [Bieńkowska 2015, pp. 140-141]. Due to a diversity of functional, institutional and instrumental solutions of controlling taken up in the literature, the attempts of theoretical classification, or ordering the discussed issues should be considered both difficult and valuable. "Difficult" means that, as a result, few authors undertake these issues, "valuable" means that in practice, controlling does not consist in implementation of one solution, but practically always – of accordingly configured groups of solutions. J. Weber enumerates only three basic controlling concepts: controlling as a function of providing access to information as a particular form of management and as a function of coordination [Weber 2002, pp. 19-28, p. 38]. The author emphasizes, however, that the proposed structure "does not claim the right to a representative character. (…) in most cases, these rules do not organize particular definitions on the terms of exclusivity, thus they cannot attributed without crossing" [Weber 2002, p. 19].

On the other hand, B. Friedel indicates three, slightly different, main perspectives on controlling: rationality-oriented controlling, coordination-oriented controlling and information-oriented controlling [Friedel 2003, p. 148; according to: Seuring 2006, p. 11].

At the same time J. M. Lichtarski and K. Nowosielski, relying on conducted research, make distinction between four models (types) of controlling dedicated to small and medium organizations: controlling focused on information-related securing of selected management functions; accounting-oriented controlling, operationally oriented controlling and controlling oriented on strategic-operational problems [Lichtarski, Nowosielski 2005, p. 11].

M.Sierpińska and B. Niedbała, using the German literature on the subject [see: Weber 1995; Eschenbach, Niedermayer 1996], indicate the following controlling

concepts: accounting-oriented controlling, controlling oriented on information generation and processing and controlling as a subsystem of management. The authors notice, however, that beside the mentioned concepts, it is possible to encounter also the so-called "other controlling concepts" [Sierpińska, Niedbała 2003, pp. 25-36].

Finally, A. Bieńkowska, Z. Kral and A. Zabłocka-Kluczka suggest distinguishing three controlling concepts as the most important perspectives on it: controlling as supply of information (managerial accounting), as management support (management coordination), and as a particular form of management [Bieńkowska, Kral, Zabłocka-Kluczka 2004, pp. 22-28]. The above shows that the basis for separation of the controlling concept is, above all, different scope of functions and tasks assigned to controlling, as well as (consequently), its different relations towards management. A consequence is, on the other hand, diversity of not only functional, but also organizational and instrumental solutions within the scope of different controlling concepts [Bieńkowska 2015, p. 141].

3. RESEARCH HYPOTHESES

In the view of the above theoretical guidelines relating to classification of the controlling concepts a question arises as to whether the above classifications occur in the shape postulated above in business practice. Answering the question formulated in such a way is not an easy task. Empirical research referring to the controlling concepts occurring in practice is extremely rarely conducted, despite numerous empirical studies relating to particular controlling solutions. It is influenced – as it seems – on the one hand, by the necessity of providing an accordingly considerable research sample in the event of examining the controlling concepts as a groups of controlling solutions, or low credibility of research findings in the case of conducting research based on synthetic declaration of the respondents, concerning the implemented controlling concept. Sample research findings referring to the controlling concepts are presented, e.g. in theses [Lichtarski, Nowosielski 2005, p. 11; Bieńkowska, Kral, Zabłocka-Kluczka 2009, pp. 40-41; Bieńkowska 2015, pp. 236-241].

In the above context undertaking further research on the controlling concept seems to be particularly reasonable. In the first stage of analyses, a general research hypothesis was formulated:

H1: *It is possible to classify controlling solutions into relatively homogenous groups of controlling solutions influencing the quite consistent method of its comprehension and functioning, and thus it is possible to formulate the controlling concepts.*

The next stage of analyses will involve analysis of the impact of situational conditions (i.e. size of the organization and the dynamics of environment), to adopt specified controlling concepts in practice of studied organisations. Thus, the second general hypothesis will be verified:

H2: *In organizations of various sizes and/or operating in various environment conditions, specific controlling concepts are adopted more often than others*.

