



Evaluation of Expediency of Using Industrial Outsourcing in Industrial Enterprise

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Abstract

One of the main criteria of successful application of industrial outsourcing is competent definition of degree of expediency of use of this tool at the enterprise. Weighing possibilities of development of own production with opportunities of application of resources of out-sourcers, the management of the company closely approaches the solution of a task "make or buy".

It should be noted that transition to outsourcing can be considered expedient if thus the enterprise gains certain competitive advantages and achieves goals. Reasonable combination of outsourcing and insourcing where management of them is constructed on in advance defined accurate principles, and identification of exact borders of outsourcing are pledge of effective application of this model of management at the enterprise. Therefore at the solution of a task "make or buy" the management of the company needs to weigh carefully all pros and cons, and also to consider experience of use of this or that tool by other enterprises, including competitors.

Definition of exact borders of outsourcing and process of transition to this model of management includes a set of procedures which carrying out is necessary for identification of a real situation, and also opportunities of the enterprise when carrying out optimization.

The purpose of this work is development of a technique of an assessment of expediency of application of industrial outsourcing.

Keywords: Outsourcing, insourcing, make or buy, strategic importance, economic expediency.

1. Introduction

One of the main criteria of successful application of industrial outsourcing is competent definition of degree of expediency of use of this tool at the enterprise. Weighing possibilities of development of own production with opportunities of application of resources of out-sourcers, the management of the company closely approaches the solution of a task "make or buy" [1].

The decision to make, but not to buy, means application of production insourcing, and the following major factors can influence this decision:

1. lack of dependence on the supplier of components [2];
2. decrease in expenses of not used capacities [3];
3. preservation of control over own resources [1];
4. economy on transportation of components [1];
5. preservation of technological secrets [1];
6. absence in the outsourcing market of the corresponding suppliers and others.

The insourcer almost in all cases has considerable advantages before the outsourcer. It is connected with a number of circumstances, including with knowledge of specifics of the enterprise and its corporate culture [4].

The decision to buy, but not to make, means application of industrial outsourcing, and the following major factors can influence this decision:

1. desire to concentrate on primary activities [2];
2. reduction of expenses at the expense of [5]:
 - existence at the supplier of a scale effect,
 - existence at the supplier of effect of coverage,
 - existence at the supplier of effect of capitalization of experience,
 - transition from constants to variable expenses,

3. decrease in risks due to collective investments [6];
4. acquisition process usually demands less overhead costs [1];
5. there is a big flexibility in a choice of possible sources and products substitutes [1];
6. allows to receive accessories or services is higher quality [7] and others.

Of course, not the full list of all possible factors influencing decision-making to buy it, but to make, however, even from the listed above factors doesn't become clearly that process of justification and decision-making in favor of outsourcing is difficult and many-sided. Anyway, as the main reason for involvement of the out-sourcer financial reasons serve [4].

It should be noted that transition to outsourcing can be considered expedient if thus the enterprise gains certain competitive advantages and achieves goals [8]. Reasonable combination of outsourcing and insourcing where management of them is constructed on in advance defined accurate principles, and identification of exact borders of outsourcing are pledge of effective application of this model of management at the enterprise [9]. Therefore at the solution of a task "make or buy" the management of the company needs to weigh carefully all pros and cons, and also to consider experience of use of this or that tool by other enterprises, including competitors.

2. Methods

The analysis of information from the existing literature on this subject allowed to allocate the following main and most widespread models:

1. The PricewaterhouseCoopers model which is based on use of the following factors at decision-making on outsourcing use: competitive and strategic importance of an asset [10].

