

MANAGEMENT OF SUPPORT PROCESSES BY MEANS OF CONTROLLING

Abstract: Main task of business **process controlling** focused on company support processes is to fulfill objectives coping the main company strategy. Support processes represent expensive operational costs that are in small and medium enterprises considered to be liquidating and therefore it is necessary to plan, control and manage them. The aim of the article is to present basic requirements and company processes measurable indicators.

Key words: controlling, business support processes, indicators

5.1. Introduction

To understand the issue of business support services through business process controlling in company management it is necessary at first closely characterise basic terms concerning this problematics.

Main processes, so called Core Business is the main area of business. That means technological and production processes, or processes of service providing, distribution and sale that can bring companies profit and are its life-giving part. Accurate definition of the division of main and support processes is fully in competence of the company management. For some companies some process can be of the main scope and for some a support one. At these boundaries often depends the ability to adapt to changes and create the potential for company competitiveness.

Support (auxiliary) processes are so called non-core businesses. These are processes which basically do not bring profit but are necessary for the running of each business. These processes within its substance create

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conditions for the running of primary business processes as they represent services connected with acquisition (transport, supplies, storage, ...), infrastructure (administrative work, premises management, ...) and technological development of the company (research and development, investments, ...).

Controlling is a cross-section activity that concerns the whole company. Professional literature states that controlling is closely connected with the company management. Management decides and is responsible while controlling inspires, assesses, analyses, controls and recommends. The aim of controlling is to increase management effectively and flexibility of small and medium enterprises as well as their possibility to accommodate to new conditions on the market. Controlling in small and medium enterprises should orientate on planning, budgeting, company processes control with the aim to fulfil the set objectives focusing on narrow space, market and customer. Controlling for small and medium enterprises represents a tool that enables to secure company processes performance mainly in accounting and helps to create economic system which would be interconnected with company IT system and so will make the company processes of planning, coordination, decision making and control more effective. It will also enable to control plans with realised tasks, follow the divergences and manage these within the company.

Business process controlling also represents the approach that enables reaching high quality of output, products assuming fully accomplished company processes management. We can understand the company process management as their identification, critical process statements, process monitoring and measurement, assessment and control.

5.2. Business Process Controlling

Main task of business process controlling orientating on company support processes is fulfilling of aims that stem from basic company strategy. Business support processes represent processes of high costs that are in small and medium enterprises considered often as liquidating and therefore it is necessary such processes to plan control and manage. These processes include mainly processes of maintenance, repairs, warehouse

processes, metrologist security processes, and material needs processes, processes of company assets and infrastructure management, service providing processes. Mostly we encounter support processes idle time when repairing manufacturing machinery, machines and equipment, also those concerning purchase of spare parts, components, materials for maintenance and repairs, as well as when dealing with poor quality of machine manufacturing equipment repairs, non-used personnel abilities on the level of business support processes, inefficient time management of maintenance staff, etc. Controlling as a tool includes processes of planning, control and management and represents an important condition for reaching improvements and optimisation of these business processes. Based on planning a company can follow future need of sources necessary for business support processes, follow achieving objectives, and decide about possibility to use external services for the support services, etc. Monitoring as a part of controlling should represent comparison of planned and actual results of business support services, their cost-efficiency, effectively and when these divert, it is required to track and analyse the diversions. Management as a part of controlling should secure feedback for the company management and show detected diversions Implementing business process controlling can make process costs more transparent, measure unit costs of individual processes, optimise process costs, identify, measure and improve business support processes.

5.3. Business Support Processes Basic Requirements and Indicators

Setting indicators for business support processes performance measurement and for preparation of data for business process controlling are necessary the following facts:

1. Which process is evaluated by a particular indicator.
2. Responsibility for indicator defining.
3. Responsibility for defining key indicator value.
4. Qualities that can state the key indicator value.
5. Key indicator value.
6. Indicator value.
7. Time frame corresponding with defined indicator value.

8. Responsibility for recording of progressive indicator values.
9. Periodical records of indicator values.
10. Place where values will be recorded.
11. Data base which provides progressive values.
12. Mechanism for value calculation if provided from various data.
13. Rate of calculation automation.
14. Responsibility for indicator evaluation.
15. Periodicity of indicator evaluation.
16. Activity at value indicator exceeding.

When planning and stating process indicators it is necessary to follow four basic phases of the plife-time process – Process Design Phase, Process Application Phase, Process Workflow Phase, Process Management Phase, which orientate on company processes that is very necessary from the point of view of support business processes versaslity. If we want to state process indicators it is required to know the whole process structure, its sub processes and activities (ZÁVADSKÝ 2004)

Basic requirements (principles) for effective business process performance measurement are:

Validity (availability) measurement - deals with reaching the state of information trust which based on the performance measurements get people involved within the company.

