DEVELOPMENT OF A BALANCED SCORECARD SYSTEM FOR THE NETWORK BUSINESS OF AN ENERGY SUPPLY ENTERPRISE WITH FOCUS ON TECHNICAL PROCESSES

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SUMMARY

Energy market liberalisation has resulted in a drastic reduction in energy prices. Even in the quasi-monopolistic area, owing to comparative competition, losses in revenue through falling network utilization fees are to be expected. These can only be compensated for by corresponding cost reductions. The changes in these general conditions require VEW Energie AG to make completely new strategic arrangements.

Fundamental results of the strategy finding process throughout a firm was the discovery of the need for a comprehensive flexibilisation of the business, the decision to carry out unbundling beyond the legally required minimum and introduce business units as “firms with the firm”. Of course the energy supply business needn't only be unbundled according to legal stipulations. Rather, the business had to position itself in a newly developing market, implementing the chosen strategy quickly and goal-oriented.

Due to the changes in market and the reorganisation, completely new controlling requirements occur. The controlling capability of the network business no longer corresponded to the administration of a quasi-monopoly (budget-oriented), but rather had to meet the new demands of deregulation and a newly sharpening cost pressure (profit-oriented). A completely new understanding of controlling is required. In order to meet this requirement, small profit-responsible organisational units (profit centre) were established within the business unit “Transmission & Distribution”. The organisational structure of the profit centres reflect the identified core capabilities and build the basis for the application of a producer-customer principle within the framework of the internal market.

The strategic reorganisation of the network area pursued the objective of managing and controlling the grid efficiently and market-oriented in future, in order to be able to keep up with permanent changes in the liberalised market. To actually apply the new network strategy and transport it into the firm, an operationalisation and concretisation of the strategic objectives was urgently required. As an efficient management and governance of the network business on the basis of classical key performance indicators systems is not successful, the energy supplier decided to support the new controlling understanding through the introduction of Balanced Scorecards.

The conception and practical application of the Balanced Scorecard system for the network area has been carried out in the following steps:

In a first step, the required perspectives were derived from the network strategy and linked to them. The second step determined for which of the profit-responsible organisational units (profit centre) a Balanced Scorecard is to be created. Thus, each profit centre from the first to the third management level of the network area received a Balanced Scorecard (Σ 16 Balanced Scorecards). In the third step the key performance indicators for each Balanced Scorecard were developed by considering the objectives of BPO and the secure implementation and by using the existing standard reporting system. In the last step the consistent and uniform documentation of the key performance indicators for each BSC was secured. This was the basic prerequisite for the successful implementation of the new management and governance system and its acceptance throughout the firm, because the agreements made in common were bindingly documented in the form of key performance indicators.

The information-technological realisation took place parallel to this design work, originally using MS Excel.

The introduction of the Balanced Scorecard concept in the network area of the energy supplier was a great success. A transparent system of objectives was successfully built up in accordance with the strategy. The contribution of each responsible person to the fulfilment of the firm’s objectives was made measurable and transparent within the framework of the new management and governance system.
INTRODUCTION

Energy market liberalisation has resulted in a drastic reduction in energy prices. Even in the quasi-monopolistic area, owing to comparative competition, losses in revenue through falling network utilization fees are to be expected. These can only be compensated for by corresponding cost reductions. The changes in these general conditions require VEW Energie AG to make completely new strategic arrangements.

Fundamental results of the strategy finding process throughout the firm were the discovery of the need for a comprehensive flexibilisation of the business, the decision to carry out unbundling beyond the legally required minimum and introduce business units as "firms with the firm". Of course the energy supply business needn't only be unbundled according to legal stipulations. Rather, the business had to position itself in a newly developing market, implementing the chosen strategy quickly and goal-oriented.

Due to this market development and new requirements, a new network strategy was defined for the business unit “Transmission & Distribution”. The first step within this project was the development of a mission statement to make the objectives of the business unit “Transmission & Distribution” clear to all employees:

The business unit “Transmission & Distribution” securely transmits and distributes energy in the qualities demanded by the market with the objective of the highest possible profitability over the long term.

This mission statement was the basis of the following reorganisation and establishment of the new business unit “Transmission & Distribution”. To develop according to this mission statement the network business required the three core capabilities:

- to control all factors relevant to revenue (e.g. network utilization fees, regulatory stipulations) in the framework of a uniform strategy (manage revenue),
- to operate the system so that with minimal costs the provision and availability of power in the volume required by the customer is guaranteed (operate systems and assets),
- and to plan and manage the system and the assets that the objective of highest possible profitability in the long run is attained (manage assets).

The business processes and the organisational structure of the business unit “Transmission & Distribution” were geared to these three core capabilities.

