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ECONOMIC EFFECT OF APPLICATION OF THE SOURCING'S MANEUVER MODEL

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ABSTRACT

Currently, one of the main problems of Russian industrial enterprises are giant production areas, which generate high overheads, which determine a high level of break-even. One of the effective tools that increase the competitiveness of an enterprise is the sourcing's maneuver model, however, like any other business tool, a sourcing's maneuver with illiterate use can weaken a company's competitive advantages. Therefore, the most important factor in deciding on the use of the sourcing's maneuver model is a competent economic assessment. The aim of the work is to consider the application of the sourcing's maneuver model at an industrial enterprise for the effective restructuring of production areas and the presentation of some methods for assessing the economic effect of the use of this model. Based on the analysis of the break-even level and changes in the marginal profit of products, two methods are presented for assessing the economic effect of the use of the sourcing's maneuver model. The authors have developed and proposed two methods for assessing the economic effect of using the sourcing's maneuver model. The presented methodologies for assessing the economic effect of the application of this sourcing's maneuver model are not the only possible ones. Also, these techniques are not universal for evaluating all existing sourcing's maneuver models. The proposed methods for assessing the economic effect of the use of the sourcing's maneuver model are undoubtedly interesting from the point of view of further research in this area, and may be of interest to managers and specialists of economic services of large industrial enterprises.

INTRODUCTION

Currently, one of the main problems of Russian industrial enterprises are giant production areas, which generate high overheads, which determine a high level of break-even. The relatively high value of this indicator significantly reduces the viability of the enterprise in modern conditions of unpredictable reduction of sales markets. Therefore, one of the most sought-after tools to reduce overhead costs and the break-even point is the use of restructuring production outsourcing [1]. However, there are many disputes about the effectiveness of this tool in the enterprise. In other words, outsourcing as well as a takeover and merger strategy can both increase the competitiveness of an industrial enterprise and reduce it [2]. For example, one of the main advantages of outsourcing is the release and redistribution of resources to solve more acute or vital problems [3], and the disadvantages are the loss of control over resources [4].

A similar situation exists with other sourcing models, for example, insourcing, on the one hand, allows the company to reduce the costs of unused production capacity, and, on the other hand, reduces the ability of the enterprise to adapt to ever-changing needs and localization volumes [5]. And the use of single-sourcing allows, on the one hand, to closely integrate with the supplier and reduce the number of transactions [6], and, on the other, to monopolize the position of the supplier [7]. Therefore, to achieve a positive effect from the use of restructuring production outsourcing, the sourcing's maneuver model should be applied [8].

The purpose of this work is to consider the application of the sourcing's maneuver model at an industrial enterprise for more efficient restructuring of production areas and the presentation of some methods for assessing the economic effect of the use of this model.

MATERIALS AND METHODS

There are several models of sourcing's maneuver, among which are the following models associated with the restructuring of production areas and the use of industrial outsourcing:

1. localization of components of third-party products [9];
2. creation of joint venture on the basis of subsidiary [9];
3. additional charge of floor spaces by providing outsourcing services [9];
4. use of components from local outsourcers for the products of an assembly plant [10];
5. localization of the components of the joint venture products [10].

Let us consider in more detail the sourcing's maneuver model "localization of components of the joint venture's products". The essence of this model is as follows: the customer allocates part of his units to create a joint venture with a partner, then transfers the production of one or another component to this enterprise, while retaining part of the production process [Fig. 1].

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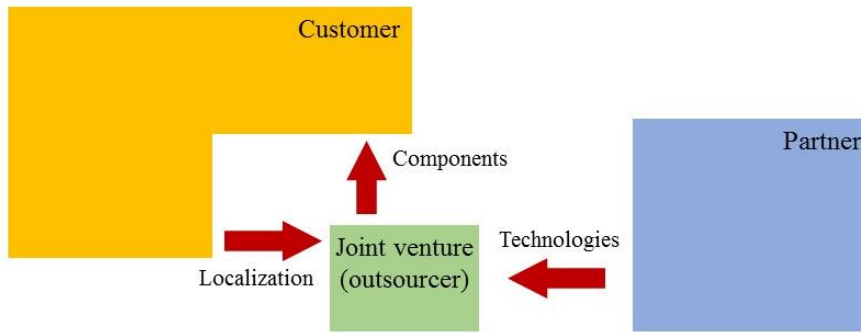


Fig. 1: Localization of the components of the joint venture's products.

An example of the use of this sourcing's maneuver model is the use of restructuring production outsourcing at the largest domestic automobile manufacturing enterprise PJSC «KAMAZ», which was accompanied by the creation of joint ventures «KAMMINZ KAMA», «Federal Mogul Naberezhnye Chelny», «ZF KAMA», «Knorr -Bremze KAMA» and the localization of some components of the products of these joint ventures at the plants of PJSC «KAMAZ». The main advantages of using this model of sourcing's maneuver for an enterprise are [11]:

- reduction of fixed costs associated with the maintenance of production areas;
- partial recovery of loss of marginal profit;
- reduction of prices for JV products;
- reloading production areas.

RESULTS AND DISCUSSION

According to research by Accenture, most organizations do not even have elementary methods and indicators to assess the economic efficiency of outsourcing. As a rule, the management of enterprises to a greater degree relies on the “whims” of the market and the opinion of more competitive outsourcing partners [12].

