How to make a forecast in relation to the profit and loss statement

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Forecasting

Forecasting in general

Forecasting is the process of estimating unknown events or situations in the future. There are several formal statistical methods which could be used in forecasting. The selection of a method should be based on the objectives and the conditions (data etc.). Risk and uncertainty are a central part of forecasting; it is generally considered good practice to indicate the degree of uncertainty with respect to forecasting. Forecasting has applications in many situations e.g. weather forecasting; sales forecasting or forecasting in supply chain management (to make sure that the right product is at the right place at the right time). However, this report will focus on forecasting in relation to the profit and loss statement.

Forecasting versus planning

An important but often ignored aspect of forecasting is its relationship with planning. Both, forecasting and planning are often used synonymously, which suggests a fundamentally incorrect understanding. To illustrate it in a chronological order planning will be described first. There are different types of planning; the most important ones are the yearly plan often called budget, the mid-term plan and the long term plan. While the budget is a very detailed plan the mid and long term plan are rougher but more strategic. In general planning is the anticipation of possible future states, the selection of desirable objectives and the definition of measures which need to be implemented to achieve these objectives. Thus, the company should be adapted continually to internal and external changes. In other words planning predicts how the future should look. Forecasting could be implemented in different ways. The most common types of forecasting are the forecast to year end and the rolling forecast. As the word says the forecast to year end is a forecast that is done within a period

estimating the outcome at the year end. A rolling forecast is a forecast for a certain period e.g. two years. Compared with the forecast to year end, the rolling forecast does not end at a certain time, it continues. So if a month or quarter passes, a new month or quarter will be added to the forecast. That means the considered period in the forecast is constant.

In general forecasting is the logical continuation of the comparison of budget and actual. While the backward-looking analysis of the deviations between budget and actual is a "feed**back**", the forecasting can be described as "feed**forward**" or predicting what the future will look like. The forecast is based on the actual figures and supplemented with quantified and qualified expectations of the management for the remaining period. By using the current state of knowledge which improves during the period, the forecast allows us to see if it is possible to achieve the budgeted goals and if necessary to initiate appropriate counter-measures.
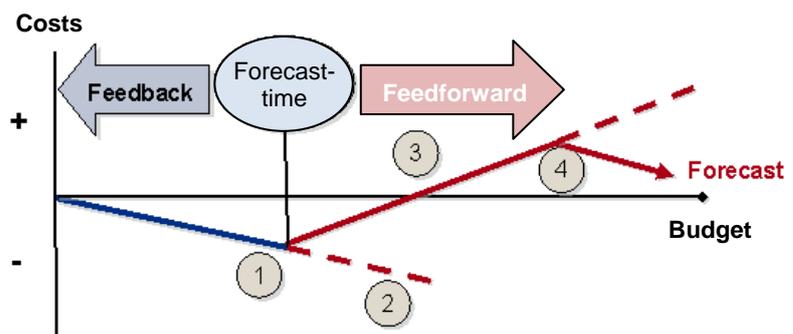
1. By analysing the deviations between budget and actual
2. it should be shown how the development will be without corrective actions
3. and how the development will be with corrective actions.
4. Future apparent deviations will be considered, as well as future corrective actions.

Forecasting methods

There are several formal statistical methods which could be used in forecasting and which are generally independent of each other:

> *Time series methods*
> *Causal / econometric forecasting methods*
> *Judgemental methods*
> *Artificial intelligence methods*
> *Other methods*

There is no single right forecasting method in which to use, but the selection of a method should be based on the objectives and the conditions. Regarding the subject of this report, forecasting in relation to the profit and loss statement, the time series methods are the most relevant.

Time series methods in general, use historical data as the basis of estimating future outcomes. Some time series methods are for instance: moving average, weighted moving average, exponential smoothing, autoregressive moving average, autoregressive integrated moving average, extrapolation, linear prediction, trend estimation and growth curve.

