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# Use of the chain of values for development outsourcing strategy

Svetlana Mechtcheriakova, Elina Gurianova <sup>1</sup>

Associate professor, Candidate of Economics Science, Department of General Management, Kazan Federal University, Kazan, Russian Federation, s-lanam@mail.ru

Associate professor, Candidate of Economics Science, Department of General Management, Kazan Federal University, Kazan, Russian Federation, elinagur@mail.ru

#### **Abstract**

In article possibility of use of a chain of values of M. Porter for development of outsourcing strategy of business is considered. The purpose of the real work is creation of the mechanism of use of a chain of values of M. Porter for development of outsourcing strategy of business. Advantages of this model allowing to analyse activity of the enterprise which isn't isolated from environment, and to consider all chain are shown, beginning from the supplier of resources and finishing the end user.

In article the scheme of a choice of the function transferred on outsourcing on the basis of creation of a chain of values of Porter is offered. The main problems which the enterprises at direct introduction of this strategy face were investigated and revealed. The algorithm of development of outsourcing strategy on the basis of creation of a chain of values is presented. After detailed studying of technological process of production of bakery products, the analysis of the centers of responsibility and organizational structure the chain of values of production of bakery products was constructed. The separate attention is paid to questions of the analysis of expenses at an outsourcing strategy choice. On the basis of the analysis of a chain of values of JSC "Bakery Combine" (all names in article are changed) the assessment of efficiency of outsourcing strategy of this enterprise is given.

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# 1. Introduction

Questions of development of outsourcing reflected a number of the scientists in the works: Baden-Fuller S. (2000), Bryce D. J. (1998), Willcocks L.P. (1995), J., Ketler K. (1993), Walstrom J. (1998), Lacity M. C. (1995), Bell. D. (1976), Cross J. (1995), Hendry J. (1995), Hilmer P.G. (1994), Quinn J. (1994), Cowan J. (2004), Dreischmeier R.(2005) and others. The big material demanding theoretical generalization and systematization is

\* Corresponding author. Tel.: 89172971672; fax: +0-000-000-0000.

E-mail address: s-lanam@mail.ru

saved up. Modern realities demand new scientific approaches to research of influence of outsourcing on an economic mechanism and structure of economy. However, in our opinion, it is necessary to use the existing techniques for the analysis of current trends of development of production, that is to open new opportunities of their application. Along with widespread models: an outsourcing matrix, a matrix the level quality of competences, a matrix of BKG, AVS - the method for a choice of the functions transferred on outsourcing can be offered a chain of values of Porter.

Now the question of achievement of the high level of competitiveness by the domestic and foreign companies in all business processes is particularly acute. All activity of firm is subdivided into technological and economic types that is presented in M. Porter's concept. This concept received reflection in the form of a chain of values. The chain of values represents "the coordinated set of kinds of activity which create value for the enterprise, beginning from initial sources of raw materials for suppliers of this enterprise up to the finished goods delivered to the end user including service of the consumer" [11, page 86].

The concept of a chain of values was developed by M. Porter [11], which offered when carrying out the strategic analysis for allocation of real advantages in the field of minimization of expenses and differentiation to use a value chain. Porter identified 5 standard main and 4 auxiliary kinds of activity making a chain of creation of value in any company. The purpose of such analysis consists in, that:

- 1. to define those kinds of activity which make the greatest contribution to a cumulative value added,
- 2. to develop strategy of expansion or deduction of the current share of the value added received by this concrete organization,
  - 3. to trace functions and processes in a cost chain for:
  - establishments, what functions and processes are defining for buyers and satisfaction of their requirements;
  - estimations of cost of the made production with the focused attention of a contribution of each kind of activity;
  - identifications of sources of steady competitive advantage and minimization of expenses.

# 2. Methodology

According to M. Porter's researches, all business processes of the company can be divided into two groups - the main (primary) business processes (which are directly creating a set of the values perceived by clients) and the serving (secondary) business processes (a set of values not creating, but necessary for normal functioning of the main business processes). The cost of this or that business process depends on what set of values the company seeks to create for the clients. In fact, each of the business processes presented in a chain of creation of value can be carried out as the company, and can be transferred to outsourcing. The companies of the same branch, having a similar set of business processes in the chain, can put in them significantly the different sums of means and carry out these processes independently, or to charge to the third-party organizations.

