FUNCTIONS AND FEATURES OF CONTROLLING IN MULTINATIONAL CORPORATIONS

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Abstract
Era of Multinational Corporations (MNCs) started in early 2000's and immediately the role of controlling within corporations became topic of scientific discussions. During financial crisis of 2007-2009 companies have focused main attention on their survival. Economical stabilization and renewal drew attention to effective management of subsidiaries again. "The German model of controlling" which is under consideration in this article, as namely "management of management of the company" was currently described in scientific literature in comparison to human immune system. This point of view was significantly reduced scope of controlling concept. The approach largely narrows down understanding focusing only on risks missing out opportunities.
Methods of analysis and synthesis have been applied, within the Grounded Theory and The Evolutionary Theory of the Multinational Corporation. The aim is to extend scope of controlling concept via analogy of human nervous system. This will help to extend approach with additional functions and features, such as reverse knowledge transfer as well as define metrics to measure controlling effectiveness. Based on theoretical studies the hypothesis of new scope of well performed controlling and additional indirect parameters for its effectiveness measurement was presented.
As main novelty a highlighting of controlling concept incompletion need to be mentioned, and presentation of an approach which will be able to cover this gap which provides a possibility for future development of controlling concepts in management science.

Keywords: controlling concept, effectiveness of controlling, Multinational Corporations (MNCs)

JEL Classification: F23, L25, M14, M16

1. INTRODUCTION

In 1990s discussions were raised regarding Controlling as necessary element of company management. Decomposition of controlling systems became more complex in every step during this evolution (Pavlovska, Kuzmina-Merlino, 2013). The idea to take into account external factors was mentioned by Byrne and Kavanagh in 1994 for the first time. In their investigation of expansion activities to western markets they started to analyse and classify Environmental Performance Indicators (EPI). EPI splited into two integrated systems - accounting measures (prevention costs and investments; operating environmental costs; contingent environmental liabilities) and non-financial measures (physical indicators; compliance) are considered. This was an example where internationalisation required more prospective than local controlling. Rapid companies' development to the higher organisational level - into Multinational Corporations (MNCs), requests new management paradigm as a key success factor. To find solution for dynamic systems one of targets would be to test strategic initiatives for their future impact before rolling them out (Kunc and Morecroft 2006). This is the reason why it is so important to develop a strong and common controlling model that will be compatible with the new development challenges.

2. METHODOLOGY AND DATA

The purpose of this papers is to present a qualitative research based on "The Firm and The Evolutionary Theory of the Multinational Corporation" and on "Business Network Theory" as contextual boundary of this study. "The Grounded Theory" was taken as main methodological approach (Strauss, Corbin, 2014). The Grounded Theory is the methodological approach for context specific inductive theory building. Beside of this, analytical research of Controlling definition was conducted. TRIZ and System Evolution Theory were used as main inductive tool set. Various authors have explained the term "Controlling" in a variety of ways. Therefore, every scientific study faced definition issues of "control/controlling". This was the starting point of current investigation, which as outcome gives the definition of Controlling in International Business Context.

The evolutional model of investigation as well is proved (Pavlovska, Kuzmina-Merlino 2014). If required time for hypothesis testing is comparable with tested system changes that affect testing or connected variables (in other words – experiment cannot be repeated) this method of proofing could not be accepted as relevant. The only way in this case for acceptable modelling is to create an evolutional model of the system. Any accurately constructed evolutional model will represent not only the system but also highlights possible future states of the system.

This research was conducted in the aim to develop a theoretical model based on evidence and contextual influence of investigated topic as namely to extend existing scope of controlling including new influencing factors such as function and informational sources and build a new prototype for MNCs purposes. As result of this pilot research a new concept of Controlling Framework in Multinational Corporation was provided. According to Ground Theory this concept testing should be conducted into further steps of research, and as result could give theoretical framework (Imenda, 2014).

Main research questions are:

1. Describe the evolutional model of Controlling based on multi factor analyse.
2. Define and check the main assumptions that are baseman of current Controlling concept. Check them on validity and redefine if necessary.
3. Describe a new framework for Controlling in Multinational Corporations.

As an additional result this validates future research hypothesis and provides background for quantitative testing and expert reviews. In order to conduct this type of research latest published evidence was analysed. Research design includes GAP analysis of the existing scope as well as definition analysis due to the absence of common understanding of the term "Controlling". For these cases a classical literature research approach was used. As the second step MNCs approach was discussed. Starting from the fourth chapter controlling analysis was presented only from MNCs expectation point of view.