Forecasting at Akelius Germany

The forecasting procedure

Each quarter, integrated in the quarterly reporting routine, a forecast to the year end is made by Akelius staff.
The forecast regarding the operating result, or property-related result, is made by the regional managers. In a process of evaluation the forecast will be discussed with the controlling department. In a final approving process with the top management, the forecast for each region will be confirmed. In addition to that a forecast regarding non operating items is made by the controlling department in cooperation with the Swedish and German finance department. Finally, the confirmed regional forecasts and the non operating figures will be consolidated by the controlling department to develop a complete forecast for Germany.

The regional forecast

First of all, we need to differentiate between which period of the year the forecast should be calculated. Normally at the end of the first quarter the budget will simply be added on the actual figures, since it is very difficult to assume certain developments based on the knowledge of only one quarter. Only significant deviations to the budget that will affect the result at the year end with a high probability will be included. In the following two forecasts, at the end of the second and third quarter, the technique that is used for calculation belongs to the time series methods. That means historical data is the basis for estimating the outcome of the year end. Historical data is used in two ways. Firstly, the existing actual figures are used as a basis; secondly, the experience of the past respective historical trends are used to estimate future developments. The current state of knowledge, respectively quantified and qualified expectations of the regional team for the

remaining period complete the forecast. It is needless to say that the closer it gets to the end of the year the better the state of knowledge becomes since it improves during the period.

To get an impression of how forecasting works in practice, can be explained with some examples:

> Example: At the end of the second quarter the regional manager has to prepare the forecast to the year end. There are several positions that have to be forecasted. In this example the focus should be on rental income for apartments and water costs. The basis for the forecast is the actual figures. There are no significant deviations to the budgeted rental income, but the water cost is 20 percent higher than expected in the budget. The regional manager knows from previous years that there is normally no particular variation during the year, neither in the rental income nor in the water costs. So far the rental income seems to be on track to the budgeted figure, and by extrapolating the water costs linearly the forecasted amount would be 20 percent above the budget.
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> By analysing the actual figures more in detail, the regional manager realizes that there was an extraordinary additional payment within the actual water costs. So they exclude this one time effect and use the adjusted figures for the linear extrapolation. Furthermore, the responsible asset manager has updated information regarding the rental income. There are unexpected cancelled contracts with direct renewed rental contracts and better leases. Considering this current state of knowledge, the expectation regarding the rental income has to be increased and the water cost are less than 20 percent above the budgeted figures.

To summarize the regional forecast one can say that

1. based on the actual figures, the year end estimation will be calculated by linear or trend extrapolation,
2. combined with a careful analysis of all items and,
3. considering the current state of knowledge.

This procedure increases the quality of the estimated figures significantly.

The forecast regarding non operating items

The forecasting procedure regarding non operating items is similar to the regional forecast. It includes the forecast of administration costs, depreciation, financial costs and financial income. Once again it is to differentiate at which period of the year the forecast should be calculated. The first forecast of the year simply represents the actual figures of the first quarter completed with the budgeted figures for the remaining year. The only exception from this process are significant deviations between the actual and the budgeted figures in the first quarter. In this case the estimation will be adjusted. The next two forecasts are calculated by using historical data as basis of estimating the outcome at the year end. That means, as in the regional forecast the already existing actual figures are used as basement. In addition to that the experiences of the past respectively historical trends are used to estimate future developments. The actual state of knowledge respectively quantified and qualified expectations of the Swedish and German finance department completes the forecast.

Consolidation of the regional forecasts and the non operating figures

To get a complete forecast for Germany the final task is to consolidate the regional forecasts and the forecast of the non operating figures. Since there are no intercompany transactions the consolidation is a summation. After consolidating all figures a final validation will be executed before getting the approval of the top management. As part of the internal quarterly report the forecast, meaning the result of the forecast respectively the deviations to the budget will be explained in detail.
To be aware of risk and uncertainty in the forecast the risks and opportunities will be discussed with the management team and if necessary mentioned in the internal quarterly report.