Distinction in a set of values defines need of distinctions for a configuration of business processes. Thus, at decision-making what to transfer to outsourcing, using a chain of values of Porter, it is necessary to consider what set of values the company seeks to create. Depending on this set of values, business processes which can be transferred to service provider are defined.

The general methodology of use of a chain of values includes the following stages:

- 1. Creation of a chain of values of this branch and establishment of expenses, the income and assets for all types of economic activity which are chain links.
  - 2. Establishment of factors which influence the level of expenses by each type of economic activity.
- 3. Comparison of the general level of expenses of division (shop, business process), qualities, efficiency of performance of functions by own efforts with the average market cost of services of the outsourcing company;
- 4. Creation of steady competitive advantage or by the best, than competitors have managements of factors of expenses, or by reconfiguration of a chain of values.

In fig. 1 the algorithm of creation of a chain of values as mechanism of development of outsourcing strategy is presented.

Essential decrease in expenses can be reached by transfer of part of the main or support functions on out-sourcing. Creation of price advantage is, as a rule, connected with low prime cost of many types of activity, but doesn't exclude high expenses in a number of the directions. Prime cost - many-sided concept; it is defined by the sum of all expenses of a chain of value creation. Strategy of price advantage will be profitable if the economy on

product cost exceeds a discount from the price which will be required for providing necessary sales volume. Therefore at making decision on use of outsourcing it is necessary to analyse and allocate carefully those elements of a chain of creation of value which in the conditions of outsourcing minimize expenses and will increase proceeds from sales of the received product.

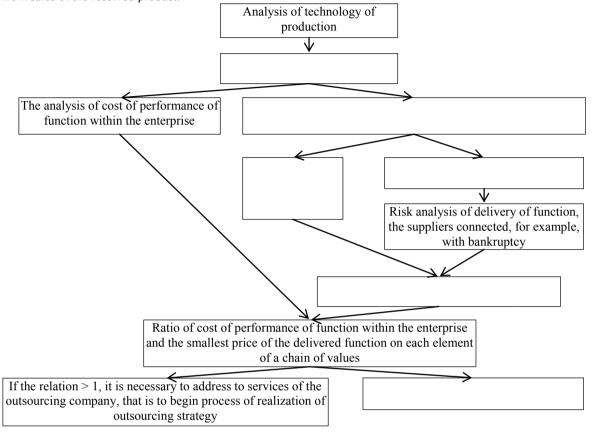


Fig. 1. Algorithm of development of strategy of outsourcing on the basis of use of the Chain of values of M. Porter.

According to Porter strategy has to be based on alternative selection of performers which cornerstone the principle on existence at them key competences has to be, it is necessary to apply outsourcing if performers is incompetent. If the company on any business activities has key competences, such operations can be carried out, it is better to transfer the others to outsourcing, also selecting under them performers with key competences.

The assessment of efficiency of outsourcing in general is reduced to calculation of own expenses of the transferred division or separate business process and comparison of these expenses with the cost of services of the outsourcing company. In our opinion, such approach conducts to an incorrect assessment of efficiency of realization of outsourcing strategy. From our point of view, to an assessment of efficiency of outsourcing strategy it will be expedient to use M. Porter's approach on the basis of the analysis of a chain of values.

