

# Economic Security Model and Enterprise Mission

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The purpose of this article is to form the process of interaction between an enterprise and consumers of its products. The process is considered from the point of view of determining the best conditions for the enterprise, under which all manufactured products are sold as well as maximum revenue is achieved. Typically, when modelling such processes, emphasis is placed on satisfying demand. The parameters of the proposed model include the maximum amount of receivables, terms of sale of products, volume of output, unit prices. As an additional effect of the application of the model, the possibility of minimizing working capital due to the timely receipt of payments for the sold products is considered. This ensures the economic security of the enterprise. From a reduction in the period of receipt of payments for products sold, an increase in the profitability of the enterprise and, as a result, an increase in the income of the owner follows. Thus, the model essentially represents the mission model of the enterprise, which determines its purpose and method of generating income by the owner. A sufficient variety of model parameters allows us to analyse different options for the mission of the enterprise based on various scenarios. These scenarios involve a change in the range of products, their output, their prices, as well as the composition of strategic business areas and their capacity, depending on the current pricing policy and the possible amount of receivables. The limitation of accounts receivable is caused by the desire to ensure, at the expense of the proceeds, the fulfillment of obligations of the enterprise in respect of remuneration of labor, repayment of accounts payable, tax payments and income of the owner. It is assumed that the volumes of output that are in demand are sufficient to fulfil the above obligations. In this case, the timing of receipt of payments for the delivered products is the factor that is designed to fulfil the listed obligations of the enterprise and, thereby, ensure its economic security. The proposed model is the manager's tool that allows not only to substantiate the mission of the enterprise, but also to check the effectiveness of the marketing policy, including the pricing strategy.

**Key words:** *Mission of the enterprise, economic security of the enterprise, interests.*

## Introduction

The economic security of the enterprise is determined by the degree of satisfaction of the economic interests of parties interested in its activities. The degree of satisfaction of the economic interests of the parties is directly dependent on their presentation and the possibility of generating income from alternative sources. And the economic security of the enterprise depends on the timely fulfillment of mutual obligations by the enterprise on the one hand, and by the owner, staff, customers, partners and the state on the other. Therefore, the enterprise must be considered as a combination of the efforts of these parties, although each of them pursues its own goals. The set of goals of owners and staff determines the target orientation of the enterprise. Finally, the external environment (David, 2012) (clients, business partners and the state), just as owners and staff, pursuing their goals when interacting with the enterprise, give a certain focus to its activities, develop a targeted beginning. If we consider the interests of stakeholders in the activities of the enterprise, excluding consumers of the products of the enterprise, then we are talking about the distribution of the income of the enterprise between them, and its adequacy to satisfy their economic interests. But the company, first of all, must satisfy the needs of consumers. By selling its products on the market, the company is able to satisfy the economic interests of other parties.

Therefore, the target start of the enterprise is a reflection of the goals and the degree of satisfaction of the interests of these parties, directly and indirectly related to its activities. Therefore, the activities of the enterprise are aimed at generating income from the sale of goods and services produced by it, i.e. its mission.

In a narrow sense, the mission represents the goals and priorities of the enterprise, in a concentrated form expressing the meaning of the existence of the enterprise, its mission (Vozar, 2013). In a broad sense, the mission:

- records production and commercial activities;
- defines the target market;
- contains principles of activity and sets target values for economic, financial, social and environmental indicators;
- proclaims its system of social and universal values.

The mission determines not only the composition of the product range, but also those operations of the product value chain (Banga, 2013) that correspond to the main business processes of the enterprise (Hammer & Champy, 2006).

The mission is based on the forecast of the state of the external environment and the capabilities of the owner (Hank, 2003). The forecast of the state of the external environment is designed to determine promising products in terms of the owner's income and strategic business areas (Farago, 2004), where the sale of manufactured products will bring the expected income. Opportunities of the owner lie in his ability to invest sufficient capital so that the enterprise, with a predicted value of sales, that is, with a certain scale of output, produces the desired income. Thus, the mission of the enterprise is a forecast of favorable opportunities for the owner to receive the desired income.

While satisfying the economic interests of parties interested in the activities of the enterprise, we can assume that its economic security is ensured (Bryson & Einsweiler, 1988). Therefore, the economic security of the enterprise must be considered as the ability to timely fulfil its obligations by the enterprise on the one hand and by the owner, personnel, customers, partners and the state on the other. The economic security of the enterprise is based on the safety of property and its effective use for generating income and satisfying needs in the interests of parties interested in its activities.

