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9 The Importance of the Planning Process for Company's management (Feedforward and Feedback)

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Planning and information systems help a company to achieve its goals only if the actual results are compared to the most desirable situation and the deviations are analysed. The causes of these deviations have to be found and corrective measures have to be taken. In other words, **feedback** has to be found and if needed, the company's activities have to be corrected. The setting of goals and taking measures resulting from them do not guarantee that the planned values will be achieved. This guarantee should be brought by control. (Vysušil, 1999, p. 34)

9.1 Control

In the broadest sense, control can be described as a management subsystem. It usually follows the planning and implementation phase and thus, it logically closes the management process. The aim of control is to identify mistakes made both in the planning and implementation phases. It can, for example, happen that a company environment was badly estimated or unrealistic goals were set. It is also possible that the plans were not maintained or the measures taken were not correctly understood. The above mentioned issues have to be controlled in detail and carefully analysed. This process should result in the proposal of such measures that help to remove any mistakes that have already occurred. The control process cannot be static because both the company itself and its environment are constantly evolving. Therefore, this



development has to be taken into account within the control process. (Mikovcová, 2007, p. 134)

The link between planning and control can be demonstrated through a closed regulation circle. (see figure 4.1). This circle is valid regardless of the time horizon, complexity and uncertainty in planning.

Determination of control parameters	Control in the narrower sense	Control in the broader sense	Controlling
Evidence of the actual and planned amounts			
Comparison between the plan and the reality			
Analysis of deviations and detection of their causes			
Evidence of recalculated amounts and making forecasts			
Proposals for corrective measures or goal correction			

Figure 9.1 The relationship between control and controlling

Source: Modified by MIKOVCOVÁ, H. Controlling v praxi, p. 136.

According to Vysušil (1999, p. 34), control can be distinguished into the control of results and the control of processes. **The control of results** is focused on the results of the planning process. On the other hand, the **control of processes** is aimed at the nature and the way in which the results have been achieved. As far as the content is concerned, control can be defined as a comparison of several control parameters. One of these parameters is used as a comparative value. Regardless of the values that are compared, the following methods of control can be applied: (Elliot and Elliot, 2006, p 524)

- **a comparison with the preceding periods** – this is a comparison of actual amounts between different time periods;
- **a comparison with other companies** – the results of the analysed company are compared to the results of companies in the same industry or the industry sector averages;
- **a comparison with budgeted ratios for the current period** – this comparison is usually the key comparison within goal-oriented controlling; the actual and planned amounts are compared (e. g. planned turnover, costs, profit, profitability).

The above mentioned **traditional approach** of control is focused on analysing past events and, therefore, a company is driven according to the feedback principle. On the other hand, the **modern approach** of control is focused on future events or on setting goals and achieving them. This approach is called the **feedforward principle**. Potential problems should be forecasted and possible failures should be eliminated before they occur. In other words, the deviations should be removed not ex post but ex ante. This orientation on future events requires a quality information basis and effective methods for data processing and evaluation. Companies, therefore, introduce management information systems that are customized to their specific needs (see chapter 3.1.1).

The control in a company has to fulfil the following three basic functions: (Mikovcová, 2007, p. 135)

- **the information function** – a quality information system and a methodology for data collection and processing is introduced within a company; this should create a sufficient information basis for a company to make decisions;
- **the analytical function** - it is aimed at the broad yet still cost-effective analysis of the actual situation; according to the analysis of past events, potential deviations should be removed;
- **the preventative function** - it follows data collection and its analysis; the output is used for improving and correcting plans; the reasons behind any analysed deviations should be removed.

In addition to the classification of controlling levels, feedback and feedforward can be distinguished into the strategic and operational levels.

9.2 Strategic feedback and feedforward

Eschenbach (2004, p. 352) considers strategic feedback and feedforward to be positive connections that analyse possible scenarios and strengthen business processes. Strategic feedforward includes a list of probable scenarios of future development that should support a company's decision making and taking corrective measures. This process secures the feedback from the future to the present time and it should prevent future deviations or diminish the impact of any existing ones. Steinmann and Schreyögg (2005, p. 221) distinguish three types of strategic feedback and feedforward:

- **the strategic control of implementation** compares planned and actual values; during the implementation of a strategy the existing or highly probable deviations from strategic goals (milestones) are recognised; the analysis is focused on past strategic events; to respect the dynamic conditions of current economic development, future events should be also taken into account (**a comparison of actual and future values**);
- **strategic control of premises** constantly monitors probable scenarios and their intersection with premises; this process should adapt the strategy to changes in probable scenarios;
- **strategic surveillance** is a part of the strategic information system that should monitor trends in a company.

