

UDK: 005.5:657.05

## Controlling: Between Theory and Practice

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Received (12.11.2015); Revised (20.12.2015); Accepted (29.12.2015)

### Abstract

*Even though controlling as a term dates from the Middle Age, it was accepted by Americans in the 18th century, when a clerk who was responsible for keeping the balance of government budget appears with an official title called comptroller. In the 1970s in Europe, German speaking countries accepted controlling as a more serious topic of conversation. Controlling can be described as a navigation process towards set goals of an enterprise or as an economic consciousness of an enterprise. In German speaking countries, the academic public became interested in controlling right after it was proven to be an effective tool practically. Corporate practice led to the emergence of Controlling in the academic field. In 1960s, positions of controllers started to appear in companies. Around the end of 1960s, the term Controlling was introduced by dr Albrecht Deyhle, who was the most influential person for introducing Controlling to German speaking countries. Because of this of dr Deyhle's influence, faculties started to research the new phenomenon. The development of Controlling as a an academic discipline was driven by a large degree by its positive recognition in business practice. Controlling has become a recognized discipline not only in practice, but also in research. An increasing demand for controllers in the business world paved the road for the development of Controlling chairs in Germany. In the beginning of 1970s, universities started to offer Controlling courses as a part of business administration degrees. In 1973 the first Controlling chair was established at the Technical University of Darmstadt. In 1974 the second Controlling chair was established at the University of Duisburg. By 1988 there were 14 and by 2004 were 72 chairs for Controlling. Starting in 2005, the course Controlling has been offered to students of specialistic studies at the Faculty of Technical Sciences, University of Novi Sad.*

**Key words:** *Controlling, development of controlling, academic discipline*

### 1. HISTORY OF CONTROLLING

The origins of controlling dates from the Middle Age, when the French controllers appeared under the name of «*contre-roule*» or «*counter-roller*». Written documents about the usage of the name date from the 15th century [1] [2]. In that time, at the English Royal court, the first employments under the name «*countroullour*» appeared. Their main tasks were to register the input and output of money used for flow of goods. At the end of the 18th century the American Congress set up legal grounds for the introduction of controllers in public service, «*comptroller*» had a task to keep balance between the government budget and the use of government resources.

One century later, in 1880 the shipping company «*Atchinson Topeka & Santa Fe Railway Systems*», as the first private institution, introduced the position for a

controller. According to the company's regulation, the tasks of a

controller were mostly financial. The tasks of a controller are mostly financial and refer to dealing with bonds, shares and securities owned by a company. The first industrial enterprise, which introduced a controller, was «*General Electric Company*» in 1892. According to some researches, the position of a controller existed in only 8 out of 175 American States. Controlling was slowly introduced in enterprises. According to the researches in 1948, 143 out of 195 enterprises polled in America, introduced controlling. Controlling existed there for 22 years.

Since 1920s controlling has flourished in the USA. More and more American enterprises opened the positions for controllers and that meant there was a huge number of enterprises with bigger problems in communication and coordination. Production was more focused on the intensity of fixed costs and created the economic

turbulence and the need for new managing instruments and their professional application.

The oldest controlling instrument was developed in the chemical holding company «*Du-Pont*» in 1919. The indicators system was based on the opinion that there was no need for maximizing the absolute profit value, but the relative capital profitability value. It is interesting to emphasize that the system was developed as a result of the First World War [3]. «*Du Pont*» was the main army supplier of explosive materials in America. After the war ended, «*Du Pont*» lost the most important market on one side, and on the other side, it had to invest great amounts of realized profits into something.

That new orientation demanded for diversification of business operations. The controlling instrument gave them the evaluation and information adjusted to numerous parts of the company which dealt with different issues. So created controlling instrument assured that by using «*Du Pont*» indicators system one can manage different companies owned by «*Du Pont*» holding company. Controlling obtained similar significance in other large systems of that time – «*General Motors*», «*Sears*» or «*Standard Oil*» which also faced bigger need for integration and coordination because of diversification of business operations.

