

**MANUFACTURING PROCESS MANAGEMENT****Shaqir Elezaj**

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**Abstract:** Production is aimed at the production of certain products in order to meet the requirements of the consumer, then the company as and society, under certain organizational conditions of the market. In other words, consumption is a constant process, and the process of production must be a continuous process. Repetition of the production process is a complex system consisting of elimination subsystems, that is, practically from four phases that are interconnected in terms of the impact of each other, but the entire production system must be manifested as one harmonious system.

Production in this system is the first stage when the products are produced, which are then distributed and exchanged through the free market, so that in the end they are subject to the process of consumption in the appropriate form, but depending on the nature of the product. In such a system, the stages of production and consumption are the most important stages of the production process, while the role of other phases in terms of mediating the mentioned phases in a deterministic sense. As it is produced for consumers-in terms of consumption, then the process of production in society is dictated by the consumption itself. This practically means that consumption is always the basis and goal of production.

**Keywords:** the process of production, the consumer, the consuming good, the free market

**INTRODUCTION**

Production involves not only the transformation of material and economic goods, but also the transformations that are carried out in the process of transport, deposition, packaging, changing and management, which will say that it includes all the activities through which the present creation is realized, as well as the realization in the future. As noted, in the consumption phase, different requirements for products offered to the market are met, and these requirements are expanded in a qualitative-quantitative aspect, and the process of production itself is managed so that it has to transpose such changes, to meet the required conditions, In order to allow further progress of the production itself.

Production is the creator of a product that, according to market demands, defines tasks in terms of managing production programming, whereby the products produced, with their characteristics, in the best possible sense must meet the requirements of consumers. This means that the process of production is subject to consumption, which will say that it produces finished products, in certain quantities and with certain properties, but always in the function of meeting the previously identified consumption needs.

As products are produced for consumption, production in different forms always creates new needs and incentives to meet their needs, but according to the demands of the consumers themselves. One such procedure is justifiable and useful only in cases where propaganda versus new products is always in line with meeting the needs and in terms of increasing standards in relation to the given trend of increasing production.

Motivation to produce is a category that can be reviewed in various forms and with elements that can sometimes be mutually opposite. Motivation and interest can change over time; Some motivations and interests occur, while some others can change over time. Often these factors can be changed to the intensity and diversity. Different interest and their changes are also a reflection of the justification of a system of over clocked lenses, goals and a reflection of a consistent theory in terms of motivation. This means that the need for production, on the one hand, and motivation, on the other hand, are the leading categories of production.

In the free market, the main motivation and the driving force of production is the expected profit. This means that profit is the goal of organizing and managing the production process. The products are produced in quantitative and qualitative terms in order to satisfy the demand within the market, but with the recovery of the expected profit. Market demands are defined in function of the need for products, depending on the readiness and purchasing power of the consumers.

Each product should possess certain characteristics in functional and consumer terms, in order to meet the needs of consumers.

The function of obtaining the obtained products in the manufacturing process can be presented in the general form:

$$P = f(K_1, K_2, \dots, K_n) \quad (1),$$

where P- is the realized profit of the production process, while  $K_i$  ( $i = 1, 2, \dots, n$ ) is a specific feature of the given product.

The realized profit depends on the peculiarity of the product during the production process, and in that sense, what kind of achieved production process is determined by the dependence:

$$dP = \frac{\partial K_1}{\partial t} dK_1 + \frac{\partial K_2}{\partial t} dK_2 + \dots + \frac{\partial K_n}{\partial t} dK_n \quad (2).$$

In the case where the total differential equals zero, then according to (2) is obtained:

$$\frac{\partial K_1}{\partial t} dK_1 + \frac{\partial K_2}{\partial t} dK_2 + \dots + \frac{\partial K_n}{\partial t} dK_n \quad (3).$$

#### REVIEW OF SOME CHARACTERISTIC EXAMPLES

In the first case, we will analyze the production of a product, whose characteristic of production of the given product is given in the form:

$$K_1 = A + Bt \quad (4),$$

where t is a factor of time in the production process, while A and B are economic constants obtained by monitoring the market situation with free supply and demand.