In today's global world, when companies have to constantly adapt to changing conditions, companies should use methods and tools that enable the monitoring of unpredictable disturbances and deviations in a dynamic environment. Feedback and feedforward should allow for an interactive process of adaptation to changing environments. The process is called **management by deviation**, which can be further divided into the three follow-up sections: (Eschenbach, 2004, p. 354)

- **accounting**, which calculates profit and creates a balance sheet– it is focused on past events,
- **controlling**, which deals with profit monitoring – the actual deviations are known and corrected (a comparison of actual and planned values),
- **strategic feedback and feedforward**, which is focused on the future – it should secure future profit and identify possible and probable deviations.

This way of managing a company, which also includes the relationships between individual parts of a company, is shown in figure 4.2.

Accounting	Operative controlling	Strategic feedback and feedforward
reality	reality x plan	reality x future
profit calculation	profit monitoring	securing the future profit
situation monitoring	identification of actual deviations	identification of possible and probable deviations
creation of the balance sheet	deviations correction (reality x plan)	deviations prevention (plan x reality)
PAST	PRESENT	FUTURE

Figure 9.2 The relationship between individual levels of control

Source: ESCHENBACH, R. Controlling, p. 355.

To secure a company's successful existence in a dynamic environment, it is necessary to make a comparison not only between actual and planned values, but also between **actual and future values**. This enables managers to follow individual disruptive events that influence a company. Most of the target values, such as the return on sales, return on investment or the amount of dividends, are not predictable. Companies that make comparisons between actual and planned values actually use the **management by surprise**. The success of a company is currently more dependent on management's ability to identify possible future deviations. Management should also prevent the occurrence of such deviations. (Eschenbach, 2004, p. 355)

9.2.1 Strategic tools

To meet business goals, strategic feedback and feedforward uses the following strategic tools: (Eschenbach, 2004, p. 358-370)

- a strategic radar,
- strategic games,
- strategic communication.

A **strategic radar** is designed to monitor both a company's environment and its own business activities. This monitoring should allow for the creation of possible scenarios of the company's future development. The currently used prognoses are no longer adequate. As the current and future situation cannot be forecasted with any sufficient degree of reliability, the usage of prognoses would only lead an interpolation of past events into the future. In a nonlinear company environment where the company itself is considered to be an open system with nonlinear business processes, the usage of prognoses is false because there is no repetition in time. The basic difference between prognoses and scenarios is shown in table 4.1.

Table 9.1 The difference between prognosis and scenarios

PROGNOSES	SCENARIOS
the future is predictable	the future is not predictable
extrapolation of past events is the "right" answer	the description of possible scenarios is the background for finding right decisions
feedback from the short-term to the long-term	feedback from the long-term to the short-term
there is only one way of future development	there is more than one way of future development
the decision makers are not authorised to make decisions	the responsibility remains by the decision makers

Source: ESCHENBACH, R. Controlling, p. 358.

According to Eschenbach (2004, p. 359-363), the strategic radar can have the following forms:

- **the radar of environment**, which obtains information about a company's environment or catches various trends of future development; a company should obtain relevant information with the help of the collection and classification of data; by monitoring trends, it is able to observe the cyclical development that can bring new information to management; such cyclical development can be monitored by the economical development of individual countries, branches or customer preferences;
- **the radar of competitors** is a strategic information system that monitors tendencies and possible reactions of competitors to the same or similar factors of a company's environment; companies should evaluate personal interviews with their competitors, business reports, press conferences or the job offers of their competitors; this process should identify the best practices used by competitors and introduce them within their own company;
- **the inner radar** creates internal communication networks that should identify possible external and internal conflicts in a company; these information networks are usually managed and organised themselves and require the co-workers' own initiative.

Strategic games are used to try or feel out (without danger) future situations. Managers should, therefore, play the role of future competitors, customers' wishes and problems of suppliers in a relaxed atmosphere. This tool can be used, for example, in the following situations: (Eschenbach, 2004, p. 364-368)

- **identifying of motives of a competitive strategy** that should help through the implementation of their own, usually different, business strategy to help fulfil company goals,
- **finding customers' needs** that should help by producing such products that customer requires.