This study is comparing two models US and German but later discussion is focused only on the German Controlling model. As an additional limitation factor should be mentioned company size and profile – only MNCs but not SME. All limitations mentioned above introduce a concept and assumptions with direct focus on MNCs.

3. CONTROLLING DEFINITION AND EXISTING MODEL

The history of Controlling is quite short, but characterized by an intense maturity process of its content. Modern controlling models are much more complex and wider in comparison to the former ones, which were formed more than three decades ago, the Anglo - Saxon and German, although have some similarities. Controlling is originally a German word,

which looks as pseudo-English, and became very popular in Germany. Most often this will be translated in English as "Management Control System". But these two terms (German and English) are not synonyms from different language. Cultural and behavioural differences give a big impact to differentiate the meaning of those.

According to Schultz (2012) in German language this comes from English "to control" and has not only the meaning of checking, but as well to manage. Controlling takes control of the company planning, coordination and control tasks, and required to provide the necessary tools and information for understanding and correcting real-time based to the management.
Although work by Albrecht Deyhle (1984) presents well-developed theoretical definitions with three features: target-oriented control, controllers and managers acting as a team, and interplay between analytics and soft factors. This should be considered as the real starting point, after which the practical application of Controlling has spread rapidly. On the same time, practical application always gives chaotically development of theories. In particular, new developments have taken place in terms of scope of activities (strategy, risk, and sustainability), future orientation (e.g., early warning) and the role of the controller (proactive, jointly responsible).

Let us have a look more closely how this basic ideas were developed over the time, and whom we need to consider as main players on this field – core theory and practice developers. To organize this presentation in a more structured way we will look thought different dimensions, and measure degrees on it. The 1st dimension that will be watched-out is the scope of controlling. The 2nd will be future orientation, the 3rd – role of the controller, and the last but not least place of Controlling in the organization.

To get a second vector in our investigation we will have a look in historical scale and geographical location. At 1st, this should be split to "USA and following this principle countries" understanding from "German and following this principle countries" understanding of controlling concept. Basic difference could be shown in the scope, but not only (Table 1 was developed by authors based on Jackson (1949), Falko (2008), Vollmuth (2007), and The Dictionary for Controllers (2010)).

Table 1

Controlling model comparison USA vs German

	USA model	German model
Scope	Check and properly present information to stakeholders	Help to plan, trace and correct operational and strategical level of the business
Future orientation	Mostly check existing situation and reasons why it was happened	Beside of history tracking try to predict future
Controller's role	Auditor, eyes and hands of stakeholder onside	Help to plan, lead and develop company
Place in the organization	As external part, only for large organizations	Internal, depending of the size some activities can come additionally

Staring from this point we will discuss only the German model of controlling, due to wider definition and responsibilities and of course due to potential outcome, which the German model gives to Multinational organizations in context of sustainability and future development. The German model was actively developed, adjusted and localized further in several countries with different level of maternity, such as Chinese, Japanese, Bulgarian, Russian and others models (Falko, 2008).

With focus on this controlling-model development evolution and main views on the prototype of the controlling instance in the real world will be presented. In this point it is very

important to understand, that every further step was increasing the previous scope of controlling, but not change this completely. This led to an increase of complexity, (scope extends) and as a result requests more and more resources. This is natural genesis – new challenges request all previous functions plus additional, and will be shown in table below. Table 2 presents the following characteristics: time periods, change of scope of controlling (only additional functions, which were included on a particular stage), prototype and main authors.

Table 2

Scope evolution of controlling development

Time period	Scope of controlling	Prototype	Main authors
1930-1970s	Finance controlling, mostly focused on cost	Simple sensor	Deyhle, A., Mann, R., Mayer, E., Vollmuth, H.J., Scown, T
1970-1980s	Support information system, reporting, single point of trust for management	Simple automat	Reichmann, Th., Preishler,P., Schaffer U.
1990s	Planning and control of budget	Simple toolbox	Hann, D., Horvath,P., Schneider,D.
	Coordination function to achieve goals and pre-defined targets	Communication center	Küpper, H.-U., Bendak, J., Schmidt, A., Weber J.
	Company management system – from planning and budgeting to correcting action implementation after deviation analysis. KPIs and business processes	Negative feedback, Homeostasis	Steinmann, H., Kustermann, B., Schreyogg, G., Newman, WH., Russell, KA., Siegel, GH., Kulesza, CS.
2000s-2014	Decision making system, knowledge management system	Immune system (react only on problems)	Steinmann, H., Scherer, AG., Ortmann, G., Sydow, J., Windeler, A., Becker, A.
On demand	Management system which provides flexible planning for dynamic targets, and provide pro-actions for unpredictable events	Nervous system	Defined by the authors

As shown from the previous table the German concept of Controlling was started in 1930s and has no significant development till 1990s, later on globalization enforces transformation from local companies level into corporations. This, as a new force, pushes a new cycle of controlling development. This moment is the starting point of export of the German Controlling Model into other countries.

