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PLANNING MODEL OF PURCHASING LOGISTICS IN OUTSOURCING

Summary. It is often the case that when preparing their offers, potential outsourcers of logistic activities do not thoroughly research all the activities that have an influence on the process of logistics. Consequently, they prepare relatively expensive offers (that can later lead to greater unexpected costs) which, in many cases, business partners decide against and persist with their own existing methods of doing business.

The original contribution to science in this article is a model that will aid better understanding of dealing with problems and will, in practice, serve as a tool for the successful execution of business offers by outsourcers. Following research we have discovered, and are able to confirm, that despite the high start-up costs of the outsourcing, in the long term the company can reduce logistic costs. The model presented serves as an in-depth analysis of the company which enables the definition of favourable and optimal offers for outsourcing. The model shown helps to minimise the influence of mistrust and emphasises the importance of reducing the logistic costs with outsourcing.

MODEL PLANOWANIA ZAKUPU USŁUG LOGISTYCZNYCH W OUTSOURCINGU

Streszczenie. Bardzo często się zdarza, że w trakcie przygotowywania ofert na usługi logistyczne pomijane są niektóre ważne elementy wpływające na cały proces logistyczny. W rezultacie przygotowywane są relatywnie drogie oferty (czasami prowadzące do dodatkowych, niespodzieanych kosztów), które w wielu przypadkach są po prostu odrzucane na rzecz pozostania przy dotychczasowej formie prowadzenia biznesu.

Celem tego artykułu jest opisanie modelu naukowego, który pozwala lepiej zrozumieć problemy oraz służy jako narzędzie do sprawnego egzekwowania ofert biznesowych przez usługobiorców. Opierając się na badaniu, odkryliśmy i jesteśmy w stanie potwierdzić, że pomimo wysokich kosztów początkowych outsoucingu w dłuższym horyzoncie czasowym usługobiorca jest w stanie znacznie zredukować swoje koszty. Przedstawiony model prezentuje głęboką analizę firmy, która umożliwia zdefiniowanie pożądanych i optymalnych ofert outsourcingowych. Pomaga on także ograniczyć wpływ braku zaufania oraz podkreśla znaczenie redukcji kosztów przy zastosowaniu outsourcingu logistycznego.

1. INTRODUCTION

In recent times, purchasing logistics are placing more and more emphasis on the development of a partner relationship between the supplier and buyer where the benefits are not just exchange but profit sharing as well. Such a relationship emphasizes the mutual efforts to reach satisfying results with the aim of ensuring maximal added value. This requires trust and support from both sides and at the same time represents the foundations for the development of new concepts in logistics support in outsourcing [27].

Based on internal and external expense analyses peformed with the "compare your success to your competition" programme and benchmarking analyses, companies are starting to realise which production activities they are no longer competitive in. One of the consequences of this strategy is that companies cease to perform the activities that they believe are not part of their basic business. Companies thus sell some parts of their functions in accordance with the direction to transfer certain activities to outsourcers (the reduction of the number of employees results from this decision) [27].

The consequence of such analyses and research are new logistics concepts. One of them is presented in this article.

2. PURCHASING LOGISTICS

Production companies often have some storage capacities of their own and they are starting to realise that these capacities are a bottleneck as a consequence of a worse or not optimal storage and purchasing function. This is why an increasing number of production companies are expressing interest in outsourcing possibilities with a company that is better specialised in these activities. A new logistics concept is occurring in purchasing logistics: outsourcing of the storage and purchasing function where the outsourcer takes over the company's existing storage infrastructure, human resources (if needed), and the operative side of business in storage and purchasing activities. In this case, the outsourcer has full or partial control over the storage of materials, components, and products and takes care of purchasing, optimisation, and organisation of all related work activities. The outsourcer does not just take over the logistics activities in purchasing that are known today but also takes over the acquisition, planning, coordination, and qualification (specialisation) of employees in the storage and purchasing function while using the production company's existing infrastructure.