Difficult economic conditions during Depression, which was caused by the economic crisis in the period from 1929 to 1931, influenced the controller to, besides his traditional tasks such as audit and finance-economic functions, pay more attention to the planning tasks. That way, controlling as an institution becomes more important. In 1931 The Institute for controlling was founded in America and it was later renamed Financial Executive Institute (FEI) [22]. The important task of FEI was to create the catalogue of tasks which gives the controller planning, handing and interpreting the reports, evaluation and counselling, taxation tasks, reporting on a daily basis, property insurance and economic plans establishment [4]. Today, FEI is the professional institution with over 15000 members out of which 1500 are controllers. In America, the highest official name in the Ministry of Finance is a controller, who is responsible for cash flow control as well as for execution of legal duties in over 4.600 banks, which approximately employ 2000 workers each. In the French Ministry of Finance the position of a «*controller for expense employed*» is established in order to secure impartiality. Controllers are elected from finance administrative staff and they directly report to the minister. Since they don't have a power to make decisions, they just emphasize the irregularities which they discover during their visits [5] [6].

In Europe, controlling was established much later and it is necessary to differ it from the American one. Not until the end of 1970s controlling became more important in Europe, and in 1980s it exceeded operational tasks areas mentioned above. Strategic controlling can be found more and more in literature, while, in enterprises, operational controlling has a priority over strategic one, except for some larger enterprises' practice.

The basic task of controlling is «*to make the enterprise more profitable*» [1]. and is also the orientation towards future which means constant learning and improvement.

Before we move on to a review of a possible modern organisation of an enterprise which has controlling, it is necessary to say something about the concept of controlling itself which is very difficult to be defined, but in our opinion, the most acceptable definition is the following: «*Controlling is the navigation process towards economic goals, where managing, definition of position are performed according to the established order and plans monitoring.*» [3] [7]

## 2. BRIEF DESCRIPTION OF THE NOTION OF CONTROLLING

Controlling is one of the most important functions whose task is solving the specific problems arising when adjusting the enterprise to the upcoming internal and external changes. The task of functional controlling is taking account of the transparency of incomes, costs and the results achieved, which is a prerequisite for managing the company successfully [2]. In the US and the developed European countries controlling has been present and defined in theory, but also implemented practice, for a long time. The situation in our literature and practice is very different. Controlling rarely appears as an independent business function, and even after several decades of its application a large number of companies are lacking controlling function in their organizational structure or have failed to understand all the benefits it brings as a modern instrument of business management.

Ambiguities about the concept of controlling arise from the translation of the word *controlling*, because the interpretation of the word itself refers to control which often leads to misconceptions and superficial interpretations. To understand the concept of controlling, it is very important to understand the relationship of controlling and the other closely related functions. Controlling very closely cooperates with functions such as accounting, finances, internal control and internal audit. In modern enterprises, the function of accounting consists of three sub-functions: bookkeeping, accounting planning and accounting control. Controlling is related to all these sub-functions. Bookkeeping refers to the past, it collects and documents data from the past and provides reliable information. Controlling is a future-oriented function, but the data it needs as the starting information about the present situation it obtains from the accounting function. Controlling is a function that transforms the accounting data for the needs of management. The second sub-function is accounting planning which is under the influence of the controlling function, which provides technical assistance, but also uses the results of planning. The last sub-function is accounting control: controlling directs this sub-function and uses its results. Finances in today's environment are oriented towards the preservation of liquidity and financial stability, with controlling being the function that examines and analyzes the financial affairs. It makes the internal

control. Its main task is to explore the differences between what has been planned or prescribed and the actual situation [8] [9] [10]. Controlling is the function that considers and analyzes the information received from internal control. Internal audit aims to increase the regularity of business processes, increase the objectivity of information about the given business process and reduce risks, as well as to increase the security of business activities. Controlling uses the results of internal audit to achieve its purpose. The purpose of controlling is increasing vitality of enterprise enabling it to adjust to internal and external changes.

