



# Identification and Conduct of Cost Drivers of Variable Costs in the Short Term

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**Abstract:** This paper deals with cost drivers of variable costs in the short term. The main aim is to introduce the issue of formation of cost remanence in a manufacturing company and point out that financial management as cost control is very important because by identifying the cost drivers the company will achieve improvement when associated with the overall style of business management, in substantially less time and at expending order of magnitude smaller funds. Necessary knowledge of interconnections costs and their benefits increases the awareness of corporate managers to make rational decisions and promotes efficient use of company resources.

**Keywords:** Cost Drivers, Cost Remanence, Production, Variable Costs

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## 1. Introduction

At present the enterprise is as a whole market environment when trying to implement a unified strategy based on the presence of a complete enterprise. Corporate management after years of cost reductions, restructuring and rationalization changed its view of the low costs, which do not replace their growing returns. Competing individual parts of the company have dissappeared and currently methods of internal business management prevail, organizing internal structure in order to strengthen the company as a whole, at the expense of the parts that stand in the way of increasing market competition. Manufacturing companies review all activities because of cost reductions, controlling expenditures, postponing investment opportunities etc., and therefore its production and costs in the company is devoted a maximum attention at all levels of management Synek [15]. At present the cost strategy and low prices are the most important competitive weapons of the company and are affected production costs. Limited financial resources affect not only the production of goods and services which affect the lower production efficiency, but also the number of employees, limited staff resources or new business activities and the allocation of research and development etc. Keřkovský [6]

The intent of this paper is the manufacturing company evaluation of variable costs in terms of time period and demonstrates that it is necessary to identify the cost drivers, its binding and activity inducing growth in variable costs. The

paper follows and deepens reflection on the theme of the article Recognition and behavior of variable and fixed costs by Wagner [16], who focuses on cost remanence process of manufacturing company.

First part of the paper deals with identification of relational indicators of the manufacturing company from the perspective of time, especially in the short term when the company has not the opportunity to increase output and management of the company is forced to make savings on the part of the variable costs. The last part explains the cost remanence in the manufacturing process of enterprise in economic management. The final part is the view of cost management in the enterprise, identifying the cost drivers and their relationships.

## 2. Cost Drivers of Manufacturing Enterprise

Depending on changes in production volume we sort costs into variable and fixed and their classification is a result of certain distinguishing criteria and it cannot be confused with a classification of costs according to different criteria. Define differentiation of variable costs and fixed can be specified according to whether the development of the examined cost items (dependent variable) is dependent on the development set of cost drivers (independent variable). Factors causing

costs in a manufacturing company are such events or activities that activate the process. The cost driver is the activity, whose occurrence creates the costs. For the purposes of the definition, the cost driver is considered to be a countable quantity, which is the real or expected reason of cost development of the economic entity and cost item as clearly identifiable component of the economic entity. The possibility for the selection of cost driver may be their suitable classification for example in terms of quantities related to the company activities of endogenous and exogenous variables or the behavior of the firm as influenceable or non-influenceable. Cost drivers that are related to the activities of the company are usually thought of as modifiable, for example performance standard - due to changes in work organization and acting on personal expenses or business development purchase prices of raw materials that affect the cost of material consumed. In most literature is the issue of cost variability examined only from the perspective of a cost driver, it is usually considered as a variable volume of outputs and outcomes. The basic cost driver in business economy is considered to be the production volume and analysis is thus restricted to a certain part of business activities. Synek [13]

The concept of variable and fixed costs relates to the length of time periods and their economic use is considered to intrinsically linked with managerial business management and as a basis for identifying costs is in the paper used the idea of cost remanence. Soukupová [12] connects the variability of costs with the volume output in relation to the time period. The length of time she understands as the factor that decides whether to adjust the quantity of inputs incurred by the volume of output. Different views on the structure of manufacturing company are clearly linked to the formation of the final outputs, change inputs to outputs and in the current environment, we can see that:

reliable prediction of costs is possible only in a certain range of volume of output, produced and sold by a company and a number of costs regarding to a certain performance group, Král et al. [8], management of fixed and variable costs is dependent on many factors, which include, in particular to ensure optimal and efficient course of the business activities, Fibířová et al. [5], fixed and volatility of the cost are relative and for their determination we use estimates, Synek [14].