In accordance with the contract provisions and the analysis of current activities, the outsourcer has to determine whether they wish to keep the entire human resources in the given business environment or specialise them for a high-quality logistics support of the production company or whether a certain number of the employees will be dismissed and the remainder will be assigned modified function within work process optimisation. The outsourcer needs to examine all activities, evaluate them according to their function and expenses, and thus determine which activities in the business process need to be optimised or dismissed. This is the only way the outsourcer can lower operating costs which needs to be lower than the expense the outsourcer poses to the production company.

Fig. 1 shows the production cost curve, the outsourcer's effect on the production company's costs (marked red) can be seen. For a detailed description, the following abbreviations need to be explain:
- ➢ p = Price;
- ➢ q = Quantity;
- ➢ AC = Average costs;
- ➢ AVC = Average variable costs;
- ➢ MC = Marginal costs.

The company sells its products at the price p1 (Figure 1) which is the selling price of the end product for the quantity q1 and is comprised of average variable costs (AVC, line segment BC), average fixed costs (AFC, line segment CE), and the average profit fee (APF, line segment EG) (1). This can be expressed mathematically as:

$$p = AVC + AFC + APF \qquad (1)$$

One has to consider that the ceiling price is the price for a unit of the end product. The total revenue (TR, □ABGH) (2) is the product of the price and quantity:

$$TR = p \times q \qquad (2)$$

The total revenue (TR, □ABGH) (3) includes both costs and revenue. This is why one has to distinguish between the total profit (TPF, □EGHF) and the total costs (TC, □ABEF) which can be expressed mathematically as:

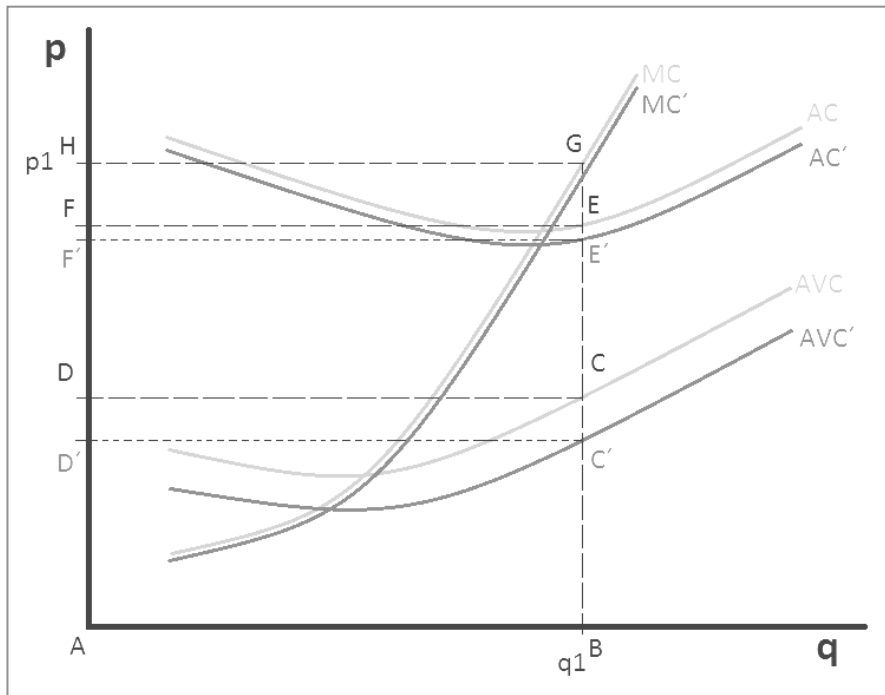$$TR = TC + TPF = (AC \times q) + TPF \qquad (3)$$

Fig. 1. Production cost curve
Rys. 1. Krzywa kosztów produkcji

AC denotes average costs which consist of fixed costs (FC, □DCEF) and variable costs (VC, □ABCD).

Once the structure of production cost distribution is clear, one realises that the outsources actually influence the reduction of average variable costs (AVC; Figure 1: Shift from AVC to AVC´) with their professional approach, optimisation, and the restructuring of work processes. As a consequence, average costs (AC, Figure 1: Shift from AC to AC´) are reduced as well which can affect changes in marginal costs (MC, Figure 1: Shift from MC to MC´). This means that the production company can lower its costs in the long-term with the help of the outsourcer or the company can produce larger quantities.