Measurement integrity – measuring business performance process must influence all important aspects and factors of procedure and process realisation.

Sufficient measurement punctuality – when measuring process performance it is necessary to measure not just its output but also input and business procedure process. If we only measured input and output we would not be able to identify divergencies from requiremens that can occur at any workplace within the process.

Sufficient measurement frequency - required accuracy is influenced by measurement frequency that can lead to misinterpretation of data.

Required measurement accuracy - reaching the state of information reliance from the process performance measurement determines their adequate accuracy.

Possibility to detect performance defects – business process performance measurement must be projected so it would be possible to detect at least 80% of all defects and planned values. Analyses of these defects detects performance gaps that must be understood as opportunities for further performance improvements.

Accurate measurement timing – business process measurement serves for gathering information based on operative business process management.

Stability of gathered data within the timeframe - business process performance indicators must have such a character so that their attributes are not dependent from various period variables such as sortiment change, change of production volume, change of input price etc.

Simple understanding of information - for all employees who should in their activities use information gathered from business performance measurement must be the information clear, comprehensive and simply interpreted. *Responsibility for measurement results* – similarly as in the quality management system processes also in process performance measurement must be set a specific responsibility for the measurement procedure and result processing per a particular company employee. This employee must be responsible: must be expertly prepared and have relevant competence.

Basic business process indicators:

(K) *Process index* can be expressed by any measurable process indicators which a company has to set even before the evaluation procedure. Process index can be expressed through production indicators, documentation, performed number of audits, achieved number of quality targets, achieved results in customer and employee satisfaction, number of completed projects on agreed time, number of employees in the monitored period, number of employee training level, number of confirmed sales contract, number of orders, keeping order deadlines, project term achievement based on customer requirements, achieving financial and quality indicators, number of complaints, faulty pieces, defective work, etc. When calculating process coefficient we state its effectivity, while the effectivity value considers achieving planned values and presents divergence of real values from the planned indicator values as such.

$$K = \frac{\text{reality}}{\text{plan}} \quad (5.1)$$

When reality represent the actual indicator value in the monitored period, plan represents the scheduled indicator value in the same monitored period. Indicator can be expressed by an index, i.e. non-dimensional number or can be calculated as percents.

Process evaluation:

Effective process - index value is $K \geq 0,85$
Mostly effective process - index value is $0,85 > K \geq 0,70$
Ineffective process - index value is $K < 0,70$

(I_f) *Function process index* is expressed by a simple process coefficient ratio in two monitored periods. This index expresses growth or drop of the process coefficient value in chronological timeframe period. Two consequent periods are always monitored, K₁- process coefficient for general period, K₀- process coefficient for basic or previous period. When assessing the function index it is necessary to calculate the process coefficient by importance coefficient, i.e. process importance in the concerned company. Then the value of the process coefficient (modified by importance) will look as follows:

$$K_u = K \times k_v \quad (5.2)$$

K- process coefficient, k_v- importance coefficient (states the company management based on the process importance).

$$I_f = \frac{K_1}{K_0} \quad (5.3)$$

Evaluation of process functionality:

Function process – if index is $I \geq 1$ (it has a positive trend)
Mostly function process– if index is $1 > I \geq 0,90$ (it has a slightly negative trend)
Non-function process – if index is $I < 0,90$ (it has a negative trend)

Overall evaluation of processes on the basis of their effectiveness and functionality:

Weaknesses – processes, where the overall evaluation result was mostly efficient, inefficient, or functional, non-functional.

Strengths – processes, where the overall evaluation result of effectiveness and functionality was effective and functional.

(Tp) Average process period – period that lasts from input acceptance till the output from the process itself, deals with processing the first period of the process, period of input processing during repairs, period of process quality verification, period of product manipulation within the process and period of product storage, until the time of its realisation (taking out of store, launching, and sale).

$$Tp = Tspr + Topr + Tov + Tman + Tk \quad (5.4)$$

- T_p – overall average process period.
- T_{spr} – period of the first processing.
- T_{opr} – period of repair processing.
- T_{ov} – period of process verification.
- T_{man} – period of manipulation within the process.
- T_k – standstill period (storage).

(Vef) Effective use of process period - indicator states the ratio of the first processing on overall continuous process duration.

$$V_{ef} = \frac{T_{spr}}{T_p} \cdot 100(\%) \quad (5.5)$$

- T_{spr} – period of first processing.
- T_p – overall continuous process duration.