Specification of cost drivers with regard to the decision problem solving, we can consider the cost driver as any output, therefore the final output (intended to external implementation) and internal (input securing other activities in the company) and throughout the process of creation and implementation. Definition of cost drivers such as internal output for the analysis of the development costs of the final outputs is the starting model marked AB technique. Wagner [16]

Recognition of costs (cost drivers) influencing the development costs of a manufacturing company is complicated and should be associated with the length of the time period. Analysis of the reference and identification of certain cost drives are complicated, usually take place selectively, on the basis of the problems encountered or monitoring the development costs. Wagner [16] states that

there is only a choice of cost drives, the effects of other variables are considered as neutral and in the company a "rational" model of reality is created, with which is being worked as a "ceteris paribus". Difficulty recognizing considered cost drivers is e.g. in relation to the company's activities endogenous and exogenous variables or split into controllable and uncontrollable variables complex. The starting point for findings is not to look for cost drivers for every possible activity but finding such cost drivers that have the greatest impact on numerous activities/events, which occur even in the smallest functional or operational units. From all activities can be decisive about five or six that have a significant impact on the calculation system of the organization. It is also suitable to realize that the cost drivers do not arise only in production, as it is sometimes presented but they appear in every area of the organization. Limiting the number of considered cost drivers we create a realistic model with which we work as well as with any other model. Doyle [3] Selection and classification of cost drivers are always based on the requirements of the user who initiated the resolution on variable and fixed costs. Definition of cost drivers on variable and fixed however is not considered in the current economic conditions rational and cost drivers is considered as any output.

In practice, the selection does not take place only certain examined cost drivers but the organization, relevance and definition of variables are assessed, which affects not only the cost factor, but also the whole group cost manufacturing company. Determination, classification and selection of cost drivers are based on the requirements of company and each company has its distribution approach and a different perspective. Generally, these variables can be defined as cost drivers related to the company's operations and we may think of them as modifiable variables and vice versa, it may lead to arbitrary combinations of the above mentioned classification. An example of the action of endogenous variables can be the change of employee job description, internal regulations, which were made as a result of changes in work organization and organizational structure of the company that affects the company's development costs. An example of endogenous uncontrollable variables in the manufacturing enterprise is waste (waste disposal). Example of modifiable exogenous variables may be involvement of purchasing activities of the company at the "exchange price" of materials or raw materials. Example of uncontrollable exogenous variables is the environment or company place of business, affecting the cost of economic - cultural environment.

The analysis period starts from the assumption that in the short term the company cannot significantly alter the volume of their output. Production volume is limited by production capacity and can be magnified by the use of labor, materials etc. In the long term a company can limit interval exceed the volume of production and means of investments, i.e. to enlarge its production capacity to become a bigger company. Last but not least, in the current market environment has a significant influence on production control battle for customers and markets.