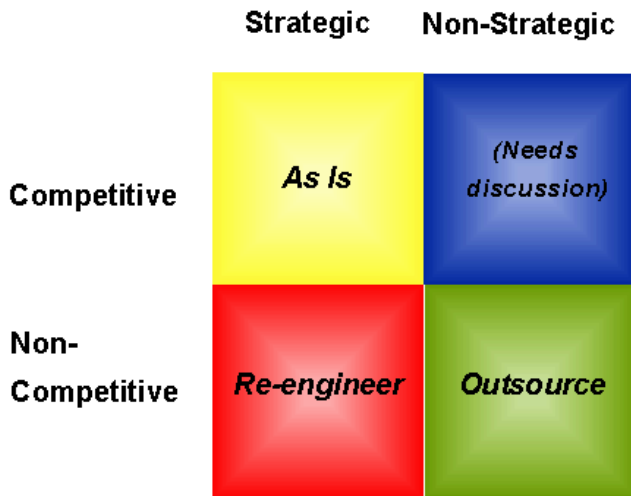
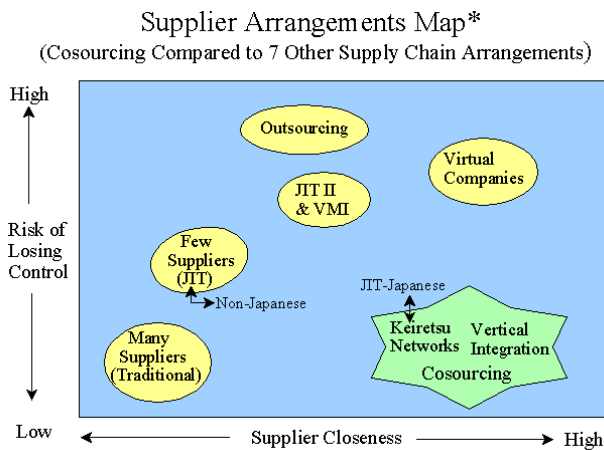


Fig. 1.: Model of PricewaterhouseCoopers

2. Card of agreements with the supplier of Clinton B.D. and S.C. Del Vecchio. The card of agreements with the supplier of Clinton and Del Vecchio is based on use of the following factors at decision-making on outsourcing use: proximity of the supplier and risk of loss of control [11].



* Adapted from Clinton & Del Vecchio, Exhibit 1, p. 6.

Fig. 2.: Kapra Card of agreements with the supplier of Clinton B.D. and S.C. Del Vecchio

3. Matrix of outsourcing of K. Vitasek and M. Ledyard. This matrix is based on use of the following factors at decision-making on application of outsourcing and insourcing: potential value for the organization and organizational expert knowledge [12].

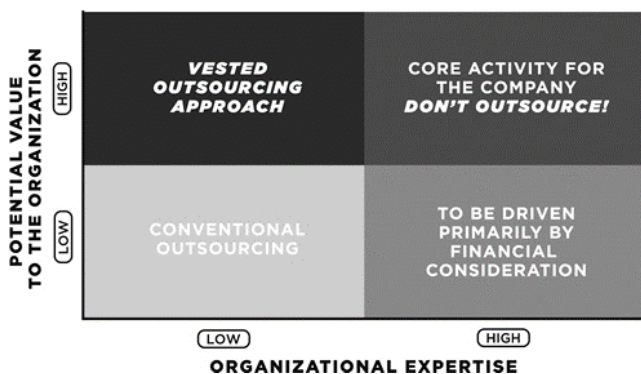


Fig. 3.: Matrix of outsourcing by K. Vitasek and M. Ledyard

4. Matrix of outsourcing of Ronan McIvor, Paul K. Humphreys, Anthony P. Wall, Alan McKittrick. This matrix is based on use of the following factors at decision-making on application of outsourcing and insourcing: relative possibility of realization and importance of process to competitive advantage [13].