4. MNCS AND NEW BASIC ASSUMPTIONS FOR THE CONTROLLING MODEL

Up to now, in the MNCs development, the parent headquarters (HQ) have a lot of challenges. For example, Foss, Foss & Nell (2012) examined HQ and determine as follows: "It is recognized that the HQ may be ill-informed, for example because of information overload, radical uncertainty, or sheer ignorance, and may suffer from "bounded reliability"." They as well have mentioned, "that the movement away from more traditional hierarchical forms of the MNC and towards network MNCs placed in more dynamic environments gives rise to more occasions for potentially harmful intervention by HQ."

This leads us to change our previous assumptions. The first quite dangerous believe, which gives more threats than opportunities: – "We can operate, control and manage in the other

markets on the same way as in our original (local) market." The absolute confidence to the uniformity and symmetry hustles managers to ignore information asymmetry, geographical and cultural differences, time zone shifts, etc.

The second assumption – "Historical information and analysis of this can predict the future". And beside of this companies try to simplify situations with a limited number of variables taken into account.

Until now "The International Group of Controlling" recommends to use BSC (Balanced Scorecard) with 4 dimensions, which is not able to represent the impact of uncertainty. This as well will not display acceleration/deceleration as 2nd derivation on the most important trends. Reaction time with this approach is that big, that leads to work with the consequences instead of pro-active behaviour.

Taking the above into account, the 1st new assumption will be: "Markets are not homogeneous". This assumption was indirectly confirmed by Le Cottier and Santalo (2014): "We also demonstrate that subsidiaries perform better when the distance in market munificence between their home and host markets is small. Analysis of a unique panel database, gathering ownership ties and financial performance for 3,828 listed multinational corporations (MNCs) and 18,234 of their European subsidiaries over a three year period."

Based on the previous assumption, we can put forward the following: "Other markets should be operated differently as the home market. This difference is able to give a big impact into the final result." And accordingly historical information: "Historical information can cover only a part of our future vision".

5. NEW MODEL DEVELOPMENT

Accepting MNCs as complex systems with a lot of interactions and degrees of freedom, controlling of such systems will be represented by a multifactor model, where no factor can be pointed as major, but only jointly composition of those able to a give realistic snapshot of business.

The main gap in currently popular controlling concepts for MNCs is a lack of adaptation to dynamic environment, which concluded based on previously discussed assumptions. This can be represented based on a new prototype - Nervous system (react not only on treats but as well on opportunities, learning and self-changing through this process). To provide basement of this conclusion in the table below is presented a detailed analysis of the main functions and information sources development in controlling paradigm.

Controlling ideas were presented in historical sequence; where the core concept was taken from the original definition. And the 3rd column highlights additional scope points, which were added during this step of controlling development. The last column describes to whom this controlling model is suitable indeed - company profile and company focus points. Taking into account, that the previous (earlier in this sequence) model will not be able to support all company activities due to a lack of functionality. But the next model will give more than it's required, and encumber without any additional value. The row 7 presents the new conceptual approach for designing a new controlling model - functions and sources, which is advocated by the authors.