THE NEW CONCEPT OF CONTROLLING

Due to the changes in market and the reorganisation, completely new controlling requirements occur. The controlling capability of the network business no longer corresponded to the administration of a quasi-monopoly (budget-oriented), but rather had to meet the new demands of deregulation and a newly sharpening cost pressure (profit-oriented). A completely new understanding of controlling is required. In future, the new management and governance system had to fulfil the following requirements:

- secure long-term competitiveness
- create profit and performance transparency
- make value contributions visible
- visualise the degree of competitiveness in view of external competition
- strengthen profit-orientation of leadership through clear performance responsibility

In order to meet these requirements, small profit-responsible organisational units (profit centres) were established within the business unit “Transmission & Distribution”. The organisational structure of the profit centres reflect the identified core capabilities and build the basis for the application of a producer-customer principle within the framework of the internal market.

The profit centres represent organisational units with clearly delimited rights and responsibilities, and with responsibility for revenues and costs. A profit centre offers internal and external customers products and services at competitive, negotiated prices. Through the breakdown of the overall business profit into several profit centres the value-creating contribution of each profit centre becomes transparent. The service relationships between the profit centres take place according to the producer-customer principle. Internal products and services are
offered by one profit centre (the producer) and purchased by another (the customer). This principle increases the cost-consciousness of each profit centre, since internal services "are bought and sold". Within the framework of company standards, consequently, only internal services, which are requested by a customer, are produced. The quality and the price of the performance are determined by contracts between customer and producer. The producer-customer principle enables an economical-efficient internal management and heightens staff motivation as well as the efficiency of the network area.

MOTIVATION FOR THE INTRODUCTION OF A BALANCED SCORECARD SYSTEM

The strategic reorganisation of the network area pursued the objective of managing and controlling the grid efficiently and market-oriented in future, in order to be able to keep up with permanent changes in the liberalised market. To actually apply the new network strategy and transport it into the firm, an operationalisation and concretisation of the strategic objectives was urgently required. The strategic corporate objectives were broken down in key performance indicators (KPI’s) for the newly introduced profit centres. Each key performance indicator (KPI) should be derived from strategy, control relevant, capable of being influenced by those responsible, measurable, realistic, and include both quantitative and qualitative elements. An appropriate information and analysis apparatus should support the quantification of the KPI’s. The use of a key statistics system presents itself here.

Classical systems of have the disadvantage that they are oriented to the past and have no connection to the corporate strategy. They are only oriented to monetary performance measurements and do not include the non-monetary side. Obviously, the efficient management and governance of the network business on the basis of classical KPI’s systems is not successful. Due to this the energy supplier decided to support the new controlling understanding through the introduction of Balanced Scorecards (BSC’s).

The BSC is a well-balanced management and communication system which operationalises and makes visible the firm’s strategic objectives deriving from mission and vision. The key idea is the translation of the abstract corporate strategy in concrete qualitative and quantitative objectives, which can be expressed and measured by KPI’s. A defined group of employees is responsible for the observance of their KPI’s. The BSC is thus an instrument of strategy implementation and supports the communication of strategy in the whole firm.

The following reasons speak in favour of the use of the Balanced Scorecard system:

• inclusion of all areas of managerial action, thus avoiding exclusive concentration on purely financial performance indicators.
• the possibility to analyse the cause-effect relationships between financial values on the one hand and immaterial values on the other.
• inclusion of the inevitably existing interdependencies between the KPI’s by integrating them in one report, the BSC.
• the possibility of linking the KPI’s of different management levels, which is not exclusively confined to a mathematical aggregation.
• integrated early warning system which enables the taking of countermeasures at an early stage and provides current feedback.

PRACTICAL REALISATION: DEVELOPMENT OF BSC FOR THE NETWORK AREA

The conception and practical application of the Balanced Scorecard system for the network area has been carried out in the following steps:

• deriving the perspectives of the BSC from the energy supplier's already defined network strategy
• selecting the organisational units responsible for the profit for which a BSC is to be created
• elaborating the KPI’s for each BSC
• securing the documentation
• deriving appropriate governance measures.

In a first step, the required perspectives were derived from the network strategy and linked to them:

" The business unit “Transmission & Distribution” securely transmits and distributes energy in the qualities demanded by the market with the objective of the highest possible profitability over the long term.

• The component "highest possible profitability over the long term" corresponds to the financial
The above described perspectives are known in the relevant literature as the four classical perspectives through which a firm should be governed.

The second step determined for which of the profit-responsible organisational units (profit centre) a BSC is to be created. Thus, each profit centre from the first to the third management level of the network area received a BSC (Σ 16 BSC’s). For reasons of acceptance, the firm decided that - besides the profit centre - the grid’s board of directors itself, grid controlling, and the cross-functional units (e.g. personnel) within the network area should be measured by the KPI’s of the BSC. This step was simplified because the profit centres of the network business have already been established based on the identified core capabilities and clearly delimited in a preceding project.