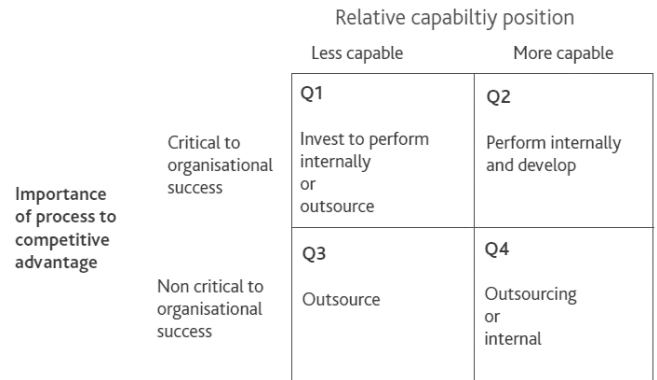


Fig. 4.: Matrix of outsourcing by Ronan McIvor, Paul K. Humphreys, Anthony P. Wall, Alan McKittrick

It should be noted that all models given above are kinds of matrix approach as "the outsourcing matrix" is the most widespread and demanded method. However an essential lack of "an outsourcing matrix" is the two-factoriality [14].

Application of industrial outsourcing in Russian industry most often is followed by restructuring of the enterprise. Therefore, for definition of the components of a product which are subject to transfer to outsourcing it is necessary to understand, it is how strategically significant for the enterprise production of this component and what profit it makes for the company. All listed above models are based a little on other factors, inapplicable for restructuring industrial outsourcing as they, were generally developed for an assessment of expediency of application of other types of outsourcing.

Further we will consider the developed technique of an assessment of expediency of application of restructuring industrial outsourcing at the enterprise.

This technique is also a kind of matrix approach which is based on use of the following factors at adoption of the administrative decision on use of restructuring industrial outsourcing: strategic importance and profitability. We will consider in more detail each factor.

2.1 Strategic Importance

To define how strategically significantly for the enterprise production of this or that component of the car, we will make the table in which the main criteria of an assessment of the strategic importance, levels of points and their value have to be designated.

Table 1.: Criteria for assessing the strategic importance of the component

| № | Criteria of strategic importance | Points | | | |
|-----|----------------------------------|-----------------|-----------------|-----|-----------------|
| | | B ₁ | B ₂ | ... | B _n |
| 1 | Criteria 1 (K ₁) | x ₁₁ | x ₁₂ | ... | x _{1n} |
| 2 | Criteria 2 (K ₂) | x ₂₁ | x ₂₂ | ... | x _{2n} |
| ... | ... | ... | ... | ... | ... |
| m | Criteria m (K _m) | x _{m1} | x _{m2} | ... | x _{mn} |

For descriptive reasons we will present an example of how the table of criteria of an assessment of the strategic importance completed at the enterprise can look.

Table 2.: Example of the made table at the enterprise

| № | Criterion of the strategic importance | Points | | |
|---|---------------------------------------|------------------------------------|---------------------------------------|---------------------------------|
| | | Low | Middle | High |
| 1 | The importance for a brand | The component has weak impact on a | The component has average impact on a | The component has strong impact |

| | | | | |
|---|--------------------------------------|--|--|--|
| | | brand | brand | on a brand |
| 2 | Prospects on the future | The component will be made less than 5 years | The component will be made from 6 to 14 years | The component will be made more than 15 years |
| 3 | Market of outsourcers | Number of outsourcers more than 8 | Number of outsourcers from 3 to 7 | Number of outsourcers less than 2 |
| 4 | The importance for the final product | The component is established only as an option | The component can be in the form of the additional decision or obligatory at some options (complete sets) of the final product | The component is irreplaceable part of a product |

After definition of the main criteria of an assessment of the strategic importance the analysis of components of a product by each criterion where the level of points corresponding to it is defined is carried out and value of this level is appropriated. Further for each component the arithmetic average value of points (Middle SB) which shows the relative level of the strategic importance of a component for the enterprise is defined.

Table 3: Assessment of the strategic importance of components

| № | Components | Criteria 1 (K ₁) | ... | Criteria m (K _m) | SB |
|-----|-------------|------------------------------|-----|------------------------------|-----------------|
| 1 | Component 1 | B ₁ | ... | B ₁ | SB ₁ |
| 2 | Component 2 | B ₁ | ... | B ₁ | SB ₂ |
| ... | ... | ... | ... | ... | ... |
| p | Component p | B ₁ | ... | B ₁ | SB _p |

Further we determine profitability level.