Table 3

Evolution of the Controlling concept through prism of a company profile

	Controlling definition (core idea)	Detailed scope of controlling and information sources	Main focus and company profile
1	System of cost accounting and reporting	**Main functions:** Creating methods and tools of cost and later managerial accounting. Organize internal cost (managerial) accounting in company. **Main sources:** Accounting data (including managerial accounting approach on the later stage)	Focused on production, small companies, in the small market
2	Informational support for budgeting, funds requirements, reports and historical data analysis.	**Main functions:** Informational support of management. Tools for budgeting and funding. Cash flow forecast. Business planning tools. **Main sources:** All functional process measurements.	Focused on individual product portfolio, small companies, in the middle size market
3	Split between strategic and operational controlling. Different level of planning.	**Main functions:** Target definition **Main sources:** Planned with actual date from functional areas	Focused on future development or/and R&D, Middle size companies in the middle size market
4	Coordination function to achieve goals and pre-defined targets	**Main functions:** Coordination and balancing of company processes to achieve pre-defined targets. **Main sources:** Structured hierarchical reporting.	Focused on client's marketing with various processes inside or outside of the company, mostly middle – large size local companies in the big local markets.
5	System of management with several sub-systems of planning, budgeting, funding, as well control target fulfilment and correction action if required.	**Main functions:** KPI control for every functional area of the company. Deviation analysis. **Main sources:** KPI and deviation of targets.	Focused on the wide network organization, middle and large companies with subsidiaries, mostly with traditional hierarchical forms of leadership
6	Decision making support system, knowledge transfer.	**Main functions:** Complete information for decision-making. Knowledge transfers from headquarters to subsidiaries. Reflection of processes and its formalization. Forecasts. **Main source:** Knowledge management system.	MNCs with traditional hierarchical leadership style which are focused into existing in the long run
7	Management of company management	**Main functions:** Corporate performance – multi process model. Effectiveness and efficiency of decision-making. Decision making unit. Methods and tools for flexible planning and company development. **Main sources:** Informational management system (includes but not limited) corporate performance management, ERP, CRM, MMP and others Globalization dimension Environment factors	Network MNCs with focus on sustainability, effective and efficient management on all levels of the company

Evolution periods were described according to Table 2.

6. RESULTS AND DISCUSSION

Nowadays we can define Controlling as management of a company's future, which can be described as aligning of a whole system development with its elements development, oriented on the future targets of a particular company. The future targets in this case are strategy and mission realization of the company (Drury, 2007). This approach leads us to

accept Controlling as one of sub-system of the company, which takes several roles and should grow together with the company. Controlling of development or better name, self-development of the company cannot be realized with the focus only on internal factors. As far as an environment became highly dynamic, strategic targets should be adjusted accordingly, or could became non actual rapidly. This should be included in the meaning of Controlling, and suddenly, when a company became as multinational, the sensitivity of this role increases dramatically.

As well-known from TRIZ (Altshuller, 1984) system development is always asynchrony, and different sub-systems have a different speed of development, it raises conflicts and contradictions. If we will re-phrase "The law of uneven development of parts of a system" - A system encompasses different parts, which will evolve differently, leading to new contradictions. Without alignment and balancing the system became ineffective and inefficient, and this successively leads to no possibilities to reach strategic targets. To visualize and understand controlling we can find several analogies in biology or engineering science. One of them - controlling we can imagine as a nervous system, which keeps coordination between different, processes and systems like organs, muscles and etc. Any of us could a expect result of functional problems of nervous system in organism, similar situation with not working controlling in organizations. And, of course, there are rules - similar to biology science, the nervous system complexity should correspond to bio-system complexity. The rule might be repeatable in management science as well.

The new controlling model, according to our prototype will coordinate all types of activities in all organisational levels of the MNC and transmit signals to and from different parts of the MNC. We are looking at Controlling as an integrated morphological and functional set of various interrelated structures that are mutual activities of all MNC systems and generate a response to internal and external conditions changes. Signals will have a different level. Some of the signals should have highest priority on the level where they are appearing, like the reflex of hand's withdrawal from the hot.

Aggregation of indicators for transmitted signals, in this cases as well not that trivial thing. In simple aggregation we can lose "weak signals". Or get average value with lost meaning and give misinterpretation. That is why aggregation of signals should be developed based on fuzzy logic.

CONCLUSIONS

Looking to the nature of controlling taking into account recent globalisation processes, guides us to review the described opinion. The development of the new controlling model was highly required from MNCs and is a critical factor of effective management and as result of sustainability. Well-known Controlling models that are mainly based on historical data and financial information only are not able to solve all practical needs of modern MNCs. In the recent publication Controlling was observed as static tool for management decision support.

Main outcomes are:

1. German model of Controlling was presented as wider than USA model. The factors that were taken into considerations were timeframe, maturity level of company, market local or global, company size and prototypes.
2. The current theory of Controlling was based on 2 main approaches: the 1st is only historical information that was taken into consideration for management and prediction. The 2nd is a unified system – procedures were applied to a whole group – headquarters and subsidiaries, and not adopted to cultural differences or other locally specific needs. The new assumptions were defined as following: "Markets are not homogenous", "Other markets should be

operated differently as the home market. This difference is able to give a big impact into the final result.", "Historical information can cover only a part of our future vision".

3. The study and analysis of evolution of Controlling concepts allows to define the new assumptions for designing a new model of Controlling, which is mostly based on Management approaches and Theory of Decision Making. These new assumptions give a chance to propose new features of next Controlling model generation. This defined model could be represented within analogy with human nervous system.

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