Contemporary manufacturing processes on the basis of X. Comarch ERP XL company. Case study

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ABSTRACT
The production processes, particular steps in the production process, also functions of production processes are presented in this papers: general production processes, supplementary production processes, maintenance processes, disposal processes. The exemplary Comarch ERP XL production process is presented - modules: PRODUCTION and PICKING and service of advanced production processes and registration of new goods.

Keywords: Production processes, production steps, production functions, system for recording the production

1. INTRODUCTION

Contemporary market reality presents the increased customer demands for increasingly diversified products. In some industries, customers have the chance for participation in the construction process for a good, that is later produced with regard to particular requirements given by customer. Production processes take various forms. We can stipulate particular steps in the production process. General and supplementary production processes are components of correct operation of production company.
2. PRODUCTION PROCESSES

Production is one basic element in the company’s business operation, adopting the resources and natural forces to people needs.

Currently, demand for goods and services dictates the size, structure and methods of sales. Production is made with purpose of satisfaction of purchasers needs.

Production process comprises of: manufacturing process, research and development, preparation of production and distribution process. Research and development process is based on the performance of preparatory activities for production in the constructional, technological and organizational aspect, oriented on the performance of manufacturing process, where transformation into goods takes place.

Distribution process is based on the construction of customer’s distribution channels and after-sales service [1].

Table 1. Steps in the production process

<table>
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<th>Production processes</th>
<th>Manufacturing processes</th>
<th>Distribution and customer service process</th>
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<td>Preparation of resources,</td>
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<td>Analysis and perfecting the production process and products.</td>
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<td>Analysis of eventual customers needs</td>
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<td>Basic processing the production components into goods</td>
<td>Supplementary Exploitation of machines, powering with energy and materials, disposing wastes</td>
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<td>Preparation of products for distribution, distribution of products, servicing the products, recycling and regeneration, maintenance of life cycle for products</td>
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3. FUNCTIONS OF PRODUCTION PROCESSES

Other type of division of production processes is a method according to which they are combined with manufacturing of finished goods in the particular company. We can discern:

- general manufacturing processes
- supplementary manufacturing processes
- maintenance processes
- disposal processes [2]

General manufacturing processes are oriented on direct manufacturing of a product, for which company was established with purpose of production, and its sales is general source of income. The steps between the warehouse for materials and warehouse for finished goods, including i.e. technological processes in which there is increase, are recognized as general manufacturing process, and the finished good is manufactured that is general company’s activity, as a result.

The course of supplementary manufacturing is based on the execution of several series of tasks, where we get finished good, as a result. Discrepancy between the general manufacturing and supplementary manufacturing is based on the fact, that finished good is used within the company, it is not sold for getting profits, as it takes place in the case of general manufacturing [3].

4. THE EXEMPLARY MANUFACTURING PROCESS IN THE X

Comarch ERP XL company - modules: PRODUCTION and PICKING
Manufacturing area in the Comarch ERP XL system is supported with two modules:

Manufacturing and Picking
Manufacturing module comprises of the set of tools used for complex manufacturing management - from planning, with execution and settlement, until reporting on the needs of management staff.

Picking module enables i.e. detailed characteristic for particular product and defining the composition of semi-finished goods and sub-assemblies (including finished goods). Defining many formulas for particular good and service, in many variants of raw materials and components and services, is possible.

Manufacturing module - handling the advanced manufacturing processes
Registration of manufacturing base. Tools in the module enable keeping the records of workers, tools, machines and other resources, that participate in the manufacturing order. A function is allocated to each resource, covering type of performed work, as well as there is calendar that stipulates time for its accessibility and planned tasks.

Defining technology for manufacturing of goods. In the Comarch ERP XL system the list of materials required for the production and semi-finished goods obtained in the following technological processes can be defined for each activity. Activity defined in technology covers also the stipulation of function of resources required for its performance. Technology
enables the registration of much information of supplementary and descriptive character, with opportunity for attaching files with technical drawings, specification for raw materials or producers and for other materials supportive in the production. Access to such data is possible from the level of documents registering the particular manufacturing process. Many technological versions can be created, i.e. for particular contractor, for various product variants, as well as combining technologies with means of products [7].

![Exemplary system for recording the manufacturing process](image)

**Picture 1.** Exemplary system for recording the manufacturing process

**Maintenance processes** are required for satisfaction of individual company’s needs. They are of similar character to the supplementary manufacturing processes. **Disposal processes** are used for bringing back the state of usability to items. If disposal process did not exist, many useless wastes would have existed. Recycled items in the disposal process can be used for the company’s purposes or can be sold [4,5].
5. CONCLUSIONS

The correct system for manufacturing processes with their former development is currently the important component. According to the manufacturing company’s size and its specification, individual manufacturing process is created. Managers in the manufacturing companies try to implement the advanced software supporting the correct course of whole manufacturing process, but it is sometimes limited by costs that are very high [6,8].

References


(Received 24 March 2017; accepted 16 April 2017)