CONTROLLING IN THE FUNCTION OF RESEARCH AND DEVELOPMENT MANAGEMENT

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ABSTRACT

A large number of companies lack the information that will enable an efficient making of business decisions and running business successfully. Local experiences show that companies have not established an efficient way of managing which would be based on application of reliable and relevant information. Thus, it is of paramount importance, from the aspect of increasing efficiency and efficacy of all business processes and business segments that controlling and its systems be applied. In Serbia, the concept of controlling represents a relatively new notion in the professional literature and domestic subject management practice likewise. In the state of global competition and striving for accomplishing existential goals of companies, we are being faced with an increasingly greater necessity to apply controlling, its systems and instruments in research and development management. The central goal of this paper is to pinpoint the necessity and significance of the successful application of controlling and its instruments in research and development management.

Key words: controlling, management research and development, planing, finances

1. INTRODUCTION

In Serbia, controlling is still in the process of development and is applied in the practice of economic subjects. In the business practice, controlling is seldom applied, and even where it exists as an organizational unit, it is disputable in what way it is organized and which activities it pursues. A vast number of our economic subjects are not in possession of adequate controlling methods and instruments which may be conducive to the operational and strategic management. This means that even today, in appalling conditions our economy is in, every level of management bases their decisions upon intuition and guessing. However, wrong decisions are nowadays considered expensive and can severely jeopardize the overall business management and bring into question the basic goal of a company – which is its survival. Put simply, wrong decisions are out of the question when it comes to the contemporary management and running a company.

Operational and strategic planning, the analysis of the success rate, organizing the informational process and reporting to the management represent crucial prerequisites of the successful research and development management, besides running a company in the market economy. In the state of dynamic environment, the ever growing competition on the market, the presence of various sorts of risk that could negatively impact business, all impose the necessity to point out the significance of the process of controlling and its development to successfully running a business. As a process of expert support to the management in the process of making business decisions, controlling brings about more efficient coordination and integration of all business processes. In this way, controlling enables the establishment of the efficient process of obtaining information and reporting to the management and provides an adequate basis for the proper decision making process.
2. THE MISSION OF CONTROLLING IN THE FUNCTION OF RESEARCH AND DEVELOPMENT

Research and development management represents an important function of running a business, which has been lately pointing out to the necessity of the greater systematization and correlating the research and development and other activities that comprise running a business. The thing that is particularly pointed out is the connection of research and development with controlling. This approach enables the creation of an efficient system required for running an entire business. Firstly, we will consider basic definition of controlling. Thus, controlling entails an efficient system that provides information necessary for managing and making business decisions (Horvath, 1998.). On the other hand, controlling stands for a process of defining goals and monitoring every management process, that is to say, planning, supervision, and management, in addition to seeking responsibility for achieving goals. (International Group of Controlling, 2005.)

The chief goal of controlling is to continuously ameliorate business’ performances. The tasks of controlling include the gathering and analysis of the data associated with the results of managing a business. Then, the data is sent in the form of report to the management, who make the business decisions taking the data into consideration. Thereby, controlling constitutes a function of management by which efficiency and management efficacy are increased, and with that, the ability to adapt both inside and outside a company. (Weber, 1995)

The most important tasks that belong to the field of controlling are (Eschenbach, 1998):

- Coordination of activity and cooperation in establishing realistic and attainable goals which depends on the evaluation of future strategies designed for achieving short-term and long-term goals,
- The implementation of the comprehensive and systematic planning, as a basis for goal achievement,
- Monitoring plan realization, identification of deviation from an in-depth analysis of inner and outside causes, as well as application of suitable measures for altering the working conditions,
- Coordination in all levels of management and
- The introduction of novel methods, instruments and tools for achieving greater rationalization, productivity and business profitability.

Taking into account that controlling is closely connected to management, it appears in all sorts of processes that are concerned with a business activity. This is how we differentiate between the top management controlling, the controlling on the level of organizational units and particular functions, the project controlling and others. (Lebfromm, 1997.)

The basic functions of controlling are (Horvath, 2006.):
1. Coordination,
2. Planning,
3. Managing
4. Supervision and
5. Gathering and processing of data.

Kinds of controlling and basic methods for its application

Depending on the management level we differentiate: operational and strategic controlling.