3. PLANNING MODEL OF PURCHASING LOGISTICS IN OUTSOURCING

The planning model of purchasing logistics in outsourcing is presented in this chapter. The model shows the sequence of events related to the decision to outsource, the preparation for outsourcing, execution, and control over outsourcing. Figure 2 shows the model of a production company receiving inputs (raw materials, materials, entry information, etc.) and producing outputs (end products, components, exit information, etc.). We focused on a company's purchasing logistics where the management decides to outsource or to execute purchasing logistics by themselves based on examination of the key factors. The model represents a complex system which receives and transmits information, money flow, human resources, material goods, and thus affects the outside environment from a macroeconomical point of view.

When deciding to outsource purchasing logistics, the company needs to determine a team for outsourcing which includes competent experts who are capable of planning, executing, and supervising the outsourcing project. Following the evaluation phase during which the needs and goals are identified and examined, the company has to focus on its performance analysis and determining the criteria for measuring how successful their cooperation with the outsourcer is. The company can then move on to the phase of choosing an outsourcer where the company presents its outsourcing-related demands to the outsourcer. This is followed by negotiations and contract drafting which includes the process of reaching an agreement, establishment of relations, consultations, completion of negotiations, and contract drafting. During this phase it is very important that the company notice any conflicts of interest in due time and try to put an end to them or avoid them (should negotiations prove unsuccessful, the company can terminate cooperation with the outsourcer).

If the negotiations are successful, the process of purchasing logistics execution may begin. The outsourcer takes over the agreed infrastructure and the purchasing logistics processes determined in the contract. The outsourcer has to perform all activities contributing to problem solving in the purchasing logistics process, ensure an effective flow of information, goods, and human resources, and ensure uninterrupted operation in the transitional phase. In accordance with the purchasing logistics strategy, the outsourcer is obliged to successfully supervise and manage the assigned purchasing logistics phases as well as manage storage supplies. Furthermore, the outsourcer has to ensure the right amount of competitiveness, stability, and partnership in the company with their professional approach. The production company has to manage the cooperation with the outsourcer constantly by gathering information about the fulfilment of contract provisions and decide whether they want to negotiate further or withdraw from cooperation.

3.1. Key factors of outsourcing

When transferring activities to an outsourcer, it is necessary to follow certain guidelines which demand several skills and in-depth knowledge. Outsourcing brings new relations and cultures to the company which is why a proper evaluation of the company's business process is crucial for success. If the company wishes to make the right decision for outsourcing, a detailed company performance analysis needs to be carried out as it is the starting point for all further talks. The success of outsourcing depends on:
  ➢ Understanding company goals;
  ➢ The strategic vision and plan of the company;
  ➢ The right choice of an outsourcer;
  ➢ Constant communication with the outsourcer;
  ➢ A well drafted contract;
  ➢ Open communication with the affected company employees;
  ➢ Support and involvement of the company's top management;
  ➢ The right evaluation of financial consequences;
  ➢ The involvement of outside experts.
The characteristics of a partner relationship are: regular meetings of the top management, salaries based on business results, disclosure of costs and income, minimum five-year contracts, involvement of both parties in strategic planning, difficulty of making differences between employees in both companies, both partners look for ways of lowering their costs and both strive for added value. [20]

3.2. Team for outsourcing

The team members are usually employed in the company but this is not always so because it is wise to include outside experts on a permanent basis (or temporarily) in the team, especially in the outsourcing phases related to purchasing, research, evaluation, negotiation, and solving legal and information problems [20].

The project team should designate a group leader, a purchasing and technical expert, a wider work group can be formed for individual phases. The project leader supervises the project during its entire life cycle and has to identify the company's need for outsourcing, define the reasons, and draft a request for proposal where the company describes its demands to the potential partner. The project leader is also responsible for project results and the purchasing specialist helps the leader to identify potential partners, choose outsourcers, and negotiate. He has to be capable of detecting potential problems and negotiating with the outsourcer. Unlike the project leader and purchasing specialist, the technical specialist evaluates technical qualifications and the candidates' capability of outsourcing the service. The technical specialist needs to communicate with the outsourcer on a daily basis during the project and control the quality of the outsourced service, as well as recognise any mistakes in the execution [1].