2.2 Profitability

Profitability represents an indicator of the economic importance of a component for the enterprise. As this indicator such indicators as profitability of production, profitability of sales, marginal profitability and others can be applied. Each enterprise defines for itself an indicator convenient to it.

3. Results and Discussion

After definition of SB and profitability the summary table which can look as follows is under construction:

Table 4: Example of the summary table

| № | Components | SB | Profitability of sales (B %) |
|-----|-------------|------|------------------------------|
| 1 | Component 1 | 2,20 | 15% |
| 2 | Component 2 | 2,45 | 25% |
| ... | ... | ... | ... |
| p | Component p | 1,95 | 30% |

Having made the summary table on the analyzed components, we build the dot schedule in the Cartesian system of coordinates where the provision of each component of a product occupied on the level of the strategic importance and profitability is displayed. The following step is submission of this schedule in the form of an outsourcing matrix. The matrix of outsourcing can be as square (2x2, 3x3, etc.), and isn't present (2x3, 3x2, etc.). The most evident and idle time for use by a matrix is a square matrix of out-

sourcing of dimension 2x2: $M = (m_{ij})_{i=1,j=1}^{2,2}$. We will construct it, proceeding from our dot schedule.

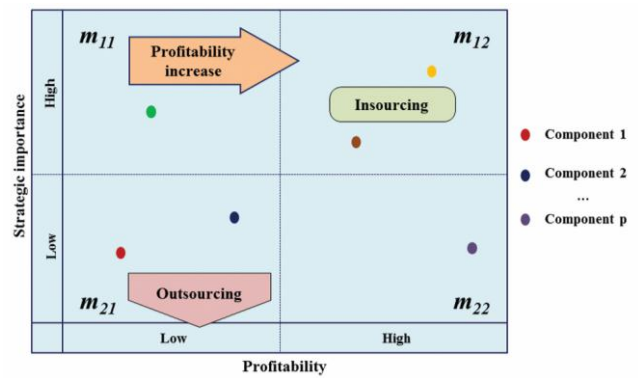


Fig. 5: Matrix of appropriateness of outsourcing.

From drawing it is visible that all components belonging to m₂₁ matrix element are exposed to a conclusion in outsourcing in view of the low strategic importance and profitability. The components opposite to them belonging to m₁₂ element which have the high strategic importance and profitability, remain in the enterprise (insourcing).

4. Summary

As for other components, the components belonging to the m₁₁ element have the high strategic importance for the enterprise, but low profitability therefore it is expedient to perform optimization of designs of these components and/or technological process for the purpose of profitability increase. It should be noted that during performance of work on profitability increase the enterprise can apply cosourcing. This makeshift will allow to lower output of the components having low profitability due to involvement of the outsourcer.

The components belonging to the m₂₂ element can or remain in the enterprise, or be transferred to outsourcing depending on policy of the enterprise.

If the company chooses other type of a matrix with other dimension, versions of decisions on these or those components can be defined by the company individually, proceeding from policy of the enterprise for a component or depending on the reasons of application of industrial outsourcing.

5. Conclusions

The presented technique of an assessment of expediency of application of industrial outsourcing at the enterprise is a kind of matrix approach therefore its only shortcoming, as well as other matrix models, the two-factoriality is. However for application of restructuring industrial outsourcing which, is generally directed on optimization of floor spaces and decrease in costs of production, existence of factors "the strategic importance" and "profitability" is sufficient.

The main advantage of the developed technique is ability to integrate with other existing outsourcing matrixes. In particular, the company can construct a matrix of any dimension (square or not) with application of the decisions on a component borrowed from other models. The technique allows to define and retain competently only those components of a product which are favorable to production and are strategically significant for the enterprise.

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