### 3. CONTROLLING IN EUROPE

In Europe, controlling appears for the first time in the 1950's and 1960's, initially through the branches of American companies. Its tasks were bookkeeping, taxation, cost accounting and economic consulting. Reporting, planning and developing plans, comparing of what is required and what has been realized, as well as operational planning has become increasingly dominant areas of controllers in addition to providing consulting services. The crisis in the 1970's, although fraught with negative consequences such as the increase in the capital costs, changes in exchange rates, high inflation, also contributed to the successful development of controlling in Europe. As a result of the strong market development, the existing operating instruments became insufficient to overcome the loss of competitive advantage, which rendered the instruments of strategic controlling necessary. Dr Albrecht Deyhle has a particularly important role in the development of controlling in Germany, and thus, in Europe as well [2] [7] [9]. In 1972, he established the Controlling Academy in a town near Munich, whose main task was to train professionals in the field of controlling. The main feature of his conception is clarifying that controlling is closely associated with planning, decision-making, and preparing and presenting the figures that are objective oriented. What also significantly contributes to the development of controlling and harmonizing the concepts of controlling and terminology is the establishment of International Controlling Association in Germany in 1995, which includes more than 6.000 active members from all over Europe [19] [20].

### 4. CONTROLLING AS A SCIENTIFIC DISCIPLINE

Although controlling is a long-time accepted function in practice, the question of whether controlling is a scientific discipline still remains controversial. Is controlling only a set of skills or has it already set foot in the field of science?

In order to define controlling as a scientific discipline, it is necessary to examine the appropriateness and effectiveness of individual solutions, and identify those which could represent a pillar of controlling activity as a scientific discipline and generally accepted practice [12]. Arguments that controlling can be a scientific discipline can be found in the fact that this is an information activity intended for decision making. Controller practice, which uses controlling skills for

centuries, has been struggling to finally rise controlling to the level of a scientific discipline. Despite the high levels of development already reached in practice, academic circles were hesitant to recognize it as a scientific discipline. The study of Binder-Schaffer revealed that in 2004, 72 faculties maintained controlling departments, out of 92 faculties of business administration. In addition, there were also some aspects of controlling that were covered by other departments. Based on the analysis of these results it has been concluded that only 15 percent of 72 departments refer to the "pure" controlling, while the remaining 85 percent is associated with other areas. Controlling can be associated with very different aspects. Controlling is mostly associated with accounting (36%) and auditing (13%). The development of controlling as a scientific discipline and its application at German-speaking universities begins in 1973, when P. Horváth established a new controlling department at the Technical University of Darmstadt. However, until the end of 1980, the development of controlling as a scientific discipline is going very slowly. Afterwards, the situation begins to change quickly. In few years 14 controlling departments were formed in East Germany, while in West Germany the number has reached as many as 41. This increase and changes in application of controlling as a scientific discipline are largely associated with the development of controlling in practice.

The analysis of job advertisements conducted by Weber/Schäeffer for the period of 1949-1994 has shown a significant increase in the number of controlling jobs and jobs in similar positions. The increasing presence of controlling at universities has led to an increase in publications on controlling in academic articles in German-speaking countries. In 1970, the share of articles on controlling ranged between 4-6%, while by 1990 the number had doubled to an average of 12%. In addition to universities and business schools, universities of applied sciences have also played an important role in the development of controlling as an independent scientific discipline. At the beginning of 1971, Elmar Mayer founded the AWW Cologne workgroup whose role was to teach the theory of business administration and practice in the field of controlling and accounting at the department of the University of Applied Sciences in Kalogn. In 1977, the department of controlling and accounting was founded at the same university. By the end of 1989, of the 40 universities of applied sciences 34 of them had a department named "Accounting and controlling" among their institutions.