3.3. Evaluation phase

Several steps need to be taken into consideration while making decisions during this phase. The first one is **needs identification** which includes improvements in the service quality, efficiency improvement, geographical coverage, **organisation goals**, etc. The company has to be precise in determining the services or tasks needed as well as the reasons to outsource them. There are of course several reasons to outsource but if one of them is the company's driving force, the company should assess its possibilities. The second step in the evaluation phase is the **evaluation of the organisation's operation** where the company has to evaluate the advantages and disadvantages of outsourcing and insourcing a service [1].

The following step is **establishing criteria** which are of key importance when transferring "ownership" of processes to an outsourcer. This means that the company has to precisely determine the results they want to experience and not the way in which the outsourcer must perform the task. These criteria enable the company to supervise the outsourcer and measure the outsourcer's performance success. If such criteria are not determined, it is not possible to have control over the contract [23].

When evaluating the advantages and disadvantages of outsourcing, one has to analyse:
- ➢ Outsourcing related costs;
- ➢ Business areas that could be further improved;
- ➢ Key elements that the decision to outsource will have impact on;
- ➢ Risks in human resources and finances, as well as organisational risks;
- ➢ The analysis can show that outsourcing costs more (considering quantitative factors);
- ➢ The identification of potential outsourcers when looking for an outsourcer who could best satisfy the company's needs and fulfil its goals. The result of this phase can even have the conclusion that outsourcing is not an appropriate decision because there is no appropriate outsourcer or because the external costs would be too high [23].

