

THE ROLE OF CONTROLLING IN PRODUCTION MANAGEMENT

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Controlling is the enterprise's control system through planning, control and management. The paper presents the functions and methods of production controlling.

Контроллинг это система управления компанией на основе планирования, контроля и управления. В статье представлены функции и методы контроллинга на производстве.

Introduction. The concept of "controlling" is defined as the process of planning, coordination and control of economic processes to keep the organization on the path to achieve its objectives [Major 1999]. The idea of controlling is considered in the concept of a warning system, support for decision-making processes and the implementation of management decisions, both at the enterprise level as well as at national level [Лесидренска, Мирчев и Кремена 2011].

As pointed out by Nesterak (Internet) controlling management environments is slowly becoming synonymous with efficient management system to tackle the crisis, inflation, competition and rising volatility of environment. Among practitioners and theorists it is seen as a professional way to manage enterprise [Nesterak internet, Давидович 2008].

The authors of this article have made attempts to identify features of function that production controlling serves for in the modern process of the enterprise management.

The nature and functions of production controlling. Controlling of production is defined as the direct and indirect impact on the assortment - quantity shape of the production and time course to ensure the best possible performance of the tasks of economic organization [Nowak 2004, Кармински & Фалько 2006].

HJ Hoitsch defines the production controlling (Proco-System) as a

process of coordination of production, which supports the management. Coordination system is based on planning, management and control. It provides the management with necessary information, protecting the coordination system in the process of production management [Nesterak and Bobáková Internet].

Controlling of production is intended to provide information concerning the cost of the manufacturing of finished product. Production costs are needed to create a profit and loss account, and then to prepare a profit and loss statement. If there are multiple cost centers in the department of production, then controller is the coordinator of the actions of the individual production departments. It also evaluates the plans that were prepared for execution. It is believed that the main responsibility, which refers to the need to supply the market with good quality products and at a given time is the responsibility of controlling the production.

The tasks of production controlling are divided between planning, control and monitoring, and provision of information.

Controlling in production management is set to control the profit. Profit in this case is not just the business results calculated by the formula (revenue - cost), but the items of income and expenses, depending on the decisions made in the management of production are the subject of controlling [Smith 2004].

Actions that are taken in production controlling are assigned to the appropriate targets. The breakdown of these objectives is as follows [Moniek and Soltys 2002, ДАВИДОВИЧ 2008]:

- Financial goals - maintaining the lowest variable costs, fixed costs at minimum;
- Time goals - short-term delivery, short course;
- Quantitative and qualitative targets - a small amount of waste, the quality standard should be at the highest level of compliance with ISO standards;
- The goals of flexibility - to be quickly found in the environment, improving the qualifications of all staff;
- Welfare - a sense of security, fair evaluation and divisions of labor;
- Environmental objectives - a small amount of use of natural resources, low load by harmful compounds.

The basic tasks of production controlling include [Bauer 2002, Moniek and Soltys 2002, ДАВИДОВИЧ 2008]:

- Ensuring the productivity of manufacturing systems

- Support for enterprise's investment actions
- Ensuring productive programs and implementing strategies that ensure the enterprise's competitiveness. The object of these activities are streams of objects like :processing, storage, transport, and information and control flows that are in the definition of production logistics:

- planning the production schedule
- planning the needs
- preparing a orders plan
- opening of a production order
- planning of order execution scheduling
- Production capacity Planning
- valuation of costs
- authorization to execute the order
- production
- feedback report on the execution

The organization of controlling in production. Organization of controlling depends primarily on the size of the enterprise. In the production enterprise the supreme power lies in the hands of a production director, who is responsible for the entire production area, and the demand for information is different than for, let's say, a master. The scope of information depends on the degree of independence of units at the different levels. The higher the level, the more options for action. The controller in this situation is to take a common goal of the enterprise. In the case of a large enterprise a team of controllers is created, in which everyone has a different task and is assigned to a specific area. Especially in the area of production centers with high self-responsibility are revealed [Janczyk-Arrow 2008].

Methods and instruments for controlling in the management of production

Production controlling uses multiple tools such as [Nowosielski 2001]:

- Methods and techniques used by management accounting.
- Methods and techniques for controlling and planning (analysis of variation).
- Methods and techniques of management by objectives (establishment of centers of responsibility, non-wage and wage based motivators).

Table 1

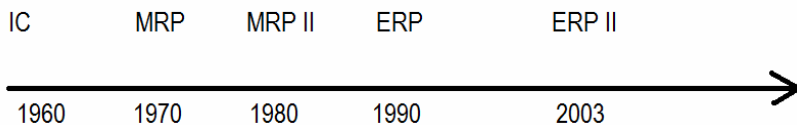
Planning tasks and assigning appropriate tools to them:

Tasks	Instruments
Analysis	Benchmarking, SWOT, forecasts method, warning systems, scenario techniques
Product Planning	Analysis of value, account of target costing, cost-effectiveness, cost-effectiveness of investment, network planning methods
Functional Planning	Analysis of common costs value, calculations, account of profitability, efficiency and cost positions
Production planning	portfolio analysis, profitability threshold, sensitivity and linear programming
Capacity Planning (strategic)	account of economic efficiency and profitability of investments
Occupancy ability planning (operative)	account of cash margin coverage, methods of programming` simulation model

Source: *Nowosielski (2001)*

The development of information technology has been the cause of creation of many controlling support systems [Krupa 2003]. These include:

- 1 MRP - Material Requirements Planning
- 2 MRP II - Manufacturing Resource Planning
- 3 ERP - Enterprise Resource Planning
- 4 MRP III - Money Resource Planning



Source: *Krupa (2003)*

MRP I (Material Requirements Planning) is the basic material requirements planning system, which covers only part of the operational activities control related to the flow of materials. MRP is a method of

production and inventory management including production-related activities with future determining of the type and size of cell production tasks for the enterprise. In other words, it is used for streamlining the planning, by issuing purchase and production orders at an exact time so that the desired product appeared at the right time and in the required amount of [Васелевські 2001, Plich et al. 2011]. The method of MRP II (Manufacturing Resource Planning) is a natural extension of the MRP I method. This system can be regarded as a "model" of organization, which can be used not only for production planning purposes. The scope of the information held in it allows estimation of the effects of decisions on a wide variety of functional areas of financial factors, sales, marketing, and R & D [Васелевські 2001, Plich et al. 2011].

An ERP system is a differently called MRP III Money Resource Planning. It is a system that covers all the processes of production and distribution, brings together many departments in an enterprise, improves the flow of critical information and responds quickly to changes in demand [Januszewski 2008, Калашников 2011]. As compared to MRP II, its new features are bi-directional tools that optimize the planning and the ability to perform electronic connections in the chain of supply and sales [Januszewski 2008, Калашников 2011].

ERP II system that enables efficient control of customer contacts is a more developed form of ERP. What makes ERP II system different from others is the ability to use it via the Internet. Cooperation with the system is done through a typical web browser. ERP II includes software that allows the customer relationship management (CRM) [Januszewski 2008, Калашников 2011].

Summary. In the area of production controlling includes economic production control, defined as the direct and indirect impact on the shape of the assortment-quantitative structure of production, and on its course in time and space to ensure under the given circumstances the best execution of economic tasks of the organization.

Controlling is an effective tool that serves the development of the enterprise. Nowadays, the role of controlling is very important. The purpose of a controller is to ensure the performance and stability of the production process. Its activities are focused on the guarantees of products manufacturing of the highest quality. Thanks to these efforts, an enterprise can avoid a lot of irregularities.

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