#### 4.1 Concepts of development of controlling as a scientific discipline

There are many factors affecting the development of controlling as a theoretical discipline and what is specific is that controlling has been developed differently from country to country. This is due to the fact that the theoretical concepts of controlling were developed depending on the level of socio economic development of specific country. Theory is defined as a

system of statements that describes and explains the phenomena in practice and that can be used for making predictions about the future development. Of course, in addition to being defined as a phenomenon, controlling also requires guidelines for use in practice. Concepts are playing an important role as a bridge between theory and practice, setting a framework that will be concretized in the company practice depending on specificities of business conditions in each individual case [13] [14] [15]. The dominant institution of controllers in German-speaking area is the previously mentioned International Group of Controlling (IGC), founded by dr Albrecht Deyhle who takes the merits for dissemination of controlling. This institution is of great importance in the field of controlling, because it provided a strong contribution to the harmonization between the concept of controlling and terminology. The ideas of this group can be found in the concepts of controlling that were developed by a number of most distinguished university professors, including Meyer, Horvat, Webber, Schäeffer, Cooper, Hoffman and others. A particular contribution to the development of controlling as a scientific discipline at German universities was provided by Professor Jürgen Weber, who suggested a way of grouping the concepts from German-speaking area based on their main focuses:

- Information-oriented controlling;
- Controlling as outcome-oriented control;
- Controlling as a function of coordination;
- Controlling as ensuring rationality in management.

The early conceptions of controlling were focused on *information* as the essence of controlling.

According to Hoffman, controlling is seen as management support through providing information, or as collecting, preparing and coordinating information so that they are usable by managers in directing the operations towards the goals set. In practice, responsibilities of controllers are extending far beyond the function of information, so that this concept, which closely associates controlling and accounting, covers only a part of what controlling actually represents. The second early concept identifies controlling as *outcome-oriented* control, i.e. directing the company constantly towards its goals.

The task of controlling consists of taking responsibility for realizing profit, which is defined by top management as a goal. Seen in this way, it goes beyond the purely information-oriented responsibility of the accounting department. Controlling is focused on monitoring and control functions that are constantly being adapted to new situations. This concept is based on understanding management as management cycle.

The starting point of the process is to define the goals of the company and its units through the process of planning. This is followed by monitoring the performance and comparing what has been realized with what has been planned. Information on possible deviations can be used to introduce changes into processes, enabling goals to be still achieved, or to

review the adequacy and feasibility of planned dimensions.

The third group of concepts sees controlling as a means the main task of which is to coordinate between the various sub-systems of management. Horváth explains such a system-based approach by dividing the system of management to planning and control functions on the one hand, and supplying information on the other, which creates the need for their coordination by the controlling function which in this way has become the third sub-system of management. Cooper develops a systematic approach by adding two other sub-systems: organization and human resource management. According to him, the appropriate level of coordination requires adequate organizational structure and system of motivation.

The criticism towards this approach is primarily related to the vaguely defined borders between the subsystems and the overlap between the tasks of controlling function and those of business administration, or the creation of management, which moves controlling away from performing its original activities.

Webber and Schäefer develop a new approach in which the main goal of controlling is ensuring rationality in management [19]. The deficit in manager rationality can be a result of limited abilities and motivation. The primary function of controlling is to identify the deficits in rationality and reduce or eliminate them.

The same authors distinguish three levels of rationality: outcome-oriented rationality, process-oriented rationality, and input-oriented rationality. This modern concept is the aspect from which controlling is today being viewed.

