Successful cross-cultural communication creates a dialogue, a continuous transfer of information. This exchange of information addresses our assumptions and clarifies points we do not understand. It also provides the opportunity for us to ask questions and confirm the information that was received. Having a dialogue reduces conflict because cultural misunderstandings can be dealt with when they arise. The dialogue only occurs when both parties agree to share information and ensure that the transfer of information is not blocked.

A good example to illustrate how companies can utilize the cross-culture communication model to improve business practices can be the international company Hundai. Hyundai Motor Company was formed in 1967 and has established itself as company that focuses on quality improvement and innovation [3]. The company has now expanded to more than ten countries.

For this expansion to take place requires effective communication that is able to overcome cultural barriers and accomplish global management initiatives. “Hyundai Motor Company is strengthening its position as a global brand, establishing local production systems on a global scale and supplying automobiles that meet the needs and tastes of customers in each specific region” [3].

Conclusion. Thus, analyzing the results of our study, we can conclude that the successful regulation of cross-cultural communications and the introduction of effective technologies gives the company a significant chance to become successful in the global market. Modern globalization processes increase the importance of the formation of interethnic relations between companies every year.

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CALCULATION OF THE OPTIMAL VOLUME OF PRODUCTION AND MAXIMUM PROFIT OF THE ENTERPRISE BY MATHEMATICAL METHOD

Introduction. In order to manage a monopoly enterprise effectively, it is necessary to know the optimal number of products to be produced and at what price they to be sold. If the price set by the monopolist is too high, the demand for such products will be low. And if the volume of production for some reason will be greater than optimal, the monopolist, in order to sell all products on time, and to avoid surplus, will have to reduce the price of goods. Moreover, the company's profit will increase due to increased sales (income) and at the same time decrease due to falling prices (costs).

Review of recent publications. Active review of optimal production volume and profit maximization of the enterprise occurs both in the scientific works of foreign and domestic scientists, such as: V.D. Bazylevych, T.T. Horobchuk, M.H. Chumachenko, G. Drucker, O. Babo, D. Woodcock and others.

Objectives of the paper are to evaluate for what volume of production the profit of the firm will be maximum, to rationalize the use of optimal mathematical methods in economics.

Results of the research. How can a monopolist determine the required optimal output at the enterprise, knowing the demand function for his products? As is seen, it is necessary to determine the dependence of profit, taking into account the cost of production on the volume of production. It is known that the problem of determining the maximum of function is solved with the help of a differential calculation.

The income function is given: $R = R(q)$ as well as the cost function $C = C(q)$. Then the function of its profit from production will be: $P(q) = R(q) - C(q) = p(q)q - C(q)$. Suppose that the above enterprise produces q units of goods at a price of $p(q) = 35 - 0.2q$, and its costs are described by the function $C(q) = 0{,}01q^2 + 12q + 500$. If $P(q)$ is the profit of the enterprise, then

$$P(q) = R(q) - C(q) = p(q)q - C(q), \text{ namely}$$

$$P(q) = 35q - 0{,}2q^2 + -0{,}01q^2 + -12q - 500 = -0{,}21q^2 + 23q - 500.$$

To find the maximum of this function, we use the apparatus of differential calculation and find its derivative, then equate it to zero.

$$P'(q) = -0{,}42q + 23;$$

$$-0{,}42q + 23 = 0$$

$$q = 54{,}8$$

The next step is to find the second derivative of the function P and to determine its sign at $q = 54.8$.

$$P''(q) = -0{,}42 < 0, \text{ for any } q.$$

The maximum point $q = 54.8$ is found. The maximum profit will be received by the enterprise at production of 55 units of production, and the maximum profit of the enterprise will be found as value of function $P(q)$ in a point $q = 54{,}8$: $P(54{,}8) = 129$ *hrn/item.*

At this point we choose the optimal volume of production by the enterprise. In order to obtain the maximum profit, the company must produce goods in the amount of (q_0) so that the value $P(q_0)$ was the maximum. Therefore, the problem is to find the maximum of the profit function $P = P(q_0)$ on the segment [0; Q], where Q is the upper limit of the volume of output that the firm can produce. Therefore, let the following conditions be met:

1. The functions $R = R(q)$ and $C = C(q)$ are defined and differentiated on the interval [0*;* Q];

2. The profit function reaches a maximum at some point q_0 ($q_0 \neq 0$ i $q_0 \neq Q$).

If both conditions are satisfied, then the function P = (q) differentiated on the interval [0; Q] has a maximum at the point $q_0 \neq 0$. Then by Fermat's theorem

$P'(q_0)=0$. Since $P'(q_0)= R'(q_0) - C'(q_0)$, then at the point $q=q_0$ we obtain the equality:

$$R'(q_0) - C'(q_0)=0, \text{ namely } R'(q_0)= C'(q_0).$$

Knowing that the derivative of the cost function C' expresses the marginal cost, and the derivative R' is marginal revenue, we obtain the basic economic principle:

The optimal level of productivity is achieved when the marginal income is equal to the marginal cost.

Conclusion. The equality described above defines the rule that an enterprise which maximizes its profits sets the volume of production so as to marginal income equals marginal cost.

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CURRENT STATE OF CANADA'S ECONOMY