### Cost Remanence



Interconnect variability of costs in the business economy with the idea of the causes of cost remanence has been dedicated to the economic literature for a long time. Author Baldwin [2] points to a number of sources of Anglo-Saxon literature 80 years of the 20th century, in which the phenomenon of hysteresis in the behavior of the so-called sunk costs is solved. The causes of cost remanence are not only technological, organizational and administrative limitations but also in a variety of obstacles in the company such as making decision of managers in a period of decline demand, and as stated Wagner [16] delayed decisions lead a reduction of costs; which we can challenge because in practice, delayed decisions are leading to higher costs. Based on empirical research Anderson et al. [1] focuses on analysis of remanence costs and author Grolms [4] continues on his work. Authors Novák et al. [10] wrote that companies are constantly under pressure of reducing costs and finding of cost reserves, it is result of global expansion and developing Information Society, to realize changing economic situation and business conditions of product companies, asks still new requirements and that has important impact to structure of performed activities and so to structure and development of different cost groups. That causes problems and difficulties with theirs appropriate and exact allocation in relation to performance of production. Companies implement such steps to reduce these causes which lead to the formation of the cost remanence (sticky cost). The importance of this issue is the subject of a study of Japanese authors Pichetkun et al. [11] who for the behavior of costs and an explanation of the causes of sticky cost are using regression analysis. The consequences of stickiness on the cost used to explain the cost of cost adjustment, political cost, agency cost and corporate governance. The conclusions of their study contributes to the understanding of the behavior and control costs and have a major effect and the importance for managers in their planning, management and cost reduction in the firm. Their study is important because it highlights other relationships, the selected variable and costs, which we will not find in the financial statements of the company. Economic theory generally assumes that with respect to the time period in a very short period are all costs fixed, in the short term we can distinguish between the costs of variable and fixed, and in the long term all costs are variable and argument for this distinction is the opportunity cost adjustment volume output. Wagner [16]

### 3. The Causes of the Remanence Cost in the Production Company

When controlling production costs we mainly come out of the variable costs that vary with the volume of production and fixed costs, which are not changed during production. Basic question is according to what criteria analyze the cost of the enterprise, in practice, the variability of costs is considered as a partial cost item, especially in the short term in relation to the

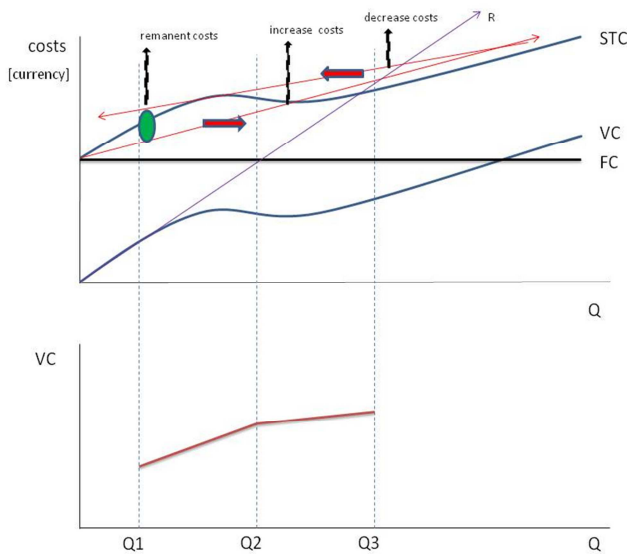
analysis of cost drivers. Causes of cost remanence in a production company, we can describe by the activities listed in Table 1 input, output and production itself decides on reducing production costs by shortening delivery times, increasing the usefulness of the products, of wide assortment, etc., which are currently considered as the main competitive advantage of the company. The issue of cost management business is primarily in the short term. The company's management has not the opportunity to increase output and is forced to making savings on the part of the variable costs shown in Fig. 1. Course of variable costs (VC) is dependent the revenue from the variable input. When growing revenues from the variable factor, then total costs rise more slowly than output, and the slope of the total cost in the short term (STC) decreases with an increase in output. In case of declining revenues from variable factors, the overall cost grows faster than the output (growth STC). It is mostly expected to initially rising and then falling revenues of variable factor. By increasing the production STC moves upward and at decrease is moving along a different curve due to the remanence of the costs, which acts in particular on all the costs associated with the production (i.e. variable costs) because fixed costs in a short period are not considered. Lazar et al. [9]

**Table 1.** Demonstration of cost remanence in the production company (Source: own processing).

Inputs		Cost remanence	
executive work		change of management	
tangible fixed assets		machinery - extraordinary repair	
material		undelivered raw materials	
management work		modern management methods	
			
		Production	Cost remanence
		logistics process	area lease
		supply	internal transport external transport
			
		Output	Cost remanence
		products	transport invoicing price increase
		services	price increase

#### Input

The issue is that costs of unrelated outputs, which have taken place e.g. due to unexpected and unplanned repairs of fixed assets or as a result of the decision to change managers – new recruiting staff. It is a set combination of the inputs that the company is trying to minimize during the manufacture of a variety of outputs.