Strategic communication is a tool that helps by transmitting information between individual workers in a company or even in the company environment. Strategic communication can be classified as organised and ad hoc. Organised communication can have the form of **strategic communication networks** that usually copy a company's organisational structure. These include, for example, regular meetings of various teams in a company or external communication through meetings at various conferences or seminars. **Ad hoc communication** includes unpredictable and unplanned meetings with strategic content.

9.2.2 The role and responsibility of a controller

The growth of the complexity in the company environment is also causing the growth of the complexity in companies themselves. Therefore, the importance of using structural network interconnections in a company is becoming more important. This approach is shown in figure 4.3.

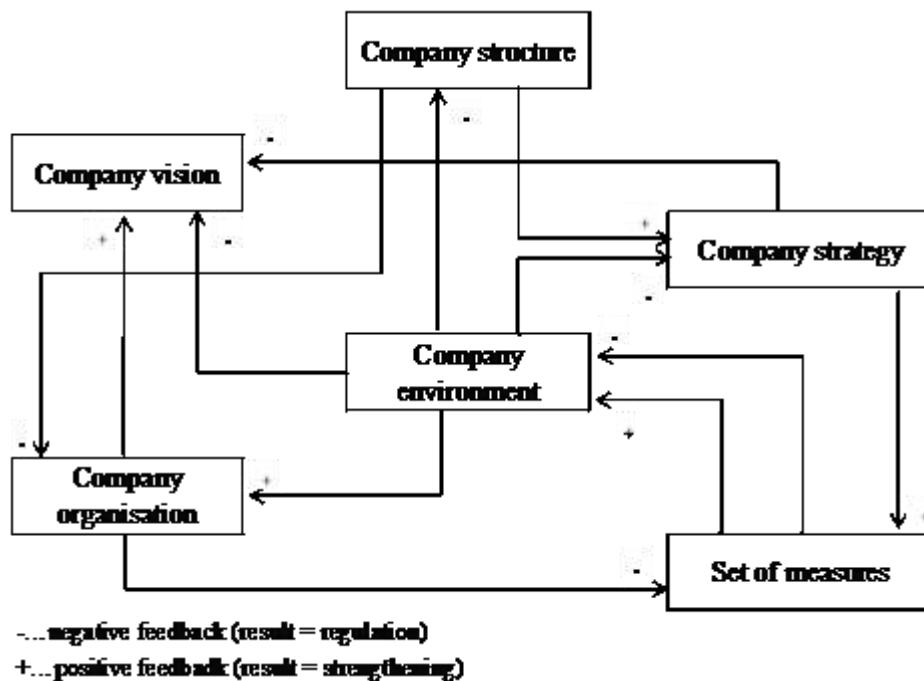


Figure 9.3 The structural network interconnections in a company
Source: ESCHENBACH, R. Controlling, p. 371.

As structural network interconnections are also influenced by the turbulent environment, it is necessary to **reengineer the control process**. The revision of the control process should be individual with respect to each specific company or branch. If the relationships between positive and negative feedback are analysed, better and even new control processes can be developed. The function of a strategic controller is expanded by reengineering, or more precisely, **recontrolling**. To obtain better quality processes, the already-existing processes in a company should be abandoned. The new control processes should be more focused on process oriented structures or on creating a specific link between the company's strategies and controlling (Eschenbach, 2004, p. 370)

9.3 Operational feedback and feedforward

According to Eschenbach (2004, p. 539), the modern tool of operational feedback and feedforward should include not only the control of past events, but also interim information about the ongoing implementation of the company's strategy. In this way, feedback and feedforward influence the planning process. If operational control is regarded as a process whose object is to check persons, processes or results, it can be divided into the following phases: (Mikovcová, 2007, p. 135)

- determining control parameters and limits of tolerance,
- evidence of actual or forecasted amounts,
- the calculation of deviations,
- the analysis of deviations,
- creating proposals for corrective measures.

9.3.1 Determining control parameters and limits of tolerance

The determination of basic control parameters is usually derived from a company's target function, which is typically making a profit by retaining liquidity or, more precisely, by having positive cash flow. It is not necessary to maximize profit or have a specific profitability ratio (e. g. return on investment, return on assets or return on sales), but the value of the company should be maximized. This can be measured, for example, with the help of the Economic Value Added (EVA). Even if the main control parameters in individual companies are different, the same areas, such as production size, price, variable and fixed costs and the amount of capital investment, are monitored.