Thus, the economic security of an enterprise depends on interaction with social groups, whose interests should be taken into account in determining the mission. Such "social groups" are:

- owners of the enterprise that created the enterprises and supporting its functioning, for the appropriation of the results of its activities in personal interests;
- personnel of the enterprise, directly providing creation and realisation of the product and receiving remuneration for their labour;
- buyers of the product of the enterprise, satisfying the needs in exchange for their resources (most often money);
- business partners of the enterprise, providing or receiving commercial and non-commercial services, being with the company in formal and informal relations;
- the population of the territory of the enterprise, whose interests are represented by local authorities interested in interacting with the company in a social and environmental environment;
- society as a whole, which determines the political, legal, economic and other conditions of the macroenvironment for the enterprise, including the removal of part of the income created by the enterprise to ensure public welfare, in the interests of other members of the society and the enterprise itself.

The mission is necessary for the formation of the general strategy, the choice of a business model (Osterwalder, 2010), the implementation of internal and external activities of the enterprise:

- within the enterprise, the mission gives management an understanding of the goals to be achieved, helps to develop a unified position that promotes the formation of an in-house culture;
- in the external sphere, contributes to the creation of a holistic and attractive image of the enterprise (image) for owners, partners, customers and the state, explaining the economic and social role in society that the company intends to fulfil.

Based on the mission, a strategy is formed (Porter & Kramer, 2006), which is based on the preferences of the enterprise's management and assessment of the positions held by the enterprise in the market. The mission sets the direction of development of the enterprise and determines the desired state, which must be achieved in the course of using the potential of the enterprise.

Strategy refers to the results that the enterprise strives for in the main areas of activity, which are the result of the mission of the enterprise and its vision.

Depending on the subject of the implementation of the strategy, there are:

- general strategy (strategy of the enterprise as a whole);
- portfolio strategies (strategies of individual strategic divisions);
- business strategies (strategies for identifying and building up key competencies and based on them competitive advantages);
- functional strategies (strategies of individual strategic divisions or functional zones).
- Strategies form a pyramid, which includes functional strategies that specify the activities of management.

Thus, the mission is the starting point, predetermining all the activities of the enterprise.

## **Materials and Methods**

If the goal of creating an enterprise for the owner is profit, then it is necessary to indicate the specific dates and planned volumes of its receipt. The same applies to the general strategy, which provides for the conquest and retention of a certain market share necessary for the realisation of a given volume of production. It is assumed that the higher the share occupied

by the enterprise in the market, the higher the rate of profit. The stated goals are subsequently implemented through the implementation of the relevant tasks, which should be:

- measurable;
- aimed at the performance of certain actions;
- realistic;
- taking into account temporary and financial resources of the enterprise.

The definition of the mission and the general strategy of the enterprise as a strategic management process consist of three sequentially implemented local processes:

- the first local process consists of determining promising products, their prices and volumes of production, sufficient for the owner to receive the planned income on the basis of the forecasted market condition (stage of a commercial idea);
- the second local process is the formation of the mission of the enterprise. This is the determination of output volumes and prices of the selected product range based on forecasting the possibility of its implementation in the selected strategic management zones. The mission should in a concentrated form express the meaning of the existence and mission of the enterprise to generate income for the owner.
- the third local process allows, after establishing the mission of the enterprise, to proceed to the selection of its general strategy and business model. A business model is a schematic description of the production and logistics structure of an enterprise, used to evaluate its key success factors.

The choice of a particular mission and general strategy involves the use of several scenarios that allow you to evaluate the advantages and disadvantages of one or another option. To uniquely identify each of the possible mission options and the general strategy that implements a particular business model, it is necessary to set a system of key performance indicators of the enterprise, which are considered as a rating system that determines the degree to which goals are achieved. Using key performance indicators makes it possible to assess the current state of the enterprise, as well as the possibility and feasibility of implementing each of the strategies under consideration. For each enterprise, the composition of key indicators has its own characteristics, as it is associated with a promising production program, characterised by the product range and its characteristics, as well as the characteristics of the market in which the enterprise operates. Therefore, there is a need for criteria for the effectiveness of the mission, the general strategy and the business model of the enterprise.

The choice of one or another variant of the enterprise's mission is directly related to the forecast of the capacity of strategic economic zones and the solvency of potential consumers. The forecast may be more or less reliable, and, therefore, any version of the mission is risky. This risk, which characterises the mission of the enterprise, can be taken as a measure of its economic security.

The greatest risk component of the mission is the ability to sell products. From the point of view of the owner, the risk and feasibility of investments determining the sufficiency of his income consists in:

- the implementation of production activities on a certain scale, characterised by both the variety of the manufactured product nomenclature, its prices, and its output;
- the possibility of selling all manufactured products without overstocking of warehouses and accumulation in excess of standard stocks. The creation of stocks of finished products is determined by the need for their transportation in certain batches, which are dictated by the requirements of the customer, used capacity or carrying capacity of transport, and serial production. The transition to the production of a different product range is associated with production downtime due to the need to reconfigure it, which affects the magnitude of the costs of the enterprise and the cost of production in general;
- speed (timeliness) of receiving payments for products sold.