Since outsourcing can be described as the transfer of the ownership of processes to an outsourcer, it requires criteria to be established. The contracting parties need to reach an agreement on the service-level goal and the minimum acceptable service level. The parties can base their decision on the current company situation or the comparison with other competitive companies (benchmarking). To measure the success, the following steps are to be taken into consideration:
- ➢ Which service characteristics will be measured?
- ➢ In what way will the company measure the performed tasks?
- ➢ When will the measurements be made?
- ➢ What reports will be produced?
- ➢ What is the minimum and the goal success rate?
- ➢ How will the required success rate change through time?
- ➢ Will the company and the outsourcer arrange to lower the price and under which conditions?
- ➢ Will the outsourcer be entitled to a bonus and under which conditions?
- ➢ When will the failure to reach required service levels result in the termination of the contract? [23]
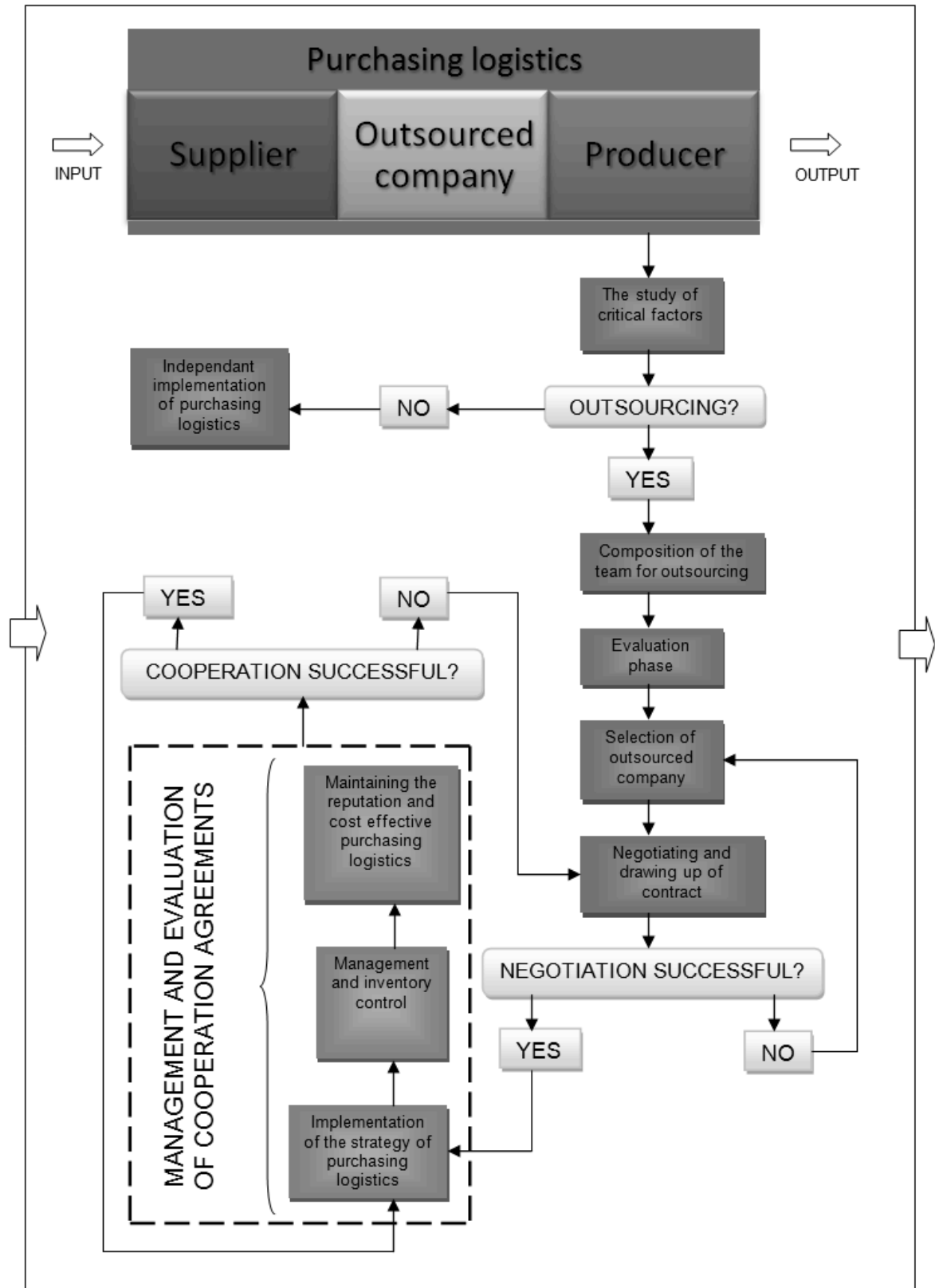
Fig. 2. Planning model of purchasing logistics in outsourcing
Rys. 2. Planowanie − model logistyki zakupów w outsourcingu

3.4. Choosing an outsourcer

It is of great importance to analyse potential partners and choose the one that best fulfils the company's demands. The company should define its demands regarding the outsourcing of its activities within a request for proposal. The request for proposal should include a detailed description of the tasks that the company wishes to outsource and the project time frame. This is why the request for proposal needs to have a clear structure when describing demands so the company can compare the outsourcing proposals later on. The set demands need to be measurable. The company needs to disclose the problems that it wishes to solve with the outsourcer's help and it is also advisable to describe the relationship the company's intentions to establish with the outsourcer. An unrealistic request for proposal can drive away the best potential partners who knows the business much better than the potential contractor and do not wish to go into a business that is unprofitable or impossible to manage [1].

The basic condition when choosing an outsourcer is financial stability, understanding, and the ability of satisfying the chosen company's needs.

3.5. Negotiations and contract drafting

Once the outsourcer has been chosen negotiations on the contract contents can begin. The key to success in outsourcing is mutual trust between both parties. The faith of each partner depends on the other company which is why the contract should be based on the win-win concept where the outsourcer has to be able to recognise his own benefits in the contract as well. The contract between the company and the outsourcer needs to be well defined so that any conflict can be solved based on the contract. The complexity of the contract depends on the complexity of the outsourced activity [23].

Negotiations are a process consisting of goal recognition and communication and they need to begin with a clear definition of goals. The first goal is that both parties are satisfied with the negotiation results to such a level that they wish to cooperate further. The second goal is that both parties are prepared to adhere to the agreements; they need to distinguish between the short-term and long-term benefits that they wish to achieve [17].