4. RESEARCH METHODOLOGY, RESEARCH SAMPLE

The author's empirical research relating to application of controlling solutions in organizations operating in Poland began in January 2012, and was completed in May 2014. Its results were presented in detail in the thesis [Bieńkowska 2015, p. 182]. The research tool was a questionnaire used for diagnosing functional, organizational as well as instrumental solutions of controlling as well as – in accordance with the adopted research objective - these solutions were assessed, as well as the relationship between implementation of controlling and widely understood parameters of functioning of the organization was measured. The prepared questionnaire was addressed to different (in terms of, among others, type of activity, size and form of ownership) organizations operating in Poland which either have implemented controlling solutions, or declare no implementation of this method of management support. Only one survey was conducted per one organization. The survey was anonymous [Bieńkowska 2015, pp. 199-200]. In total, 422 surveys were obtained, of which, due to the lack of basic data and inconsistent answers, 10 were eliminated (these surveys were filled in a manner clearly preventing their use). For analysis, data from N = 412 completed surveys were used, with addition that in surveys adopted for analyses, not all the respondents answered all questions (there were some data shortages). For this reason in some cases the size of research sample will be smaller than 412. In the studied organizations implementation of controlling was declared by nearly 60% of the surveyed entities (Nc = 238) – this fragment of the research sample will be subjected to analyses in the present study. The structure of the research sample has been presented in Table 1. At this point, it should be emphasized that analyses presented in this study are separate in relation to the study [Bieńkowska 2015], however, they are based on the same empirical material.

5. CLASSIFICATION OF THE CONTROLLING CONCEPT IN THE LIGHT OF EMPIRICAL RESEARCH RESULTS

In order to verify hypothesis **H1,** regardless of the above presented classification cross-sections of the controlling concept, in the present study an attempt will be made to empirically group the selected controlling solutions into internally consistent classification cross-sections. It was thus decided to conduct, using SPSS software, a twostep cluster, which is an exploration tool, intended to disclose the presence of natural clusters in the data set. Variables that will be taken into consideration at clustering reflect the main functional, organisational and instrumental solutions of controlling. These include:

1) roles of controlling (as functional solutions);
2) manner of involving controllers in the organizational structure (as organizational solutions);
3) number of tools considered as controlling tools (as instrumental solutions).

Roles of controlling have been defined according to S. Olech, 4 roles have been enumerated, which may be adopted by controllers: executive assistant, sparring partner, doctor and moderator specialist. S. Olech expresses the idea that a controller may perform different roles, and thus perform various kinds of tasks under functions assigned thereto.

1) controller as an executive assistant – creates and compiles information necessary for a manager, translating management issues into numbers, comparing and presenting them accordingly;

2) controller as a "sparring partner" – along with the manager discusses various reflections and alternatives, exploring their side effects spread over time;
3) controller as a specialist doctor - formulates the problem, proposes its solution and bears liability for it – however, the manager makes the decision and implements it;
4) controller as a moderator - controls the processes, coordinates work of specialists working on the solution to the problem, operates as a project manager and a person asking stimulating questions [Olech 1999, p. 3].

Table 1 Characteristics of studied organisations

Characteristics of studied organisations		Total	
		The number of organisations	The percentage of organisations [%]
Size of the organization	up to 10 people	0	0,0
	11 - 50 people	6	2,5
	51 – 250 people	69	29,0
	251 – 500 people	51	21,4
	501 – 1000 people	42	17,6
	above 1000 people	70	29,4
	Total	238	100,0
Activity types	production	101	42,4
	service	79	33,2
	production - service	20	8,4
	commercial	21	8,8
	production - commercial	17	7,1
	Total	238	100,0
Forms of ownership	Polish	138	58,0
	with a majority Polish capital	9	3,8
	with majority foreign capital	30	12,6
	foreign	61	25,6
	Total	238	100,0
The level of internatio-nalization	national organization	92	39,0
	international organization	81	34,3
	multinational organization	28	11,9
	global organization	35	14,8
	Total	236	100,0
Dynamics of environment	moderately variable environment	50	21,1
	variable	136	68,8
	moderately turbulent environment	24	10,0
	turbulent	0	0,0
	Total	237	100,0

Source: prepared by the author

When determining the **manner of involving controllers in organizational structure**, the following basic types have been distinguished: non-institutional, institutional and mixed (institutional-non-institutional), [Bieńkowska 2002, p. 118]. Involving the controller in the organizational structure in a non-institutional form implies the lack of separation of such a position, and assignment of tasks, rights and responsibilities of the controller to the already existing position in the organization, selected from among the organization's management or line positions. Integration of the controller in the institutional form into the organisational structure may take place in two ways: by employment of the controller from the outside or appointment an individual position of the controller or the controlling department. Mixed (institutional-non-institutional) form of involving controllers in the organizational structure consists, in turn, in simultaneous separation of the central controlling department and groups of controllers in the non-institutional form.

The value of variable ***number of instruments considered as controlling tools*** is the number of instruments supporting management indicated by the respondents, as applied in the organization from among 20 variants. Here are included, among others: budgeting, cost account, income statement, information-reporting system, early warning system, deviation analysis.