According to (Mikovcová, 2007, p. 137), the limits of tolerance for possible deviations should be already set within the process of determining the control parameters. These limits should be set for deviations that always occur in a company. This improves the efficiency of the monitoring process because irrelevant deviances are not monitored. The limits of tolerance are set by companies individually. The more important the parameter for a company, the narrower is the limit of tolerance. Relative measures should be quantified as a percentage.

Šoljaková and Fibírová (2010, p. 24-38) recommend measuring the performance of a company according to the requirements of its individual stakeholders. The owners of a company are mainly interested in **increasing the value of equity** invested in a company, whereas management focuses on **creating a competitive output**. Fulfilling a company's strategic targets (its the competitive position) is supported with the help of optimizing the size and structure of the company's output and effectively motivating its business managers.

The owners of a company require that profit measuring quantifies an increase of the value of equity invested over a certain period. The most widely used ratio is **Return on Equity (ROE)**. Return on equity is influenced by three basic factors - net margin, asset turnover and financial leverage. (Šoljaková and Fibírová, 2010, p. 25) The ratio can be calculated as follows:

$$\text{ROE} = \frac{\text{Net Income}}{\text{Shareholder Equity}}$$

$$\text{ROE} = \frac{\text{Net income}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Total Assets}} \times \frac{\text{Total Assets}}{\text{Average Shareholder Equity}}$$

Another possible way of measuring a company's performance, while respecting the view of its owners, is by using the ratios that measure economic profit. The most widely used ratio is the **Economic Value Added ratio (EVA)**, which measures a company's profit or loss by respecting all costs of capital. The ratio can be calculated as follows:

$$\text{EVA} = \text{Net Operating Profit After Taxes (NOPAT)} - (\text{Capital} * \text{Cost of Capital})$$

Management, on the other hand, prefers measuring the company's performance using ratios focused on the **company's operating activity**. Therefore, the **Return on Capital Employed (ROCE)** is used. Capital Employed is the sum of the shareholders' equity and debt liabilities, in other words, the difference between total assets and current liabilities. The ratio can be calculated as follows:

$$\text{ROCE} = \text{Earnings Before Interest and Tax (EBIT)} / \text{Capital Employed}$$

9.3.2 The evidence of actual and forecasted amounts

The evidence of actual values and their comparison with planned values can be made sequentially or continuously. This comparison is mostly made after activities are finished, in other words, after the end of the period. The basic feature of this traditional approach is the primary orientation towards managerial accounting. This type of accounting is focused on the evidence of actual revenues and costs related to individual activities, products or services. The control of actual values with planned values (**standard values**) is performed after the end of a certain period, e. g. monthly. (Šoljaková a Fibírová, 2010, p. 142)

To secure a more precise planning and control process, actual values (especially costs) are compared with control values. These **normal values** are the average values calculated from past values. These values are used to compensate random effects but not eliminate these effects. In this system, the total deviation is broken down into two deviations, the price and quantitative deviation, and eventually the combined deviation. This is shown in figure 4.4.

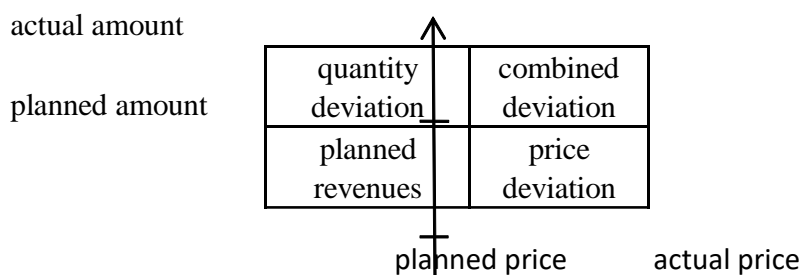


Figure 9.4 The analysis of deviations

Source: MIKOVCOVÁ, H. Controlling v praxi, p. 138.

Planned or expected values of costs and revenues are currently used as control values. These data are obtained within a company's planning process. These values are set targets that should secure effective production processes. For further analysis of deviations the following categories of costs and revenues have to be monitored:

- planned,
- fixed in advance but recalculated (planned values are adjusted according to a company's actual production capacity),
- actual.

