

Some aspects of the decision to buy, not to produce parts and components

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Abstract. The strategic decision taken by every manufacturing enterprise comprises the choice whether to produce or buy the materials incorporated in their product. The purpose of this paper is to find possible factors influencing the decision to buy, not to produce. A brief overview of the specialized literature is done. A questionnaire-based survey is conducted among a group of manufacturing companies in Bulgaria. Some conclusions are formulated based on the aggregated data of the survey. The importance of a group of factors in the decision making process whether to buy parts and components and not to produce them is proved. The obtained results refer to the analyzed group of manufacturing companies. The results of this study are useful for manufacturing companies who make the strategic choice on the make-or-buy decision.

Key words: purchase, manufacturing enterprise, manufacture or buy, parts, components.

1. Introduction

In the conditions of increased competition, the determination of which goods and services may come from suppliers and which from internal sources is an important strategic decision for every enterprise. The subject of the analysis are the factors leading to the decision to buy parts and components, which will be used by the manufacturing enterprises. The purpose of this article is to determine the importance of the factors suggested in specialized sources that influence the aforementioned decision made by the manufacturing companies.

2. Literary overview

The decision whether to produce or buy goods, which will be used in the manufacturing process of a particular product is made based on a number of factors. In this respect, in the specialized literature, many authors have worked on this topic. According to (Leenders and Fearon, 2006), the reasons for the purchase of materials from suppliers are as follows:

- the company does not have any administrative or technical experience required for the manufacture of a product;
- the manufacture may oblige the company to break into the market and to compete with former suppliers. This may influence the relations with them. The suppliers have an excellent reputation for winning customers to buy their components;
- if a long-term maintenance of the technological and economic viability of the non-core activity is required;
- if there are difficulties related the repeal of a decision made;
- there are difficulties in the determination of the real long-term expenses related to the decision to produce materials;
- there is considerable flexibility in the choice of possible substitutes;
- availability of qualified supply specialists;
- if the purchase is related to lower costs;
- the companies shall determine where their value added tax activities are part of the main business.

According to (Korbankoleva, 2010), there are quantity and quality factors. The first group includes the following:

- limitations in the company's capacity; cost avoidance for specialized equipment or work force, reduction of stocks; lower total expenses for purchase compared to those for own manufacture; the necessary quantity is too small for economical manufacture; difficulties in the determination of the long-term expenses for the own manufacture, alternative cost avoidance /possible losses of advantages and profits/; gaining free production capacity.

The quality factors include the following:

- sharing the financial risk with the supplier; higher flexibility in the choice of a substitute; there is environmental insecurity; availability of a competent supplier, specialized equipment or patents; increase of expenditure transparency; possible control over the supplier's quality; there is competition among suppliers; lack of technical experience and know-how for the product's design and manufacture; need to keep track of new technologies, market opportunities and customer needs; the supplier offers a production technology, specialized research and know-how.

Another specialist (Blagoev, 2010) considers that the decisions are usually made on the grounds of two criteria – expense level and achieved quality level. For (Anikina and Rodnikoy, 2011) the arguments supporting the decision for purchase are as follows:

- lack of production capacity and personnel;
- possible choice of alternative sources on the market which may cover the quality requirements, reliability, etc.
- the purchase expenses are lower than the production expenses;
- optimization of the inventory costs;
- supplier's know-how or patent

According to Koraliev, 2013/ the factors supporting the decision to use suppliers are as follows:

- lack of administrative or technical experience for the manufacture of the necessary goods or services;
- opposed interests with former suppliers which may influence the relations with other suppliers or customers;
- excellent reputation of suppliers and possible achievement of complex purchase and supply;
- required maintenance of long-term technological and economic viability of the non-core activities;
- there are difficulties in the determination of the long-term expenses related to the decision for own manufacture;
- high flexibility in the choice of the available sources and product substitutes.

According to (Dibskaya, 2013), the reasons for choosing the purchase instead of manufacture are as follows:

- discharging management personnel and focusing on the main activity;
- decreasing the expenses
- compliance with the commitments with the supplier;
- gaining technical and management advantages;
- lack of production capacity;
- decreased inventory costs
- access to alternative sources, insufficient management and technical resources;
- cooperation with a supplier, products with protected patent.