As a result of twostep clustering, assuming 3 above mentioned variables included in the model and division of the result into 4 clusters, a correct result was obtained, where the average Sihouette value is 0.4. The validity of subsequent variables (predictors) is: for variable *role of controlling* – 1.00; for variable man*ner of involving controllers in the organizational structure* – 0.25; for variable *number of instruments considered as controlling tools* – 0.01. It means that the most important predictor of the controlling concept is the role of the controller, while the least important one is the number of controlling instruments. The characteristics of separated controlling concepts are presented in Table 2 and Table 3. Therefore, hypothesis **H1** has been adopted: *It is possible to classify controlling solutions into relatively homogenous groups of controlling solutions influencing the quite consistent method of its comprehension and functioning, and thus it is possible to formulate the controlling concepts.*

6. SITUATIONAL CONDITIONS VS. CONTROLLING CONCEPTS – RESULTS OF ANALYSES

The purpose of this part of the analyses of empirical research findings was to explore the impact of selected situational factors (size of an enterprise and environment dynamics) on selection of a specified controlling concept in the studied organizations. In this context the following research question was asked: In some situations, is there is a greater probability of application of a specific controlling concept than in others? and the following hypothesis was formulated: **H2:** *In organizations of various sizes and/or operating in various environment conditions, specific controlling concepts are adopted more often than others.*

Table 2 Separated controlling concepts

Cluster number		1	2	3	4
Cluster size *),		22.8% (51)	27.7 (62)	21.9 (49)	27.7 (62)
Outputs:	Roles of controlling **)	1 (100%)	3 (59,7%), 4 (40,3%)	2 (100%)	1 (100%)
	manner of involving controllers in organizational structure ***)	non-institutional (62,7%) mixed (27,3%)	institutional (53,2%) non-institutional mixed	institutional (49,0%) non-institutional mixed	institutional (100%)
	number of controlling instruments	9,57	11,8	9,82	9,56
Proposed name of the controlling concept		Supply of information – without controlling unit	Co-participation in management	Management support in decision-making	Supply of information – with the controlling unit

*) in the light of empirical research findings, percentage in relation to all organizations in research group N = 224 and the quantity of organizations in the cluster;
**) according to the above marking, roles occurring in a given cluster along with the indication of their percentage share in this cluster
***) manners of involving controllers in organizational structure in a given cluster along with the indication of their percentage share in this cluster

Source: prepared by the author

Table 3 Characteristics of separated controlling concepts

Controlling concept	Concept characteristics
1. Supply of information – without controlling unit	The controller acts here as an executive assistant, who creates and compiles information necessary for a manager, in the vast majority of the cases there is no separated controlling department, and the number of used instruments is – due to limited tasks performed by controlling – relatively the smallest.
2. Co-participation in management	The controller acts here, first of all, as a specialist doctor, who formulates the problem, proposes its solution and bears liability for it – however, he or she has limited decision-making rights. Slightly less frequent, in this concept, the controller acts as a moderator specialist, having extensive decision-making rights. Here, the most common manner of involving controllers in the structure is the institutional form, and the number of instruments – due to a wide range of tasks undertaken by controlling – is relatively the highest.
3. Management support in decision-making	In this concept, the controller acts as a "sparring partner" – along with the manager, he or she discusses various reflections and alternatives of actions, thus supporting the manager directly in the decision-making process. In almost half of studied organisations, controlling assumes here an institutional form, and the number of used instruments should be considered as average.
4. Supply of information – with the controlling unit	As in the first concept, the controller - as an executive assistant – supplies the manager with necessary information, however, he or she is always involved in the structure in the institutional form. Like in the first concept, the number of used instruments is – due to limited tasks performed by controlling – relatively the smallest.

Source: prepared by the author

To verify **H2** concerning the impact of situational factors using a specified controlling concept analyses were conducted by means of cross tabulation and using statistics χ^2, assuming the critical significance level of 0.05. Use of different controlling concepts in organizations of various sizes has been presented in Table 4. Analysis with χ^2 test demonstrated statistically significant differences (near the limit of statistical significance), among organizations of various sizes in terms of frequency of use of specified controlling concepts (χ^2 (12, N = 224) = 20.553; p = 0.057). In small organizations, employing up to 50 people more often than in others, the adopted controlling concept is co-participation in management (half of the answers collected in this group), which may involve the need to provide the controllers with the rights to remove decisions, especially at the strategic level of management (it is, however, necessary to consider the reliability of results, in this group there are only 6 organizations out of 224 studied). For organisations employing 51-250 people, in principle, it is equally likely to use each of the analysed controlling concepts. On the other hand, for large organizations (employing 251-1000 people) controlling, more often than in others, adopts the concept of supply of information, in variant with a separated controlling unit and (for organisations employing 501-1000 people), management support in decision-making. In the largest organizations, more often than in others, the controlling concept as supply of information in non-institutional form is applied – this situation should be considered as quite surprising and rather inconsistent with literature guidelines and results of empirical tests, where it was demonstrated that:

- the larger the organization, the more often controlling will assume an institutional form than other forms of involving in the organizational structure;
- the larger the organization the more justified it is (in terms of quality of solutions relating to controllers and/or effectiveness of controlling) for controlling to assume an institutional form than other forms of involving in the organizational structure [Bieńkowska 2015, s. 305-306].