In this case, according to relations (4) and (2), given:

$$P = P_0 + B(K_1 - K_{10}) \quad (5),$$

where  $P_0$  is realized profit and the  $K_{10}$ -characteristic of the product at the initial moment of time.

Let us now point out that the realized profit of the production process is given in function from the performed work (L) and given capital (K) given in the form of Cobb-Douglas equation:

$$P = LK \quad (6),$$

and in that sense we get the proper functional:

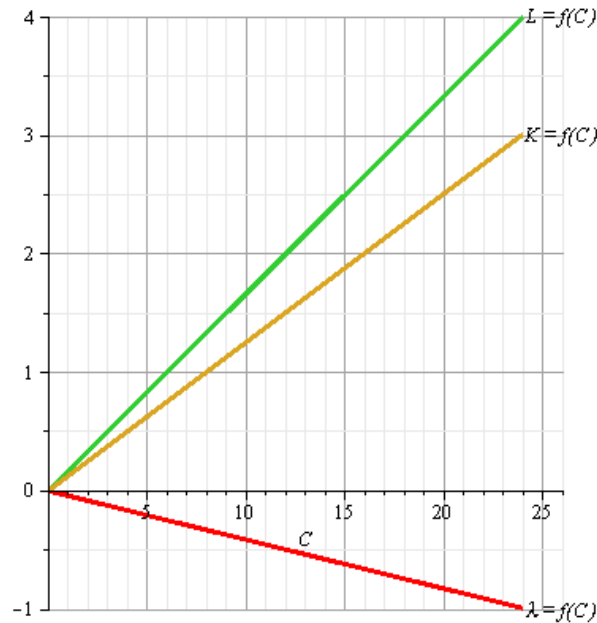
$$P = LK + \lambda(AL + BK - C) \quad (7).$$

In order to seek the maximum value of the achieved profit, it is obtained accordingly:

$$K = \frac{C}{2B} \quad ; \quad L = \frac{C}{2A} \quad ; \quad \lambda = -\frac{C}{2AB} \quad (8),$$

while the maximum realized profit is:

$$P_{\max} = \frac{C^2}{4AB} \quad (9).$$

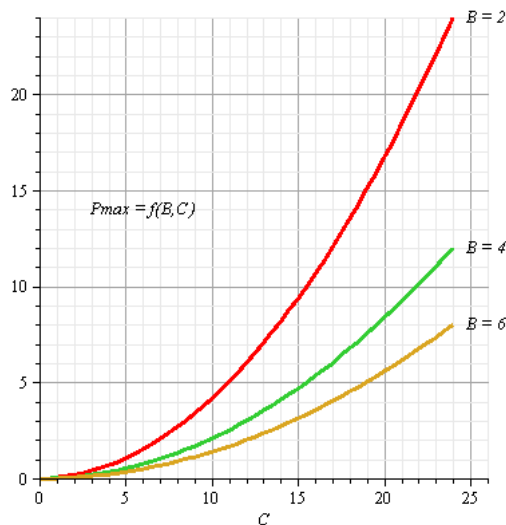


**Figure 1: Realized profit in function of parameter C.**

In Figure 1, the parameters K, L, and  $\lambda$  are given in function of parameter C.

Analyzing the given diagram can be concluded:

- with the increase in parameter C, the parameters K and L grow, while the parameter  $\lambda$  decreases;
- when the value of parameter C the same, is greater the value of the parameter L in relation to the parameter K;
- negative magnitude of the  $\lambda$  parameter indicates that this parameter influences in terms of decreasing the realized profit when increasing the parameter C.

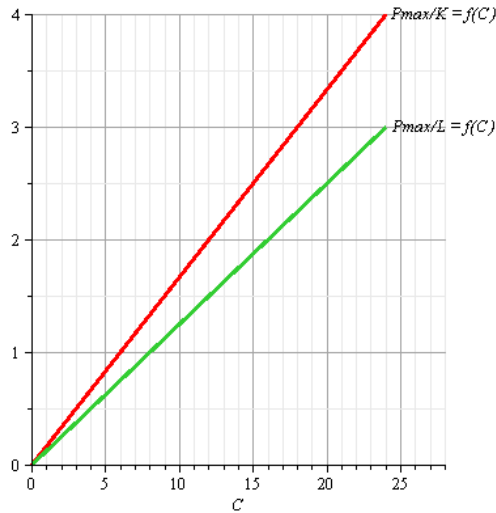


**Figure 2: The maximum profit achieved in function of parameters B and C.**

The other diagram in figure 1 was designed for economic design parameters A = 3 and B = 4.