**Figure 1.** Growth and decrease in production costs in short time (Source: own processing).

Fig. 1 illustrates the remanence cost at the undelivered material, showing the reduction of production capacity, which affects the entire manufacturing enterprise and leads to increased costs related to the performance of the business. In practice it does not mean always limited production but the acquisition of another input material from an alternate supplier, is often at a higher price. Increase in the quantity of materials from the M1 to the M2 causes a steep increase in costs. Management's decision on the maintenance of business costs and limitations of cost remanence can be achieved, e.g. immediate borrowing materials instead of their purchase, thereby experiencing a smaller percentage change in cost when you change the quantity of materials from M1 to M3. In practice, it is only possible for borrowing materials our other branches or on the basis of "good" relations in division companies. In the current market environment and the established methods of inventory control, mostly on free borrowing materials firm cannot consider. This situation is characterized by two ranges of activities of the enterprise, which is closest to the proportional development variable costs. Costs are divisible on the group level of performances, where increasing from M1 to M3 is the same group of materials (performances) and in terms of incurred cost with smaller chase are better for the company produce the required outputs and borrowing materials. Measures affect variable costs in the short term, when fixed costs do not change. In the long term, it is necessary to consider longer fixed costs, when for example their rising course and the development of cost remanence manifests erroneous investments in production buildings or machinery etc.

#### Production

The correct or incorrect functioning of intercompany's activity affects the structure of the company. The current status of intercompany's management is often characterized as the existence of relatively separate working sections, divisions, etc. acting as the economic sections with full economic powers when their activity in most companies

controls controlling department, which is usually located at the end of the chain and because of the detailed records of the costs in all areas of management. In conditions of market economy and enterprises in Eastern Europe we can agree with the author Keřkovským [7], the most serious deficiencies of production in comparison with Western competitors may be: lack of strategic approaches to the management of production, use of inappropriate management concepts and organization of production and lack of support of production management information technology.

In the production management is primarily a factual, spatial and temporal harmonization, cooperation of the factors involved in the manufacturing process or manufacturing processes affecting workers involved in the production, involving organization structure, the facilities, the necessary production equipment, raw materials, semi-manufactured products, energy, semi-finished products, funding, information and waste. Difficult state of management of production can be attributed to small and medium-sized enterprises operating in the domestic environment, as large companies and companies cooperating with other countries, assume the conditions, attitudes and factors of foreign countries, and many businesses perceive and understand that in terms of competitiveness play an important role in the production process production and its management and are able to effectively manage their costs. That means exclusion wasting with limited resources, their non-use and their use in the production in a manner that is the closest to business goal. Factors of production should be made with the lowest consumption of factors of production and manufacturing resources should be used efficiently, i.e. does not apply strategies of low costs because of low price and by the quality the company would fail among its competitors.

An example of cost remanence is e.g. storage which affects the costs associated with the output of the company. In practice this means that it is monitored every m2 of storage space and in terms of time it is checked how efficiently is specified location, specifically defined m2, used. Whether materials, semi-manufactured products or products are not there longer and are regularly outsourcing. Businesses have processed their own timetable or schedule recommended by an external company (outsourcing), but their significance lies in the benefit of managers who can devote to the primary activities of the company, so thanks to better analyze of information and decision-making increases the added value of the enterprise, for example simplifying administration and production part of the business and increased competition benefits of the company.

Fig. 1 can be modeled on the incurrence of costs associated with the inappropriate use of warehouse space to describe similarly. I.e. use areas, each m2, and its appropriate use can increase/reduce company costs and Fig. 1 may increase the costs of M1 to M2, for reasons of continual cycle of materials, semi-manufactured products or products. Warehouse space, storage is poorly managed. Effectively manage storage and reduce the appearance of cost remanence can be achieved by regular monitoring and control and also reducing the amount

of materials, semi-manufactured products and products in storage. If it did not happen, the costs of storage would spontaneously grow in time and storage would be managed inefficiently.