On the other hand, use of different controlling concepts in organizations operating in different environment has been presented in Table 5.

Analysis with χ^2 test demonstrated statistically significant differences (near the limit of statistical significance), among organizations of various sizes in terms of frequency of use of specified controlling concepts (χ^2 (6, N = 224) = 10.629; p = 0.101). In organizations operating in the moderately variable environment, more often than in others, the concept of management support in decision-making (34% of answers collected in this group), as well as supply of information with a separated controlling unit (almost 28% of the selected answers) is applied. In a variable environment, the preferred concepts are: the concept of supply of information with a separated controlling unit (nearly 30% of answers collected in this group), and co-participation in management (almost 28% of the selected answers). In a moderately turbulent environment more often than in others, controlling as co-participation in management (43.5% of the selected answers in the group) is assumed. The above tendencies are partly consistent with the previous research findings obtained by A. Bieńkowska:

- the more dynamic the environment, the more often the controllers assume the roles associated with participation in management (decision making, decision-making rights);

Table 4 Size of the organization vs. the controlling concept

Controlling concept:		Size of the organization (people):					Total
		11 - 50	51 – 250	251 – 500	501 – 1000	above 1000	
1. Supply of information – without controlling unit	The number of organisations	1	15	6	5	24	51
	%	16.7%	24.6%	12.2%	12.5%	35.3%	22.8%
2. Co-participation in management	The number of organisations	3	16	13	9	21	62
	%	50.0%	26.2%	26.5%	22.5%	30.9%	27.7%
3. Management support in decision-making	The number of organisations	1	15	10	13	10	49
	%	16.7%	24.6%	20.4%	32.5%	14.7%	21.9%
4. Supply of information – with the controlling unit	The number of organisations	1	15	20	13	13	62
	%	16.7%	24.6%	40.8%	32.5%	19.1%	27.7%
Total	The number of organisations	6	61	49	40	68	224
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source: prepared by the author

Table 5 The dynamics of environment vs. the controlling concept

Controlling concept:		Dynamics of environment			Total
		moderately variable environment	variable environment	moderately turbulent environment	
1. Supply of information – without controlling unit	The number of organisations	9	35	7	51
	%	19.1%	22.7%	30.4%	22.8%
2. Co-participation in management	The number of organisations	9	43	10	62
	%	19.1%	27.9%	43.5%	27.7%
3. Management support in decision-making	The number of organisations	16	30	3	49
	%	34.0%	19.5%	13.0%	21.9%
4. Supply of information – with the controlling unit	The number of organisations	13	46	3	62
	%	27.7%	29.9%	13.0%	27.7%
Total	The number of organisations	47	154	23	224
	%	100.0%	100.0%	100.0%	100.0%

Source: prepared by the author

- the more dynamic the environment, the more often controlling will have an institutional form rather than assuming other forms of involving in the organizational structure;
- the more dynamic the environment, the more reasonable it is (in terms of quality of solutions relating to controllers and/or effectiveness of controlling) for the main position implementing tasks of controlling to assume an institutional form [Bieńkowska 2015, s. 307-308].

Therefore, hypothesis **H2** has been adopted: *In organizations of various sizes and/or operating in various environment conditions, specific controlling concepts are adopted more often than others*. Therefore, both the size of the organization and the dynamics of the environment in which this organization operates are factors differentiating selection of the controlling concept.

7. CONCLUSION

The above considerations can be a prelude to further discussion on setting up controlling configuration of solutions in modern organizations. Regardless of the analysis of the incidence of the organizations, listed in the article, the concept of controlling - which *de facto* attempt this configuration - should be further studied the validity of their application. One of the parameters assess the validity of adoption in the organization the chosen concept of controlling may be the quality of management - on the assumption that only proper controlling solutions can have a positive impact on the quality of management in the organization - as proved in [Bieńkowska 2015]. Therefore, further work is forecasted to increase the sample size, so that the signaled analysis was feasible.

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