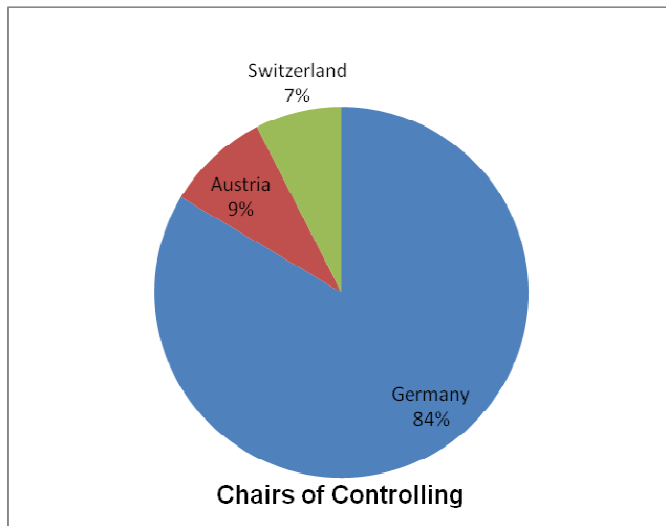
From all the above, we can conclude that the concept of controlling and its studies as a scientific discipline have changed throughout history, but its development is far from being over.

What is anticipated and what is today the most discussed topic in circles of experts in the field of controlling is the large influence of information technology on controlling, both now and in the future. As a result, controllers will be facing new requirements which will be based on increasingly efficient collection, more detailed and updated analysis of information, and making more precise, faster and accurate decisions. Consequently, it should be clear that controller skills will be highly appreciated in the future.

#### 4.2 Controlling as a scientific discipline in german-speaking countries

The survey was conducted in three European countries with the largest presence of controlling at universities. The charts below show the share of universities where controlling is studied in relation to the total number of universities in each individual country.

It can easily be seen that Germany is the most developed country, both by the number of universities, and by the presence of controlling as a scientific discipline, which is shown in figure 1.



**Figure 1.** Chairs of controlling in German speaking countries

Germany has about 70 universities, while the number of universities where controlling is studied as a scientific discipline is 56. Germany is also the country with the best organized system of controlling studies [12].

The total number of universities in Switzerland is 24, and controlling is studied at 5 universities. Concerning the presence of controlling, the situation here is similar to that in Austria.

The development path of controlling in Austria is similar to that in Germany. In Austria, there are 23 state and 11 private universities, which is a total of 34 universities. Controlling is studied as a scientific discipline at 6 universities, such as Graz, Klagenfurt, Innsbruck, Vienna and Linz. At some universities there are departments of controlling, while at others it is studied as a part of the study programme at the departments of economics, management and accounting.

#### 4.3 Controlling as a scientific discipline in Croatia and Slovenia

Apart from the above Western countries, controlling as a scientific discipline has also been established in countries of our immediate surroundings. In Croatia, controlling as a scientific discipline has been introduced at the Faculty of Economics thanks to the vision of prof. dr Nidžara Osmanagić-Bedenik who started running courses in the field of controlling in 1993/94. Controlling in Croatia is studied at the Faculty of Economics in Rijeka, and the Faculty of Tourism and Hotel Management in Opatija. In recent years, controlling in Croatia has also been studied at several private faculties. In Slovenia, controlling as a scientific discipline has been established thanks to prof. dr Franc Koletnik from the Faculty of Economics in Ljubljana.

#### 4.4 Controlling at the Faculty of technical sciences in Novi Sad

Unfortunately, so far, we cannot talk about controlling as a scientific discipline at the level of the Republic of Serbia, because except for the Faculty of Technical Sciences in Novi Sad, no other faculty has seriously addressed controlling as a scientific discipline. There

were attempts at some private faculties, but the professor who taught controlling has left the scientific and education system and went abroad to pursue consulting business.