To assess the economic effect of using the sourcing's maneuver model “localization of components of a joint venture's products”, you can use a technique based on an analysis of changes in product profitability when conducting enterprise restructuring. To implement this method, the following indicators are used:

- marginal product profit before and after applying the sourcing's maneuver model;
- the share of customer profits at joint ventures;
- customer's marginal profit from localization of components of joint venture products.

To assess the economic effect, the concept of “full marginal profit of a product after applying the sourcing's maneuver model” is introduced, which will take into account all the indicators mentioned earlier:

$$S_{FMP} = S_{MP} + S_{PJV} + S_L, \tag{1}$$

S_{FMP} – full marginal profit of the product after applying the sourcing's maneuver model;
 S_{MP} – marginal product profit after applying the sourcing's maneuver model;
 S_{PJV} – total profit in a joint venture per unit of output;
 S_L – the total profit of the enterprise from the localization of parts for the joint venture products per unit of output.

The very estimation of the economic effect lies in the difference between the total marginal profit of the product after applying the sourcing's maneuver model and the marginal profit of the product before applying this model:

$$E = S_{FMP} - S_{BMP} \tag{2}$$

E – economic effect from the use of sourcing's maneuver model;
 S_{BMP} – marginal profit of the product before applying the sourcing's maneuver model.

If it follows from expression (2) that $E \geq 0$, then the application of the sourcing's maneuver model is effective. If $E \leq 0$, then it is necessary to analyze the change in net profit, which can increase even with a decrease in marginal profit, since the restructuring of production areas significantly reduces the overhead costs of the enterprise. If there was a decrease in the net profit of the product, then the negative economic effect is obvious.

A similar approach can be applied to assess the economic effect of using such sourcing's maneuver models as "localization of the components of the products of a subsidiary company", "localization of the components of products sold by the division," "localization of the components of third-party products", etc. For example, to assess the economic effect of the model "localization of the components of the subsidiary's products" should replace some indicators in formula (1) and use the following formula to determine the display "Full marginal profit of the product after applying the sourcing's maneuver model":

$$S_{FMP} = S_{MP} + S_{PSE} + S_{LSE}, \quad (3)$$

S_{FMP} – full marginal profit of the product after applying the sourcing's maneuver model;
 S_{MP} – marginal product profit after applying the sourcing's maneuver model;
 S_{PSE} – total profit in a subsidiary per unit of output;
 S_{LSE} – the total profit of the enterprise from the localization of parts for the products of a subsidiary company per unit of output.

The very same assessment of the economic effect is also made using formula (2).

Returning to the sourcing's maneuver model "localization of the components of the joint venture's products", let us present another way to assess the economic effect of the use of this model, which is based on an analysis of changes in the enterprise's break-even level [13].

The change in the break-even point when applying the sourcing's maneuver model can be estimated based on the following formula:

$$E_{BEP} = BEP_{BSM} - BEP_{ASM}, \quad (4)$$

E_{BEP} – the economic effect of the use of the sourcing's maneuver model at the break-even point;

$[[BEP]]_{BSM}$ – break-even point before applying sourcing's maneuver model;

$[[BEP]]_{ASM}$ – break-even point after applying sourcing's maneuver model.

However, the $[[BEP]]_{ASM}$ indicator should take into account the marginal profit from the localization of components of joint venture products. Therefore, to calculate the indicator $[[BEP]]_{ASM}$, use the following formula:

$$BEP_{ASM} = \frac{S_{FBSM}}{S_{LSE}}, \quad (5)$$

S_{FBSM} – the value of the fixed costs of the enterprise after applying the sourcing's maneuver model.

This technique also makes it possible to evaluate the economic effect from the use of such sourcing's maneuver models as "localization of components of the products of a subsidiary company", "localization of components of products sold by the subdivision", "localization of components of products of a third-party supplier", etc. However, this should be replaced in the formula (5) S_L indicator for similar indicators, implying the total profit of the enterprise from the localization of parts for the product of the outsourcer (a subsidiary of the unit sold, outside of supplier, etc..) per unit of output.

The presented methodologies for assessing the economic effect of applying the sourcing's maneuver model "localization of components of a joint venture's products" are not the only possible and universal ones for evaluating all existing sourcing's maneuver models, but they allow to more fully assess the influence of various factors and measures on product profitability.

The proposed methods for assessing the economic effect of the use of the sourcing's maneuver model are undoubtedly interesting from the point of view of further research in this area, and may be of interest to managers and specialists of economic services of large industrial enterprises.

CONCLUSIONS

The use of sourcing's maneuver models makes it possible to effectively restructure the production areas, while reducing overhead costs and the company's breakeven level. However, the sourcing's maneuver with its incompetent use may weaken the competitive advantages of the company, therefore, the main criteria for the effectiveness of the sourcing's maneuver models, which include:

- a clear business strategy - allows part of the sourcing's maneuver to synchronize the strategies of outsourcers and partners, contributes to the formation of long-term partnerships between them, more clearly defines their investment behavior [14].
- a harmonious combination of sourcing models is an effective tool for optimizing an enterprise with a reasonable combination of sourcing models, where management is based on predetermined clear principles, applying a sourcing's maneuver strategy [9].

CONFLICT OF INTEREST

There is no conflict of interest.

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