At an assessment of efficiency of outsourcing strategy of business such factors of increase in profit as are considered: indissoluble communication between a chain of values of the company with chains of values of suppliers and consumers, formation of a chain of values in divisions and their interrelation. The general methodology of an assessment of efficiency of outsourcing strategy assumes the following stages. First, it is necessary to create a chain of values of the enterprise and its divisions. Secondly, to calculate costs of performance of these or those functions. Thirdly, to analyse the offers on performance of these functions existing in the market

both from the point of view of expenses, and from the point of view of quality of performance of these functions. To compare expenses on performance of these functions by our company and company outsourcer. Each functional factor influencing expenses of the considered division is estimated from the quantitative and qualitative party both in case of function performance by own forces and in case of function performance by forces of external firm (the outsourcing company). However, in our opinion, it is necessary to consider one more aspect. At refusal of these or those functions and transfer of their company outsourcer, at the company resources are released (financial, labor and so forth) and there is an opportunity to direct them on performance of the main functions of the company that will provide increase of profitability and, respectively, competitiveness.

According to domestic tradition, all set of the expenses connected with production and product sales can be divided into two groups: the first – operational expenses, the second – transactional expenses which include the expenses connected with search of the buyer (including advertizing), coordination with it of the prices and sales volumes, etc. The list of the indicators influencing operational costs for links of a chain of value is in detail considered by Maslennikova N. P. in the monograph "Management of Development of the Organization" [10].

Justification and assessment of use of a chain of values as method of development and realization of outsourcing strategy is calculation of efficiency of the made strategic decisions on the basis of profitability of each element of a chain of values.

For each it for each element of a chain of values it is necessary to calculate the market and transfer prices, and with their help and profitabilities of each element of a chain of values which is in JSC 'Bakery Combine'.

Profitability is a difference between the market and transfer price. Market price is a fair price on free, the competitor the market which is asked by the third-party organizations for performance of this type of production or service. The transfer price is the price at which one center of responsibility of the studied enterprise transfers the production or service to other center of responsibility.

There are three methods of calculation of the transfer prices:

- 1. on the basis of market prices;
- 2. on the basis of prime cost (prime cost plus the accepted rate of return);
- 3. on the basis of contractual prices between centers responsibility.

It is possible to carry the price of the acquired and spent raw materials to own costs for unit of a product (we will designate as C), equipment operating time ( $T_{eq.}$ ), compensation of the personnel and their privileges ( $C_{p.}$ ), and also the expenses connected with absence and routine of shots ( $^Eab.$ ), energy expenses (E), amortization of the equipment ( $A_{eq.}$ ), shops ( $^Ash.$ ), expenses on storage of stocks ( $^Ess.$ ), costs for marriage elimination ( $C_{m.}$ ) and other overhead costs ( $C_{ov.}$ ). It is possible to carry the cost of services of the outsourcing company ( $C_{serv.}$ ) to outsourcing expenses of performance of operations, including single costs for outsourcing ( $C_{sin.}$ ), and also possible additional current costs for outsourcing) besides, it is necessary to consider the possible change in price for the provided services ( $^{\Delta P}$ ). For calculation of the transfer prices we assumed the expenses corrected on the coefficient considering taxes as a basis ( $C_{t.}$ ) and the coefficient considering profitability ( $^P$ ).

Certainly, it is impossible to forget about the risk connected with loss of control over quality of the produced materials, time of supply of materials for a warehouse of the company outsourcer, etc. Thus, the general formula of calculation of efficiency of use of outsourcing will assume the following air (1):

$$E_{outs.} = \frac{\left(C + T_{eq.} + C_{p.} + E_{ab.} + E + A_{eq.} + A_{sh.} + E_{ss.} + C_{m.} + C_{ov.}\right) \times C_{t.} \times P}{C_{serv} + C_{sin.} + \Delta P + delivery} \langle or \rangle 1$$
(1)

If the relation > 1, it is necessary to address to services of the outsourcing company as it is possible to achieve decrease in expenses and increase in profit of the organization, in the return case, the shop remains on care of the company. After comparison of own expenses and costs for outsourcing it is necessary to analyse possibilities of creation of steady competitive advantage with use and without use of outsourcing by reconfiguration of a chain of values (inclusion in a chain of value of the company of a chain of value of the outsourcing company) and optimization of management of factors of expenses.