(Np) Overall process costs – **expresses** mass cost function on identical products within the process and costs on disagreeing products within the process.

$$Np = Nzp + Nnp \text{ (€)} \quad (5.6)$$

N_{zp} - costs for identity within the process.

N_{np} - costs for discrepancies within the process.

(P) *Ratio of disagreeing products within the process* – expresses the ratio of disagreeing products on the process detected at output process stage and the ratio of all manufactured products at the output process. Disagreeing products represent faulty products, damaged products, products that have not passed the output inspection and represent lack of quality in comparison with the standard.

Ratio of disagreeing products:

$$P = \frac{P_n}{P_c} (\%) \quad (5.7)$$

P_n – ratio of disagreeing products detected at output stage of the process.

P_c - ratio of the total number of manufactured products at the output stage of the process.

5.4. Other Business Measurable Process Indicators

The following Table 5.1 presents other measurable indicators of business processes that are usable for areas of purchase, manufacture, sale, maintenance, service, research and development, management of documents and data, customer satisfaction and human resources management (TEPLICKÁ 2013).

Table 5.1. Measurable process indicators

Area/process	Indicator
Purchase, supply	Number of input supplies
	Delivery costs
	Inventory turnover interval
	Timely delivery
	Delivery duration
	Manufactured stock turnover
	Delivery costs
	Percentage of on-time deliveries
	Percentage of false deliveries
	Average costs per one eligible supplier

Area/process	Indicator
	Supplier audit cost rate versus overall purchase costs Performance volume per one purchase employee Average supply control Period of supply turnover Optimum amount of supply delivery Rate of loss for purchase performance because of discrepancy supplies Return delivery percentage Delivery costs Warehouse and supply maintenance costs Rent costs
Manufacture	Production employee performance Machine performance Input capacity Proportion of material cost on input Overall equipment effectiveness Fulfilling performance standards of machines and employees Machine and processes capacity index Machine idle time ratio Unfinished production value Product discrepancy ratio Average production process time Production process idle time Number of working hours on performance Number of input and output controls Number and type of measuring devices Number and type of manufacture acquired certificates Ratio of activity to added value Ratio of process to added value Activity productivity Process productivity Process duration, activity duration Number of equipment changes Innovative percentage of products
Sale	Number of sold items Income/revenue amount, Profit amount Revenue per an employee

Area/process	Indicator
	Profit margin Gross revenue from new products Number of customers Sale costs Claim costs Market share Share of gross revenue per an employee Amount of executed contracts
Maintenance	Average time of maintenance works Machine and equipment failure rate Number of maintenance staff on overall number of employees Ratio of external performance on overall maintenance performance Maintenance efficiency index Ratio of idle time on equipment Average time of breakdown detection up on repair time Maintenance reliability Number and time of measuring equipment
Service	Speed and reaction time on mismatching products Amount of claims of damaged goods Ratio of new service requirements on the overall number of requirements in a certain period of time Ratio of costs per guaranteed service Use of maintenance service capacity Ratio of fulfilled maintenance commitments for customers Average guarantee period provided for customers Provided guarantee period
Design and development	Time of the product launch Innovation effectiveness Profit to design and development costs Ratio of innovative products sales on total earnings Ratio of costs on design and development Return of investments spent on design and development

Area/process	Indicator
Documentation and record keeping management	Duration of documentation issue Amount of carried documentation audits Amount of change actions
Management responsibility	Amount of fulfilled quality targets on set quality targets
Customer satisfaction	Amount of fulfilled customer requirements Amount of contracted sale agreements Amount of delivered goods Period of project design according to customer needs Ratio of real customer satisfaction to maximum set amount in the monitored period Number of lost customers Average period of keeping of the customer support Customer loyalty index Value ratio for a customer Customer satisfaction index Number of customers
Human resources management	Average number of employees Number of absent employees Number of employee accidents Number of retrained employees Number of trained employees in the specific area Employee turnover Employee average income/ wage/ Work productivity per an employee Ratio of motivation part of the income Productivity growth index of the average income Employee satisfaction index Overall employee fluctuation Amount of provided knowledge for a particular period

Source: Teplická 2012

5.5. Summary

The contribution for a company which within its business support process management uses controlling approach is lowering operational costs spent on business support processes and this way it can also influence product price and so affect customer demand, increase income from product sales, decrease overall costs and increase the overall income. Except financial benefits, it is also important to focus on the fact that it can improve the system of information flow on individual levels of company management, bringing feedback in synergy with customer, eliminating ineffective activities in the network of business support services. Through business process controlling can also successfully manage fundamental company processes and so enable the company to build concept for its steady continual improvement.

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