These negotiations are negotiations in the real sense of the word because both parties compromise. It is important that the parties establish how the other party reacts to the negotiations as they go, be it verbally or in a non-verbal way. No decisions are made during this phase, offensive remarks need to be avoided and, most importantly, a party should not compromise more than intended. This process reveals the success of the preparations, the knowledge, successfulness, and experience of the negotiators.

In order to conclude negotiations both parties must reach an agreement on the main topics and contents so that both parties are as satisfied as possible. Negotiators need to be trained to recognise and estimate the right moment to conclude the negotiation process as it cannot be precisely determined. All verbal agreements should be written down in points, as precisely as possible [17].

The outsourcing contract is the foundation of good and optimal cooperation. The contract should be based on several components which needs to be defined in a logical way. These components include [23]:
➢ Task specification;
➢ Required service level;
➢ Rights and obligations of both parties;
➢ Transitional period.

The transitional period is connected with the effect of the affected employees in the company as well. The decision to outsource can have an unwelcome effect on the morale and productivity of the employees because they are afraid of losing their job, the best employees may even start looking for a new one. Overemployment costs have to be considered as transition costs. Both companies have to prepare a plan regarding the communication with affected employees and ensure the right public relations so that the company's reputation does not get affected.

The contract determines how and when the outsourcer will report to the company and how disregard to the contract shall be handled. A special section of the contract is dedicated to the obligations of both parties after a contract has expired or after it has been terminated, with regards to returning the means, documentation, information, and the technical knowledge that has been gained.

Simply choosing the right outsourcer and signing the right contract with them does not guarantee success as it is largely affected by the cooperation management and level of communication. Outsourcing has many benefits but these can be used to the fullest only when outsourcing is perceived as a long-term money-saving measure and a strategic opportunity. Regardless of the outsourcing contents all relations require constant coordination and partner communication. When the relation is extensive and complex both sides should create their own project group and thus ensure optimal outsourcing operations. [23]

3.6. Purchasing logistics strategy

Purchasing strategies should be based on a company's business strategies and support them as well. When choosing purchasing strategies several factors should be considered. These factors are connected with the materials being purchased, and the suppliers supplying the matierals. Purchasing strategies also include decisions on the quantity purchased, the decision to produce or buy, decisions on what the company should keep under its jurisdiction and what to entrust to the outsourcer (or to the suppliers). The conditions for purchasing specific materials change constantly due to changes in the purchasing market which is why the choice of appropriate purchasing strategies is not a static and one-time task, it has to follow changes in the purchasing market and adapt to these changes [8].

The purchasing strategy is run by both parties, the outsourcer and the contractor, but it is operated by the outsourcer in most cases. Constant communication and cooperation based on trust is the basis for a successful execution of the purchasing logistics strategy.

3.7. Supply management

Supply management is one of the most important operations for company management because supplies require substantial capital and affect the delivery of goods to the buyer. Supply management has an effect on all business function, predominantly on marketing and finance.

Departments within the company have opposing goals regarding supplies. The sales department aims to please buyers as much as possible which is why it wants to have large supplies of end products and materials. On the other hand, the production department strives for efficient operation, i.e. large production series, in order to lower the preparation costs caused by large supplies [14].

The main aim of keeping supplies is that they function as a buffer between supply and demand. Optimal supplies can only be achieved if it is possible to present the opposing goals and solve the conflicts through the cooperation of all departments [13].

There are several mathematical methods for optimal supply management where the deterministic approach (the quantity of the supplies spent is known in advance) or the stochastic approach (the probability of spending supplies within a certain time period is considered) is presented.

The following passage shows the linear dynamic programming of supplies based on the deterministic and stochastic approach of ordering goods for the warehouse.

3.7.1. Deterministic model

The feature of the deterministic model is that the demand and the consumption of raw materials and reproduction materials in the production company are known in advance and are based on reliable statistical data or criteria determined in advance (e.g. plans).