The latter circumstance is the main component of the economic security of the enterprise. If at the beginning of sales of products there are tasks:

- saturating the market with these products in order to ensure their accessibility due to their permanent presence in retail trade;
- attracting customers to products through advertising.

In the future, the commitment of the buyer of the product and the reputation of the enterprise come to the fore. With continuous production and the introduction of products on the market, and even if the volumes of production correspond to demand, there will inevitably be a delay in payments due to products sold, i.e. accounts receivable. Accounts receivable is the debt of external partners selling products of the enterprise. Accounts receivable of buyers arise in case of granting them a deferred payment (in this case, they speak of a commercial loan), as well as in case of non-fulfilment by the buyer of his obligations under the contract for the payment of goods, work, services.

Prepayment to suppliers of goods, works, and services is also included in receivables. The receivables include the overpayment of taxes, fees and contributions to extrabudgetary funds,

rental deposits or the amounts paid for the annual subscription of print media. The receivables include the debt of employees to the enterprise arising from:

- amounts received by employees under the report;
- overpayment on wages;
- debt on loans received from the enterprise;
- debt to compensate for shortages and property damage.

But the deferral of payments provided to customers should be less than or equal to the deferral of payments to suppliers of the enterprise. Otherwise, the company will experience an acute shortage of funds necessary for settlements with creditors, with additional costs for the payment of fines and penalties arising from this situation, not to mention obligations to personnel, the owner, partners, and the state. Therefore, receivables lead to the need to increase working capital, which negatively affects the return on equity and leads to a relative decrease in the income of the owner. In addition, accounts receivable, as well as accounts payable, result in:

- credit risk (risk of default by debtors);
- risk of loss of liquidity (risk of default on obligations to creditors);
- operational risk (risk of losses and losses due to deficiencies in control and management systems).

Therefore, when assessing the effectiveness of the mission of an enterprise, it is necessary to predict the sales process, assess the risks that arise, and provide for the possibility of effective contacts with trade.

There are a number of ways to reduce receivables:

- provision of goods to trade on a prepayment basis;
- accounts receivable insurance;
- creation of a system for managing receivables and payables;
- cash flow forecasting depending on the received and provided deferred payment.

But in the market conditions, it is necessary to find compromise payment options for products offered to trade.

Thus, the criterion of the effectiveness of one or another variant of the mission of the enterprise should allow assessing the timeliness of the receipt of revenue for sales. Therefore, the mathematical model of the mission of the enterprise should be based on a description of the process of product sales, and as a criterion functional that characterises the minimisation of receivables for products sold in each period can be used.

## Results

The proposed mathematical model sets the maximum allowable amount of receivables  $D$ , which is determined based on the revenue of the current period taking into account tax payments, repayment of accounts payable, the required wage fund, depreciation, and, most important, owner's income.

Suppose that an enterprise can produce many types of products  $I$ , which is sold on a variety of strategic economic zones  $S$ . For each type of product, the output volume  $a_i$  is set, which must be realised. Revenues for goods sold may not come immediately after the transfer of products to the buyer, but after some time. Therefore, the process of forming receivables is dynamic and is carried out over a number of periods  $t \in T$ .

Therefore, the probability vector of the realisation is  $\{p_{i,s,t}\}$  of the product  $i \in I$  in each strategic management zone  $s \in S$  on a given set of periods  $T$ . Where  $\forall i \in I$  и  $\forall s \in S$  for  $\sum_{t \in T} p_{i,s,t} = 1$ .

For each strategic area of management are set:

- $c_{i,s}$  is the price at which the unit of production  $i$  is sold in the strategic economic zone  $s$ ;
- $f_{i,s,min}, f_{i,s,max}$  - the minimum and maximum range of possible sales volumes of products of the form  $i \in I$ . (The lower limit of the volume of sales in the strategic economic zone is determined by economic feasibility, and the upper one depends on its capacity, market segment, on which enterprises can count on the basis of the current pricing policy and the severity of competition).

As an independent variable, we consider the quantity  $x_{i,s,t}$ , which characterises the number of units of production  $i$  for which payments were received in period  $t$  from the strategic management zone  $s$ . It is assumed that the sale of products is carried out in the period  $t = 0$ .