Mikovcová (2007, p. 139) recommends performing the following types of control:

- **a comparison between actual and actual values** – comparison ex post; the development of company data is analysed (trend analysis) or company's performance is compared with other companies within a certain branch (benchmarking);
- **a comparison between actual and planned values** – a traditional control that secures feedback;
- **a comparison between planned and forecasted values** – the results of forecasted measures for the current period are estimated; this comparison respects the feedforward principle – it is a comparison ex ante.

9.3.3 Calculating deviations

Before a company calculates the own deviations, the term deviation should be defined. According to Šoljaková and Fibírová (2010, p. 142) a deviation can be defined as the difference between the amount of a certain value set as a standard and its actual amount. The deviances can be **positive** (actual costs are lower than planned costs or revenues are higher than the standard ones), or **negative** (actual costs are higher than planned costs or revenues are lower than the standard ones).

The deviations can be calculated and quantified in: (Mikovcová, 2007, p. 140)

- **absolute value** – expressed in natural (pcs, t, l etc.) or money units;
- **relative value** – expressed as a proportion of the total amount or as a percentage.

If the planned value is X_p and the actual value is X_s , the following deviations can be expressed:

- absolute deviation as $X_s - X_p$
- relative deviation as $(X_s - X_p)/X_p$

In calculating deviations, the following deviations have to be distinguished: (Šoljaková and Fibírová, 2010, p. 147-170)

- **deviations in profit through homogenous production** – the difference between the planned and actual profit is influenced by the selling price of products and services, variable and fixed costs and total output;

- **deviations in profit in inhomogeneous production** - the difference between the planned and actual profit is caused by the production of different types of products; the profit is influenced not only by the total amount, but by the output structure; the greater the share of products with a higher profit margin, the higher the profit achieved and vice versa;
- **deviations calculated by continuously refining the budget (standards)** – in this calculation, deviations between various types of budgets are analysed, for example, between the annual budget and the adjusted annual budget; this approach enables a better analysis of causes of deviations and responsibilities of individual decision makers;
- **deviations caused by changes in the output structure** – this type of deviation is dependent on the potential change in the proportion of consumed inputs; in some cases, even a reciprocal substitution of certain inputs is available.

9.3.4 The identification and analysis of deviations

The analysis of deviations can be performed in relation to both specific cost centres and time periods. **The analysis related to cost centres** provides essential information about the quality of the calculation process. It can minimize future failures in the planning process. A simple comparison of planned and actual values does not provide enough information and, therefore, the causes of deviations have to be analysed. **The analysis related to a certain period** compares differences of values planned for a certain period with actual values. This analysis provides information about the causes of the difference between the adjusted planned values and the actual values. The deviations related to a certain period can be divided into deviations in revenues and deviations in costs (Eschenbach, 2004, p. 539). A more detailed classification of these deviations is provided in figure 4.5.