In the 2005/6 academic year, regular fourth-year students studying various programs at the Department of Industrial Engineering of the Faculty of Technical Sciences were offered the opportunity to attend the lectures organized for the subject *Operational audit and controlling*. In the same year, in the framework of vocational specialist studies, the schooling of the first generation of students in the field of controlling and internal audit began. So far, the schooling is completed by 10 generations of one-year specialist studies. Out of the 137 enrolled students 56 of them (41%) have completed the studies and defended the specialist theses: 27 of them in the field of internal audit, 29 of them in the field of controlling. In the field of controlling, 2 MsC theses were also defended, as well as 9 Master and 2 Bachelor theses. One doctoral dissertation in the field of controlling has also been defended. From the above it can be said that controlling is gradually finding its place in Serbia also as an academic discipline, for now only at a single faculty, but with a tendency to being spread to other faculties, which largely depends on the kind of feedback we receive from the practice in relation to the experts who have completed their education in the field of controlling.

## 5. CONCLUSION

The aim of this article was to consider the practical applicability and benefits of implementing controlling primarily in business practice, with special emphasis on the development of controlling as a scientific discipline and its practical application in business practice.

Based on the theoretical and practical experiences in the application of controlling it can be said that the demand for the service of controlling is higher in times of crisis, such as the time in which we live. There is an increasing number of people who want to learn more about controlling, so it can be said that the current global economic crisis is directly associated with the growing interest in services of controlling at the global market. The main task of controlling is to serve management as some sort of economic navigator ensuring that the ship of the company achieves the target profits. In order to accomplish the above task, the controller must make sure to have an organizational and other assistance from the management.

Controlling as a scientific discipline has been established in German-speaking countries, primarily in Germany, Austria and Switzerland. Based on the research we have seen that controlling as a scientific discipline is taught at over 130 Chairs in these countries, and that over the period of three decades of academic studies at these institutions it has been established as an academic discipline. Serbia still hesitates to talk about controlling, both in business practice, as well as scientific institutions. But thanks to the positive experience in training of students in vocational specialist studies at the Faculty of Technical

Sciences in Novi Sad, considerations about controlling and its practical application have gaining momentum. These days the processing of a survey about the practical usefulness and problems facing the practice of controlling in Serbia are underway, and the results will be presented in the following period.

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# Kontroling: između teorije i prakse

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Primljen (15.11.2015); Recenziran (20.12.2015); Prihvaćen (30.12.2015)

## Rezime

*Iako kontroling kao pojam datira iz Srednjeg veka, on je u Americi prihvaćen u 18-om veku, kada je osoba koja je bila zadužena za balansiranje državnog budžeta bila poznata pod nazivom comptroller. Početkom 70-ih godina prošlog veka u Evropi – odnosno u zemljama Nemačkog govornog područja, akademska zajednica je počela da se interesuje za kontroling, odnosno, onog momenta kada se počeo dokazivati u poslovnoj praksi - kada je bila evidentna njegova praktična korist za poslovanje preuzeća. Korporativna poslovna praksa se poklapala sa potrebom da se radi na akademskoj primeni kontrolinga kao naučne discipline. Krajem 60-ih godina, termin kontroling je razvijen od strane dr Albrehta Deila, koji je bio najznačajnija osoba čijom zaslugom se kontroling afirmisao kao praktična disciplina u zemljama Nemačkog govornog područja. Zahvaljujući Dejlovom uticaju došlo je do razvijanja potrebe za kontrolingom i kao akademskom disciplinom. Kontroling postaje prepoznatljiva disciplina ne samo u poslovnoj praksi nego i kao tema koja se izučava na Univerzitetima, naročito u Nemačkoj. Početkom 70-ih godina univeziteti su počeli da osnivaju katedre za kontroling. Prva katedra je nastala na Tehničkom Univerzitetu u Darmštatu. Početkom 1974. godine osnovana je druga katedra u Duizburgu. 1988. godine je bilo 14 a 2004. godine 72 katedre za kontroling. Počevši od 2005/06 školske godine kontroling se izučava na Univerzitetu u Novom Sadu – Fakultetu Tehničkih nauka, u okviru strukovnih specijalističkih studija.*

**Cljučne reči:** kontroling, razvoj kontrolinga, akademska disciplina