Then the task of minimizing the accounts receivable of the enterprise is to determine the value of the variables  $\{x_{i,s,t}\}_{i \in I, s \in S, t \in T}$  such that the functional characterising the deviation from the given receivable  $D$  of the revenue, received in each period from each strategic economic zone for each type of product, taking into account the probability of its receipt, reached a minimum, i.e.

$$F = |D - \sum_{t=0}^{|T|} \sum_{s=1}^{|S|} \sum_{i=1}^{|I|} c_{i,s} p_{i,s,t} x_{i,s,t} | \rightarrow \min,$$

Subject to the following restrictions

- The volume of output of each type must be fully sold

$$\sum_{s \in S} \sum_{t \in T} x_{i,s,t} \geq a_i \text{ for } \forall i \in I,$$

- The volume of products sold of type  $i$ , released during the period  $t = 0$ , in each strategic area of management should be within the specified limits

$$f_{i,s,min} \leq \sum_{t \in T} x_{i,s,t} \leq f_{i,s,max} \text{ for } \forall i \in I, \forall s \in S.$$

### Discussion

The mathematical model is designed to assess the impact of product sales on the company's revenue. The proposed model is characterized by a number of parameters:

- $D$  - given receivables;
- $f_{i,s,min}, f_{i,s,max}$  - restrictions on the possible volume of product sales in the strategic business zone for  $\forall i \in I, \forall s \in S$ ;
- $c_{i,s}$  is the price at which the unit of production  $i$  is sold in the strategic economic zone  $s$ ;
- $\{p_{i,s,t}\}$  is the probability vector of product sales  $i \in I$  in each strategic business area  $s \in S$  for a given set of periods  $T$ , which is, on the one hand, a measure of risk for a given volume of product sales, and on the other, this vector is characterised by the conditions sales of enterprise products in the strategic zone;
- $a_i$  is the volume of output  $i$ .

Each of the above parameters is the result of analytical studies related to forecasting the state of the external environment of the enterprise. The result of the forecast cannot be unambiguous, since for each version of the forecasting process various assumptions are used that have a significant impact on its value. The proposed model allows you to integrate forecasting results and evaluate the response of the enterprise to the proposed operating conditions.

Therefore, the presence of the parameters of the proposed model allows, as a result of multivariate calculations, not only to determine and justify the best mission of the enterprise in terms of management. At the same time, various options for the mission of the enterprise can be considered, representing different scenarios for the implementation of the mission of the enterprise. These scenarios may vary.

- The composition of the product range, volume of output, and unit price in each of the strategic business zones under consideration;
- allowable amount of receivables;
- a list of strategic economic zones, as well as a range of possible volume of sales in them, depending on the current pricing policy.

Analysis of the solutions allows you to:

- evaluate the options of the mission of the enterprise and choose the best of them according to the criteria established by the management. Optimisation tasks give a one-sided assessment of the processes under consideration, which may not satisfy the management by a number of other criteria, which cannot always be formally presented. Yes, this is not required, since the whole variety of factors that the manager takes into account when making managerial decisions (not only when approving the mission of the enterprise) can be very significant, and their priority can undergo significant changes depending on the current business situation;
- determine the most promising strategic areas of management, especially their mutual influence on the value of the company's revenue as a whole. The previously proposed methods for evaluating the sale of products in separate strategic areas of management made it possible to assess their prospects for each of them separately. For example, using the McKinsey / General Electric (GE) method, two indicators can be used: the attractiveness of the market that the company wants to enter or in which it already exists; and competitive advantages or competitiveness of the goods of the enterprise in this strategic area of management (McKinsey). In the proposed model, which complements the above method, it allows evaluating by an extended list of criteria (limitation on accounts receivable, possible range of sales volumes, terms of sales, pricing policy) that were not previously explicitly taken into account in the proposed methods;
- to evaluate and select the conditions for the sale of products (Ritson, 2007) (the probability vector for the sale  $\{p_{i,s,t}\}$  of products  $i \in I$  in each strategic economic zone  $s \in S$ ). The proposed vector allows us to evaluate not only the receipt of payments for products sold, but also to assess the risks associated with this process;
- evaluate the planned pricing policy for the sale of each type of product in the selected strategic areas of management. This parameter has a significant impact not only on the possible volumes of product sales, but also on the capacity of the strategic management zone under consideration;
- the size of the limit on receivables  $D$  affects the size of the current assets of the enterprise, and therefore its profitability and, therefore, the size of the owner's income. But, on the other hand, an increase in accounts receivable can contribute to the overall increase in the company's revenue.



### **Theoretical and Practical Implications**

In theoretical terms, for the first time, a model for assessing the mission of an enterprise is proposed, which is directly related to its economic security. In addition, an attempt is made to show that the mission of the enterprise is not only the result of predicting the state of the external environment and evaluating the capabilities of the enterprise for its targeted transformation, but the rationale for the mission is directly related to the justification of the product sales process, receivables, marketing and pricing policies.

In practical terms, the model allows us to justify the mission of the enterprise, to offer various options for the effective operation of the enterprise, to evaluate the consequences of managerial decisions.

### **Conclusion**

Thus, the proposed model of the enterprise's mission to assess the prospects for the development of the enterprise, justifies its general strategy, determines the vision and evaluates the possibilities of reengineering.



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