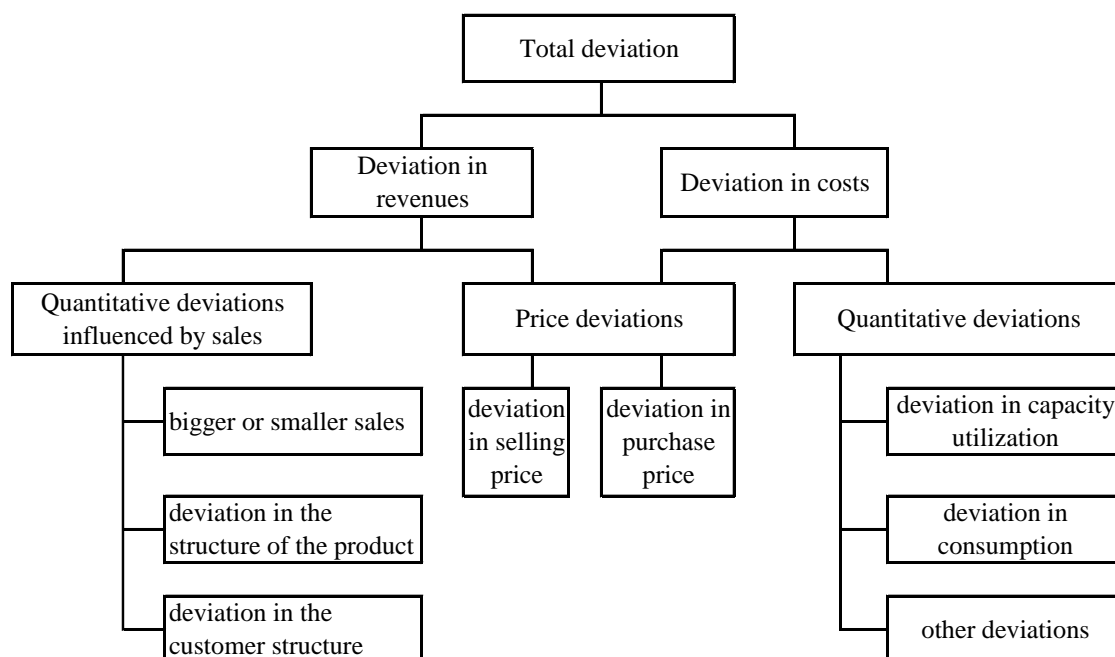


Figure 9.5 Types of deviations

Source: ESCHENBACH, R. Controlling, p. 539.

The above-mentioned classification of deviations is based on the assumption that the total deviation (e. g. deviation in profit), can be broken down into sub-deviations. A certain portion of the deviation can be assigned to both qualitative and quantitative deviations. This deviation is, therefore, called a **combined deviation**.

9.3.5 Proposals for corrective measures

The deviations identified in the control process are the necessary basis a company decision-making process as a whole or in its individual departments. For individual departments, corrective measure plans are carried out. The plans have to strictly define individual steps that lead to the correction of the company's current status. They also have to set deadlines for individual measures and to identify responsible employees. Partial plans have to be mutually coordinated. This prevents future conflict situations. The results of corrective measures have to be subsequently controlled. This subsequent control should find out if the corrective measures were systematic and if they were successful. The main causes of deviations are: (Mikovcová 2007, p. 151)

- incorrect planning,
- poor organization,
- improper implementations of plans,
- setting unrealistic goals,
- unpredictable external effects,
- organizational changes,
- implementation of rationalization measures,
- introduction of new machinery,
- increase in raw material prices,
- new technology,
- use of new materials,
- change in consumption,
- incorrect entry in the accounts,
- change in wage rates,
- poor management by the head of a particular department/division,
- lack of material,
- change in output, customer or market structure.

The role of a controller is to ensure a technically correct, timely and regular implementation and initiation of necessary corrective measures. Analyses of deviations have to be discussed. As a result of these discussions, a proposal of corrective measures should be worked up. In practise, an oral discussion of the current situation is preferred. The persons responsible for individual projects, departments or areas are responsible only for those deviations that they can influence. Before having a discussion about deviations, the employees responsible should obtain the following information: (Eschenbach, 2004, p. 553)

- employees responsible for cost centres – a comparison of adjusted plan and actual values for their cost centres,
- project managers – a statement of their projects,

- employees responsible for profit centres and appropriate controller of individual areas – concrete information about their areas and a summary of the entire company,
- management – a complete company statement, statements of individual subordinated business areas or resorts.

Summary

The control process is one of the main assumptions for successful company's management. Its main purpose is to identify mistakes that were made both in the planning process and in the implementation stages of a certain strategy. Control ensures both the feedback for checking set goals and feedforward for setting future business goals. The importance of feedforward is continuously growing. The aim of the controlling process is to have a system of feedback and feedforward that secures the best possible achieving of company goals.

As well as the controlling itself, feedback and feedforward can be distinguished into the strategic and operational levels. Within strategic feedback and feedforward a company should take such measures that prevent the existence of future deviances or diminish the impact of any existing deviations. The main tools of strategic feedback and feedforward are strategic radar, strategic games and strategic communication.

The main objective of operational feedback and feedforward is to perform continuous controls of achieving operative plans. This control should give sufficient information to a company's management. In this way, feedback and feedforward influence a company's planning process. The whole process of operational feedback and feedforward consists of determining control parameters and limits of tolerance, providing evidence of actual and forecasted amounts, calculating deviations, analysing deviations and making proposals for corrective measures.

The aim of a controller is to secure the correct, timely and regular initiation and taking of necessary corrective measures. After analysing deviations, a discussion about these deviations must be undertaken. As a result of this discussion, a proposal of corrective measures should be worked up. In practise, an oral discussion of the current situation is preferred. The persons responsible for individual projects, departments or areas are responsible only for those deviations that they can influence.

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