Figure 2 shows the maximum realized profit in function of parameters B and C.  
 Analyzing the given diagram, the following important conclusions can be made:

- With the increase in parameter C, the maximal profit is increased and the growth momentum is more pronounced for the lesser values of parameter B.
- For the same parameter value C, the higher maximum profit is achieved for the lower value of parameter B.



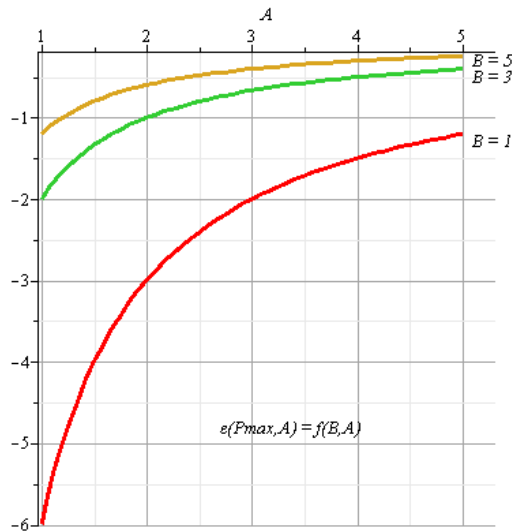
**Figure 3: Quotients  $P_{max}/L$  and  $P_{max}/K$  in function of parameter C.**

Figure 3 shows the quotients  $P_{max}/L$  and  $P_{max}/K$  realized profit in function of parameter C.  
 Analyzing the given diagram, the following important conclusions can be made:

- With the increase in parameter C, quotients  $P_{max}/L$  and  $P_{max}/K$  are increased and the growth momentum is more pronounced for the quotient  $P_{max}/K$ .
- For the same parameter value C, the higher value is achieved for the quotient  $P_{max}/K$ .

In the economy, it is also of great importance to determine the coefficient of elasticity of the change of one economic size in the change of another relevant economic variable.

In this sense, the coefficient of the elasticity of the maximum realized profit will be determined in the function of changing the parameters A and B.



**Figure 4: Coefficient of elasticity like function of parameters A and B.**

Figure 4 gives the coefficient of elasticity of maximum realized profit in function of parameters A and B.

Analyzing the given diagram, the following important conclusions can be made:

- With the increase in the value of parameter A, the value (in absolute terms) of the maximum realized profit decreases, with the declining trend more pronounced than the value of parameter B.
- For the same value of parameter B, the higher value of the elasticity coefficient belongs to the parametric curve with a lower value of parameter B (in absolute amount).
- For example, for parameter values  $A = 3$  and  $B = 1$ , the coefficient of elasticity is  $-2$ . This practically means that when parameter A changes by 1%, the maximum profit is reduced (negative sign) by 2%, and so on.

## CONCLUSION

The paper deals with management in terms of achieving the production process. Initially, it points to the fact of what is the process of production, and on what factors it depends.

It is pointed out that the management of the production process refers to the realization of the requirements of the production process in quantitative and qualitative terms.

Initially, it is pointed out that, among other things, the production process depends on the quality of achieving certain characteristics in the production of economic goods, and that the factor of time in terms of achieving the production process in the optimal sense must also be taken into account here.

Furthermore, the production process is treated via Cobb-Douglas's function from several variables, in this case as a function of executed work (L), and invested capital (K).

It is clear that the realized maximum profit of the production process can be given in the function of several important economic parameters, such as: invested work, invested capital, quality of given characteristics of the production process, factor of production process time and distribution of the mentioned products to the market with free supply and demand .

In this sense, the issues can be optimized through suitable selected economic models.

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