It may be argued that the topic on decision making related to the choice whether to purchase or produce is permanently discussed in the specialized literature. A number of authors /not limited to the aforementioned ones/ focus on the various aspects taken into consideration in the decision making process. All the authors try to make a more complete and accurate interpretation of them. The most accurate interpretation of the factors seem to be one given by Korbankoleva and they are used in the formulation of answers to the questions asked.

3. Results of the survey conducted among a group of Bulgarian manufacturing companies.

Concerning the overview of the specialized literature, what is interesting is the importance of many of the aforementioned factors for a group of manufacturing companies in the decision making process related to the choice whether to buy and not produce the materials used in their products. In order to gather a source data related to the topic, a standard personal questionnaire has been used. The companies have been asked the following questions: 1/ What is the approximate percentage of the parts and components used in a particular product that are produced in the plant and what is the percentage of the parts and components bought from other companies? 2/ How often does the company take into consideration the following factors in the decision not to

produce on their own the parts and components and to buy them from other companies? The companies providing answers have been given the option to reply to the second question according to a scale from 1/does not influence/ to 5 /influences considerably/ and to assess the degree of influence of the factors.

44 manufacturing companies chosen at random participated in the survey. There are representatives of micro-, small-, medium- and large-sized companies among them. The period of survey is from April 2018 to February 2019. The conclusions made refer to the interviewed companies. Among the interviewed manufacturing companies, the small-sized companies have the largest share (34 %). They are followed by the medium-sized ones (31 %), large-sized (25 %) and micro-sized (10%). The sample includes mostly manufacturers in the field of the food sector – 23 %, followed by the representatives of light industries – 18 %, construction – 18 %, mechanical engineering – 16 %, clothing and textile – 14 %, chemical industry, etc. – 11 %. The following results have been obtained.

- ✓80% of the manufacturing companies choose to manufacture and buy the parts and components used in the final product;
- ✓the percentage of purchased and manufactured parts and components is different with a predominant number of companies choosing to buy the materials;
- ✓18% of the interviewed companies buy entirely the materials used in their product;
- ✓2% of the companies manufacture entirely the materials used.

It has been established that the decision not to produce and buy the materials, parts and components, in the companies subject to the survey, is made on the basis of the following factors having the strongest influence /assessed with 4 and 5/ :

- ✓Lower expenses – 84% of the companies;
- ✓Difficulties in the determination of the long-term expenses – 70% of the companies
- ✓Influential supplier /manufacturer/ – 65%
- ✓Availability of a large number of suppliers on the market and competition among them – 51%
- ✓Difficulties related to the manufacturing – 47% of the companies;
- ✓Lack of technical experience and know-how for the manufacturing – 42%
- ✓A shorter period of customer order performance– 37% of the companies;
- ✓A higher product quality assurance – 23% of the companies;
- ✓Production load alleviation - 23% of the companies;
- ✓Reduction of stocks – 21%
- ✓Possible control over the supplier – 14%
- ✓Free production capacity – 14%

Among the analyzed companies, one only manufactures entirely all the materials used in their products. The rest of them buy entirely or partially parts and components. Among the second group, the purchased materials prevail. All the aforementioned factors are more or less taken into consideration by the companies. Those with the highest degree of influence are as follows: lower expenses, difficulties in the determination of the long-term expenses, influence of the supplier and the availability of choice on the market. For a small number of companies, the opportunity to control the suppliers is extremely important for making the decision for purchase. When the companies compete with each other through their supply chains, the small percentage of this group is interesting and the result shall be taken into consideration in future surveys concerning the opinion of the respondents. There is a small percentage of companies having their own free production capacity, so the lack of it does not have a high degree of influence.

4. Conclusion

The results obtained from the survey lead to the following conclusions:

First. A great part of the aforementioned factors leading to the decision of purchase have been described by various authors and have been taken into consideration by the surveyed companies. There are some factors that do not get enough attention and consideration.

Second. The obtained results refer to the analyzed group of manufacturing companies. The analyzed factors and their degree of influence are different in each particular case.

Considering the conclusions made and as a result of the changes occurred in the external and internal environment as well as in the strategy and goals of the companies, it is necessary to consider, at regular intervals, the decision to buy and not to produce parts and components at a strategical and tactical level.

Literature

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