#### Output

Output is in the production easily measured, namely where the products are identical or similar. Cost systems based on the relationship between cost and volume of production do not always give the right signals to the pricing, product selection and allocation of resources and Analysis of the relationship between the cost and volume of production per unit of time leads to consideration of the behavior of costs in a short period, when the company is unable to change or increase the output technology used. All costs are associated with the production in the short term, particularly variable costs. With regard to the costs associated with the growth of traffic in the non-delivery of all ordered products, growth in the number of staff, Division of production orders into smaller production units (more frequent modification of production), etc. The negative impact of costs on the company's management, the incurrence of cost remanence, can be interpreted in Fig. 1 for example as the failure to deliver the products to the customer.

## 4. Discussions

The causes that lead to cost remanence, the companies are understood differently and it involves as the production process and so the whole enterprise. Analyzing costs, businesses do not lose the opportunity to control costs and to identify the factors causing the costs, which are often unrelated to each other.

It is understood that the disproportion leads to improvement in enterprise and production management in market conditions is relatively easier because the old products are replaced by new ones, there are created new production technologies products and technologies of world production on the market. However, this process is long-term and capital-intensive, and in some countries, especially in small and medium-sized enterprises, heavily dependent on foreign capital inflows. Therefore, management businesses are increasingly realizing the need for a harmonious development of system management in all relevant areas, including production management, its rationalization and quality improvement. Some companies implement such steps to reduce these causes, eventually the range of the cost remanence, other are building remanence teams of experts (process engineers) to ensure the long-term continuity of the production process, the aim is to shorten the time period of the process at the earliest possible time, from entering through the production of the output. The experience of a corporate practice, analysis of variable and fixed costs and their solution is dealt with in most companies by the controlling department. Each company perceives the causes of the cost remanence differently and it is not able to predict it in advance. In the context of the emergence of cost behavior and cost remanence grows much faster, these costs are not analyzed and are allocated without a difference to individual groups

performances. Businesses should strive to limit the causes of the occurrence and extent of exposure, and therefore focus only on the volume of outputs as the sole criteria of variability is restrictive. Variability of costs should be assessed for sub-cost items, not only in relation to the analysis of cost drivers but also the length of time. Interrelationships and influences indicators are assessed, its change is monitored in the time progress and the firm is affecting the stability of their capacity in the long-term, created quality and use of equipment, staff, etc. Managers should not forget that in a situation where the company will be able to assign costs to a specific activity, and in practice it often happens, the analysis of the activity ceases to be necessary, because it is given little attention, and the company loses the opportunity to rigorously control costs. Cost analysis can not only relate the variable costs but also fixed costs, the entire operations and activities in order to reduce the loss of unused capacity and other activities and outputs.

## 5. Conclusion

The real challenge in finding a concept or model that can quickly changing market environment measure and manage cost remanence and can also ensure that resources are allocated in areas where the company can best evaluate and are not spent in marginal activities, is currently undiscovered/alternative method, which remains outside the control and influence of managers. Yet there are still a large number of enterprises that badly manages its production, which affects ineffectively managing its own costs. Difficulty recognizing specific cost drivers can be caused by too weak intensity of its activities in comparison with the effects of other cost drivers or little experience of true scale cost drivers in the time series of information on the development costs of which cost drivers are derived. In each situation measurement can be realized and mediated, monitoring and compare with standard drives, which will result in more accurate analysis of the business costs, that may have a significant influence some important decisions of the company. However, company management should be aware of possible and actual effects of the costs in the short and long term, i.e. could keep track of time, resources, tasks, activities and cost drivers activities across the enterprise. Cost management, aimed at reducing costs at the optimum level, is a basic and very effective method of increasing the value and competitiveness of the company.

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