After a choice of functions which will be transferred on outsourcing, before the enterprise there is a question what of models of outsourcing to choose. The model of outsourcing is specific to each case, has to be chosen taking into account features of the environment, a type of the transferred function. After an outsourcing model choice the enterprise has to resolve issues of signing of the contract of outsourcing, define the regulating parties, the rights and obligations of the parties, possibilities of change of terms of the contract

In our opinion, the described scheme of the transfer of functions to outsourcing is universal and can be applied at various enterprises. The choice of the transferred functions allows to define those business processes which create the minimum value for the consumer and which will be rational to be transferred to service provider by a chain of values of Porter. It will lower expenses and will allow the enterprise to concentrate on primary activities, creating a great value for future consumer, will increase quality of service.

The offered scheme is on what process of development of strategy of outsourcing can be based on the enterprise because in it the main steps, the directions of activity at removal of non-core functions are step by step considered.

### 3. Results

After detailed studying of technological process of production of bakery products, the analysis of the centers of responsibility and organizational structure, the chain of values of production of bakery products presented in table 1 was constructed.

Table 1. Chain of values for the JSC "Bakery Combine" enterprise

Main links of a chain of values	Participants	
1. production and delivery of raw materials and materials	Suppliers	
Cultivation of grain crops	Agricultural associations, unions, holdings, country and farms, personal subsidiary farms	
Purchase, storage and wholesale of grain	Intermediary commercial structures, commodity exchanges, trading houses, elevators, procuring organizations	
Processing of grain in flour	Flour-grinding enterprises and mills	
Production of other raw materials and materials	Manufacturing enterprises of other raw materials (materials)	
2. The main and support functions by production of bakery products	JSC "Bakery Combine"	
Purchases and storage	Purchasing department. Warehouses of storage of raw materials.	
Main production of bakery products	Shop No. 1 on production of white loaf;	
	Shop No. 2 - production of bread mixed rolls;	
	Shop No. 3 - production of confectionery;	
	Shop No. 4 production of dietary and preventive products	
Storage of finished goods it is also sold	Shop of finished goods	
Delivery of products to the organizations of wholesale and retail trade	Transport shop	
3. Distribution	Intermediaries	
Wholesale trade in bakeries	Intermediary commercial structures. Bakeries, macaroni factories, confectionery enterprises	
Retail trade in bakeries	Specialized and unspecialized shops of retail trade, small traders, catering establishments (restaurants, cafe, dining rooms), etc.	

Process of formation of the final price of bakery production includes the following elements: production of grain - production of flour - production and realization of bakery production). For each element of a chain of values which is a part of JSC "Bakery Combine" on the basis of their effektivnost the strategic choice that is more favorable was made: to make or buy? As criterion of efficiency the efficiency of elements of a chain of values representing a ratio of cost of performance of function within the enterprise and the smallest price served the delivered function on each

element of a chain of values. Calculation showed that this ratio when performing function of delivery (table 2) of production is more than unit, that is JSC "Bakery Combine" is more favorable to use services of third-party transport enterprises, than services of this division.

Element of a chain of values	Market price	Expenses	Transfer price	Ratio of cost of performance of function within the enterprise and the smallest price of the delivered function on each element of a chain of values
(calculation of indicators is conducted in a hour * 21 sl	300 rubles an hour * 12 hours * 21 slaves. day = 75600 rub (1 car)	<ol> <li>Gasoline and fuels and lubricants of 12000 rub.</li> <li>Depreciation of cars of 9000 rub.</li> <li>Costs of repair of 7600 rub.</li> <li>item of drivers of 20000 rub *2 chel=40000 rub.</li> </ol>	82320 rub * 1.20*1.15 = 113601,6 rub.	113601,6/75600=1,5
		Total expenses = $68600$ rub.		
		Overhead costs of $20\% = 13720$ rub.		
		Total: 82320 rub.		

Table 2. Calculation of profitability of elements of a chain of values of JSC "Bakery Combine"

For all other elements of a chain of values market prices exceeded the transfer. The ratio of cost of performance of function within the enterprise and the smallest price of the delivered function on each element of a chain of values on other elements of a chain of value is less than unit. Thus, it is possible to draw a conclusion that it is expedient to carry out these functions at the enterprise.