Before calculating one must determine assumptions which present limits for the calculated value. These assumptions are:
  ➢ The carrier's capacity in number of units for a specific time period;

> ➢ Transport price [Tc] in monetary units;
> ➢ Safety stock in number of units;
> ➢ Warehouse capacity in number of units;
> ➢ Order costs [A] in monetary units;
> ➢ Storage costs [h] in monetary units.

These assumptions show that the calculation will be based on certain limits. There is emergency supply on the one side and warehouse capacity on the other. This means that supply should always remain within these two values. This can be expressed mathematically as (4):

$$1 <= i + x - d <= 7 \tag{4}$$

The supplies at the end of the day (s) when current demands have been satisfied should not exceed 7 units (warehouse capacity) and not fall under one unit (safety stock). This value is calculated by adding supplies from the previous day (i) and the number of units ordered on the current day (x), then substracting the consumption (consumption = demand) on that day (d) (5):

$$s = i + x - d \tag{5}$$

Each demand needs to be met immediately from the supply or from the quantity ordered the very same day. If there is no order (C), there are no costs (6). Every time goods are ordered, transport costs (T_c) and production costs (A) have to be considered. This can be expressed mathematically as (7):

$$C(0) = 0 \tag{6}$$

$$x > 0, C(x) = T_c + A = T_c + (f_c + v_c * x) \tag{7}$$

x = Quantity ordered; T_c = Transport costs; A = Order costs = $f_c + v_c$; f_c = Fixed order costs; v_c = Variable order costs.

At the end of each day, the goods on stock represent the quantity stored until the following day. The storage costs for each unit of goods (h) needs to be taken into consideration. Since warehouse capacity is limited, the quantity cannot exceed this value.

The goal of a company is to minimise total delivery costs by satisfying that day's demands in an optimal way and pay as little production costs and storage costs as possible at the same time.

The problem was solved using the retrograde system (from the last to the first day). At first, f_n (i) was determined as the minimum total value during the last order cycle; for example, the last day (order costs + storage costs). This is the value which ensures demand satisfaction if there are i units of goods on stock at the beginning of the day. This can be expressed mathematically as (8):

$$f_n(i) = C(x) + h \tag{8}$$

i = Previous day's supply; x = Quantity to be ordered on the current day; s = Units of goods at the end of the day which will be stored until the next day (s = i $_{(t-1)}$); C(x) = Order costs comprised of transport costs (T_c), fixed order costs (f_c), and variable order costs (v_c) per goods unit; h = Storage costs per goods unit on stock at the end of the day.

The costs for the order cycle before last are calculated next f_{n-1} (i). The optimal next day costs (f_n) need to be considered when $s_t = i_{t+1}$ (the quantity of goods at the end of the previous cycle is identical to the starting quantity at the beginning of the next cycle). Optimal costs are the sum of order costs on the day t, storage costs on the day t, and optimal costs on the day t+1. This is a recursive equation (9):

$$f_t = C(x) + h + f_{t+1} \tag{9}$$

This means that the costs of the entire delivery are identical to the sum of the order on day t (C(x)), the storage costs on day t and the total costs on the day t+1.

By calculating total costs for all cycles within the supply chain, one can calculate the end optimal delivery costs (10):

$$f_t(i) = \min\{C(x) + h + f_{t+1}(i)\} \tag{10}$$

3.7.2. Stochastic model

The stochastic model represents demand distributed by a mathematical probability. The goal of stochastic supply programming is to minimise expected costs through the entire horizon N (e.g. the

number of days). The results represent several scenarios possible because the order quantity for the next day cannot be known until demands for the current day have been satisfied.

Initial assumptions stay the same as those used in the deterministic model: the carrier's capacity, transport service costs, emergency supplies and warehouse capacity, order costs (both fixed and variable), and storage costs.

Unlike the deterministic model the stochastic one features a mathematical probability distribution for individual days (Tab. 1). Probability is expressed as P and shown in the table below:

<div align="right">Table 1</div>

<div align="center">Demand: Stochastic model</div>

Number of units ordered in a cycle (demand)	First order cycle [P1]:	Second order cycle [P2]:	Third order cycle [P3]:	...	**n-th order cycle [Pn]:**
d1	P1 (d1)	P2 (d1)	P3 (d1)	...	Pn (d1)
d2	P1 (d2)	P2 (d2)	P3 (d2)	...	Pn (d2)
d3	P3 (d3)	P2 (d3)	P3 (d3)	...	Pn (d3)
...	...	...	...	...	...
dn	P1 (dn)	P2 (dn)	P3 (dn)	...	Pn (dn)

Based on the probability distribution above, a stochastic model was created and the delivery costs value for individual days was calculated. The problem is solved using the retrograde system as follows.