Operational controlling – The analysis of the business policy and operational decisions with which current managing is determined, i.e. managing during the business year, it breaks down to supervision and the analysis of deviation of the accomplished results in contrast to the planned ones. So, during evaluation, the annual financial budget (plan) broken down to months, weeks and the days of the week is used as an index. Each negative deviation from the plan is a clear sign that
it is necessary that causes and repercussions from the deviation be immediately determined and proper decisions made. This is also a task of operational controlling. If this is not the way it is done, this means that the operational decision making is not efficient. The quality of business decisions, overall, is best assessed based on accomplished business results and the success rate. On the operational management level, the basic strategies are familiar, already defined on management planning level. What is defined on this level are operational management rules, and their effects are supervised and assessed in real time. Operational management demands fundamentally different approaches, techniques and tools when compared to planning management. Making operational decisions entails the existence of the proper informational infrastructure and application of predetermined parts of informational technologies. If a system’s strategy is familiar, operational decisions are based upon the simulation of managing actions and determining consolidation with the global strategies.

Strategic controlling - has got to be based upon incessant monitoring, supervision and analysis of the accomplishment of the strategic plan which represents a written document whose chief goal is a long-term orientation of a business system. In this way the management is proactively encouraged to defining, clarity, accomplishment, measurability, relevance, and deadlines – each individual dimensions of the strategic planning.

Application of controlling is based on the application of operational and strategic instruments (Osmanagic-Bedenik, N., 1998.) Strategic instruments are: the vision and mission, success factors, bad experience, lifespan, SWOT, strategic balance, portfolio, quality control, development analysis.

Operational instruments are: goals, expenses, investment calculations, deviation analysis, cause analysis, reporting, expense invoices, plans, programs, motivational and rewarding systems, management styles.

In practice, there are a vast number of tools, methods, and instruments that can be used both in operational and strategic marketing and those are: ABC analysis, Activity Based Costing, Balance Scorecard (BSC), Benchmarking, BCG Matrix, Break Even Point (BEP), Brainstorming, Brainwriting, Bridge, Controlership, Cost Benefit Analysis (CBA), Cost Waterfalls, Direct Costing, Du Pont analysis, Economic Value Added (EVA), Market Value Added (MVA), TSR –Total Sharehodler Return, CFROI - Cash Flow Return On Investment, Shareholder Value – SV, FGV - Future Growth Value, Shareholder Value Added, Life Time Cycle, Management by Objectives (MBO), Mind Maping, Pareto analysis, Rolling Forcast, Scoring modeli , SWOT analiza, financial analysis, Trend analysis, XYZ analysis.

Anticipated benefits of controlling implementation are (Osmanagic-Bedenik, 2004.):
- the advancement of management (strategic and operational),
- a more facilitated accomplishment of visions and goals of a society,
- successful financial management
- efficient planning and goal accomplishment
- an increase in ability to adapt, and environment demands and the future,
- faster development, integration and better exploitation of informational systems,
- better management with the human potential and career pursuit,
- integration and coordination of business units,
- smoother adaptation to change.

From the benefits of controlling listed above we may well see that controlling is implicated in virtually all business areas: management, finances, planning, flexibility of a society, informational system, the course of documentation and report, human potential, organization, hierarchy, etc. From this reason we can see a paramount significance of controlling in managing companies.
3. CONTROLLING AS A SUBSYSTEM OF RESEARCH AND DEVELOPMENT MANAGEMENT

Controlling cannot and must not be considered separated from the research and development management, nor can we generally say that there is a successful research and development process without the application of controlling. Controlling as a subsystem of research and development management highlights the necessity of their mutual interrelation and expert collaboration. Their common goal is to successfully and efficiently manage a company, but the ways by which this is realized are different. While the management’s obligation is to define goals through operational and strategic planning, organizing, conducting, managing human resources and business supervision, controlling is on the other hand obliged to fulfill basic tasks by means of applying its methods and instruments, which includes:

1. providing transparency in all business areas,
2. providing high-quality business information, and
3. enabling perpetual business advancement and success rate.

By virtue of applying controlling, business information from all parts of managing (procurement, production, selling, marketing, accounting, finances, investments, etc.) become usable, measurable, and available to the management in the form of report. By means of controlling, it is possible to monitor and measure all processes continually. From this connection of research and development management and controlling stems the fact that it is these two very areas that the success and management development in all parts depend on.

3.1. Controlling as a function in a company

As the previous part of the text highlighted the mutual interrelation of controlling and management, we conclude that managers are users of information provided by controlling on all levels. Controlling achieves best results as the very part of the management, but now we come to an extremely essential question, which is, where does controlling belong, that is to say, where should it be positioned in the organizational structure of a company? It is well worth noting here that controlling has been developing out of functions of accounting and finances in developed countries. Later on, as it progressed in modern conditions, it institutionalized and became an individual function of management. However, it is fairly hard to compare the practice of developed countries around the globe and even harder to apply it immediately in Serbia. In our economic practice we should seek practical, applicable, and acceptable solutions which will enable controlling to take the place it belongs for quite some time. Accordingly, an acceptable solution in the initial development of applying controlling in our companies is its presence within the frames of individual business areas of a company, which in most cases are: accounting, finances, a plan and analysis.