It should be noted that transfer of transport function to outsourcing isn't so unambiguous. In practice creation and the maintenance of own transport park demands enough big expenses. Sometimes as alternative rent of a rolling stock can serve. When forming own transport shop bakery combines (as well as other food enterprises) prove the decision the following arguments:

- 1. high level of reliability of deliveries while the external transport organizations quite often break the stipulated terms
- 2. guarantees of safety of production while the external transport organizations in general are practically not guaranteed that freight will be delivered in integrity and without damages;
- 3. high level of discipline of own driver's personnel while when using of services of the external transport organizations cases of deterioration of packing, violations of its integrity and theft are often fixed;
- 4. the loyal relation of own driver's personnel which in case of need maybe the forwarding agent, and the loader during the work with the external organization of it to achieve quite difficult

Besides low level of service, compels to create own transport park of the company also or absence of the offer of transport services in that area where they should work, or price inflation by those transport companies which have monopoly in this area. For this reason the considered mechanism of use of a chain of values when developing strategy of outsourcing has to be added with the analysis of risk, not cost factors and so forth.

## 4. Conclusion

In general, the offered technique allows to analyse business processes of the enterprise on the basis of use of a chain of values of M. Porter, to develop actions for minimization of cost of the carried-out functions. For achievement of high level of competitiveness in the market it is necessary not only to operate competently expenses, getting profit on the basis of decrease in product cost, but also depends on ability effectively to build chains of values of the company. And it, in turn assumes need of coordination of interests with contractors in the field of

performance of functions of marketing and sale, production functions and so forth. Therefore, effective functioning of the company requires interaction of chains of values of all contractors at value creation.

New conditions in which the modern enterprises function demand from them use of modern concepts of business. These conditions assume transition from performance of all functions at one enterprise, to integration of the independent enterprises specializing on performance of separate business challenges. Efficiency, efficiency and quality become the defining indicators for each link of a chain of value.

#### References

- [1]. Baden-Fuller C., Target D., Hunt B. Outsourcing to outmanoeuvre: outsourcing re-defines competitive strategy and structure //European Management Journal. 2000. Vol. 18 (3). P. 285-295.
- [2]. Bell. D. The Coming of Post-Industrial Society. A Venture in Social Forecasting. N.Y., 1976.
- [3]. Bryce D. J., Useem M. The impact of corporate outsourcing on company value //European Management Journal. 1998. Vol. 16 (6). P. 635-643
- [4]. Cowan J., Helmcamp K., Hemerling J., et. al. Riding the next wave of outsourcing. The Boston Consulting, Inc. 2004. P. 8-11.
- [5]. Cross J. IT Outsourcing: British Petroleum's competitive approach //Harvard business review. 1995. Vol. 73 (3). P. 94-102.
- [6]. Dreischmeier R., Colsman T., Munz R., Sirkin H.L. Achieving success in business process outsourcing and offshoring. The Boston Consulting Group. Inc., 2005.- 10 p.
- [7]. Hendry J. Culture, community and networks: the hidden cost of outsourcing //European Management Journal. 1995. Vol. 13(2). P. 193-200.
- [8], Ketler K., Walstrom J. The outsourcing decision // International journal of information management, 1993, Vol. 13(6), p. 449-459.
- [9]. Lacity M. C., Willcocks L P., Feeny D. E. IT Outsourcing: maximize flexibility and control //Harvard business review. 1995. Vol. 73 (3). P. 84-93.
- [10]. Maslennikova N. P. Management of Development of the Organization: monograph / Maslennikova N.P.. M.: Centre for Economics and Marketing, 2002. 303 c.
- [11]. Porter M.E. Competitive Strategy. New York: Free Press, 1980; Competitive Advantage. New York: Free Press, 1985.
- [12]. Quinn J., Hilmer F. Strategic outsourcing // Sloan management review. 1994. Vol. 35 (4). P. 43-55.
- [13]. Willcocks L., Fitzgerald G., Feeny D. Outsourcing IT: the strategic implications //long range planning. 1995. Vol. 28 (5). P. 59-70.