The solution was reached using the following procedures (12) (if there is no order, there are no costs (11))

$$C(0) = 0 \tag{11}$$

$$x > 0, C(x) = T_c + A = T_c + (f_c + v_c * x) \tag{12}$$

$$P_i = \{1,2,3,4,5,6\} <= i + x \tag{13}$$

$$s = \sum_{i=1}^{i=n} P_i * (i + x - d_i) \tag{14}$$

The expected quantity (s) to be kept in stock on an individual day cannot exceed warehouse capacity and should not fall under emergency supply quantities (14). The demand probability is defined as a value smaller or identical to the current supply (i+x) (13).

The end result is a combination of possible solutions. Unlike the deterministic model the stochastic one cannot forecast order quantities for the next day until demands for the current day have been satisfied. To demonstrate the entire supplying system we considered demand on all days as optimal, i.e. this demand is the highest probability.

The optimal scenario is the one where demand on each day is the same as its highest probability. Optimal costs for individual days are defined using the following function (15):

$$f_t(i) = \min\{C(x) + h + f_{t+1}(i)\} \tag{15}$$

The example above is very useful for planning purchasing and the distribution of goods into the warehouse because it enables the calculation of optimal delivery costs and shows the system result of periodic goods purchasing. The result of the shown model proves that successful optimisation of supplies in a warehouse can be integrated into Excel as well but it does require quite a lot of knowledge. The integration saves investment costs of buying a programme application for calculating the optimal delivery of goods. From a logistics point of view the set-up of the linear model of supply

programming in Excel is a competitive advantage on the market in comparison to using other programmes created solely for supply programming.

3.8. Conclusion

It can often be seen in practice that companies presenting themselves as potential outsourcers often produce outsourcing offers which considers the outsourcer's revenue interests more than the cost interests of the contractor. These offers include higher prices of business services which also include business risks associated with inefficient predictions of potential costs. This results from inappropriate planning of outsourcing in purchasing logistics which is fundamentally the responsibility of the contractor. It is a well known fact that production companies do not always include all the necessary experts into the outsourcing project. These experts' knowledge and experience can have a vital contribution towards building the team for outsourcing and subsequent results in the evaluation phase and key factor evaluation. The request for proposal for outsourcing consequently does not include all the necessary information that the potential outsourcer should consider and this results in high prices in the outsourcer's proposal.

The presented model of purchasing logistics can serve as a thorough analysis of a company and the logistics service provider's proposal because the production company can examine all criteria by considering the criteria listed in the article and provide all the necessary information to the potential outsourcer. The outsourcer can therefore study the company's needs and demands as well as draft an expert and reasonably priced outsourcing proposal.

The basic approach applied in this article is considering purchasing logistics in outsourcing as one of the extensions of company management. In the last few decades, the importance of outsourcing grew all over the world. The number of activities that companies are outsourcing has increased their complexity. Years ago companies hired outsourcers mostly for secondary activities, such as cleaning, transport, employee food service, security, non-complex services than are fairly easy to transfer to outsourcers. In recent times, however, outsourcing has spread onto several activities which can be complex and are very important for the company. This includes production, accounting, and legal matters, storage, distribution, construction and maintenance of information systems, etc. [10]

In the years to come, an increase of outsourcing is expected and this is an important business opportunity for the further formation and development of small companies. The increasing importance of outsourcing will result from the expansion of services transferred to outsourcers, both in companies who already outsource and in companies who have not had the experience and will choose to outsource later on. This is why we wish to emphasise the importance of studying all criteria necessary when deciding to outsource, as listed in the model above. This is the only approach than enables companies to make optimal decisions and achieve the lowest costs possible.

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