3.2. Controlling and other business areas

Since controlling is often misinterpreted and falsely related to various business areas, it is necessary that differences and similarities be made among certain business areas. Controlling as a support to management is closely connected to various business areas of a company which is functionally complemented to all related organizational units.

This connection is related to the following areas:

1. Controlling and accounting
2. Controlling and finance
3. Supervision and control
4. Controlling and internal auditing
5. Controlling and business analysis

This connection refers to the next areas: Based on the given connection we can say that controlling is not accounting, finances, supervision, internal revision or analysis of business as it is commonly thought, but rather, all the aforementioned business areas are part of controlling and represent its
chief sources of information. In the next part of the text, the basic similarities of controlling and certain business areas are listed.

1. Controlling and accounting
Accounting is oriented to information from the past, that is to say, all the business events from the past with the goal of closer prediction, planning, and determining future activities. The company’s accounting is the chief source of information for controlling since accounting notes all business changes and events in relation to the company’s business. The chief goal of controlling is to shape the available data from accounting into usable information, both in terms of form and content, for the needs of the management’s decision.

2. Controlling and finances
It is in the companies’ finances that controlling is most widely applied. Starting from the fundamental principle of financial function, which is keeping the liquidity and long-term financial stability of a company, controlling in finances has the task to provide efficient managing of the financial policy through proper operational and strategic planning, budgeting the business, establishing an efficient system for measuring performances, monitoring, and overcoming financial risks, reporting, as well as consolidating activities of the financial function with activities of other business functions in order to attain determined goals of a company as a whole.

3. Controlling and control
Supervision as a phase in management is only a part of controlling. Supervision entails processing all the information from a company so as to determine whether there are deviations between observed figures, as well as the analysis of these deviations, whereas controlling is focused on the comprehensive and continuous support to the management, and is an important part of it. From all above, it is necessary to distinguish supervision from controlling, because supervision is just a single task of support to the management and primarily refers to overseeing whether all the activities have been carried out, whereas the task of controlling is taking certain remedial actions in case deviations are not in accordance with the already defined standards. The European literature on economics, especially that of Germany, joined by the English literature, defines the term ‘supervision’ with controlling for the sake of comparison with certain figures and processes. Prof. Frese, E. (Frese, 1968.), analyzing the function of control, pointed out that supervision should mean comparison between planned and realized values for information about results of economic influence.

4. Controlling and internal auditing
Controlling and internal auditing are functionally convergent. Some developed countries demand their rigid distinction, in other words, the necessity for the institutionalized independency. For instance, in the USA revision is a part of controlling, whereas in Germany it is insisted that these two be completely separated. The basic purpose and goal of revision is to increase objectivity and reality of information about managing a company, whereas on the other hand, the basic purpose of controlling is to increase the success rate and the faster adaptation to internal and external changes in the environment. Accomplishing revision’s tasks contributes to the success of controlling and vice versa.

5. Controlling and a business analysis
The basic principle of applying controlling and a business analysis is the business analysis which is realized by means of various methods and indexes. The subject of analysis is running a company observed from different aspects of the success rate. The analysis alone is realized by employing various qualitative and quantitative business indexes. Goals and tasks of a business analysis differ from the needs of the users who do the analysis on their own, while the activities of controlling are diverted towards establishing the existing state and proposing a solution as well as establishing and developing an efficient system of monitoring companies’ performances and reporting to the management needs. The chief influence of controlling is to recognize and develop indexes and methods that representatively describe a situation in a company.
5. IN LIEU OF THE CONCLUSION

The significance of controlling was long ago recognized by the economic systems of the advanced world economies, and even by the neighboring countries which consider controlling an essential instrument which has an advisory role and contributes to the success rate of running a business. In the state of crisis, it is extremely important that all the data pertaining to the issues in running a business be obtained in due course, find their causes, the place of occurrence and to find efficient solutions as soon as possible. As a process of expert support to the management, controlling provides answers to these very situations, that is to say, represents the function of resolving every specific problem in a company, but also the function of informing which brings about the advancement and business development. The economic subject management in Serbia needs to encourage the application and development of controlling and think of it as a concept and instrument by virtue of which the process of management will be conducted with greater efficacy and efficiency. This way of thinking and application of controlling in practice would allow for the function of research and development management to get the novel – managing orientation.

REFERENCES

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