In the third step the KPI’s for each BSC were developed by considering the objectives of BPO and the secure implementation and by using the existing standard reporting system. During this process the following uniform guidelines were taken into consideration:
- Consistent derivation from strategy
- Controllability
- Measurability
- Appropriate, receiver-oriented degree of detail
- Standardisation
- Comparability
- Quality before quantity
- As simple as possible, as detailed as necessary

The KPI’s of the BSC were elaborated through the employees of the profit centre in close cooperation with the business unit controlling by using the parallel-developed standard reporting system and integrating in it. First, the future information requirement of each profit centre was recorded and consolidated. On this basis standardised reports for each profit centre were developed. Using these standard-reports the responsible employees of each profit centre had the task to develop a first suggestion of their own KPI by which their business can be measured and governed. The business unit controlling was responsible for validating the suggested KPI’s of each profit centre and for consolidating them into the whole Balanced Scorecard system, always taking into account that the requirements and stipulations of the firm’s controlling are fulfilled. Within this process the business unit controlling identified all-embracing KPI’s, such as e.g. profit in the financial perspective, and

- The passage “in qualities demanded by the market” measures the degree of fulfilment of the market requirements. This customer/market perspective represents the quality of the products and services in the view of the external and internal customers (e.g. grid customer satisfaction).
- The phrase "securely transmits and distributes energy" describes the process view. The process perspective evaluates the operating events on the basis of representative KPI’s, such as e.g. plant load, fault occurrence, and workload.
- To attain the objectives formulated in the mission, motivated and qualified employees are required. The standards required here are described in the personnel perspective, characterising the employee’s abilities and potential of development, and the success of communication in the firm (e.g. rate of absenteeism, overtime quota, number of suggestions for improvement, number of employees). To support secure implementation a temporary change management department was established with the following objectives
  - ensuring current and comprehensive communication of project results
  - securing documentation of project results
  - initiating and supporting the required training for the employees.
- The corresponding KPI’s were derived from these objectives and shown in the personnel perspective (e.g. employee satisfaction, acceptance of the results, training quality).

The KPI’s were linked with the strategy of the business unit “Transmission & Distribution” and their linkage with the strategy

The five perspectives of the Balanced Scorecard – business unit “Transmission & Distribution” and their linkage with the strategy

The results of the BPO - detailed measures for cost and personnel reduction - were recorded, continually documented and managed in a Business Case. The objective of the Business Case was to summarise the measures resulting from the BPO, including a calculation of the cost and personnel savings. Moreover, changes on the revenue side were qualitatively estimated. Additionally, further important influences, dependencies, non-quantifiable value-creating potentials and relevant assumptions were documented. The KPI "realisation status of the cost reduction measures" is shown separately for the time period until the BPO measures are realised in a fifth perspective of the BSC, called "Business Process Optimisation".
determined them for each profit centre and BSC. In a final conversation, the identified KPI’s of each BSC were determined in common through the business unit controlling and the responsible profit centre. After this agreement, the final reconciliation of the developed Balanced Scorecard system with the network board of directors was made.

In the last step, the uniform documentation of the KPI’s for each BSC was secured. This was the basic prerequisite for the successful implementation of the new management and governance system and its acceptance throughout the firm. In this way, the agreements made in common were bindingly documented in the form of KPI’s. A data sheet was developed for the documentation, taking the most important elements of the KPI’s under consideration:

- Description of the KPI’s
- Relevant perspective
- Dimensions / unit
- Formula used in calculating the KPI’s
- Frequency of surveying the KPI’s
- Source of data required for the calculation of KPI’s
- BSC’s affected (level)
- Persons responsible for the further development of the KPI’s and the timely adjustment of actual values in accordance with the required periodicity

Beyond that, the determination of a start and a target value was planned for each fiscal year. For each KPI the actual value was calculated and the future trend was estimated depending on the fixed survey frequency. Based on the deviation of actual from target values, the profit centres developed appropriate control actions to guarantee that, if necessary, early countermeasures could be taken. The business unit controlling supported the profit centres in deriving the appropriate control actions and supervised their implementation.

The information-technological realisation took place parallel to this design work, originally using MS Excel. The advantage of this solution is that, especially in the introductory phase, adjustments could be made quickly and flexibly, and no additional costs were incurred. On the basis of the unlimited number of data records the application is relatively simple to use. The design of the BSC and its integration into the existing IT landscape was already made thematic at the beginning of the project but postponed for cost reasons.

**CRITICAL SUCCESS FACTORS OF THE BALANCED SCORECARD SYSTEM IMPLEMENTATION**

The introduction of the BSC concept in the network area of the energy supplier was a great success. A transparent system of objectives was successfully built up in accordance with the strategy. The contribution of each responsible person to the fulfilment of the firm’s objectives was made measurable and transparent within the framework of the new management and governance system.

An essential success factor of the design and implementation of the Balanced Scorecard system was the consistent support of the board of directors. This brought about a high identification of the executive personnel and employees with the identified measures for implementing strategy. Since finding and implementing a strategy is the business of top management, the success of the introduction of a BSC system - as instrument of strategy implementation and communication - is dependent to a considerable extent on the board of directors’ support. If it is missing, the venture is doomed to failure.

The Balanced Scorecard system was introduced in a two-phase, i.e. top-down – bottom-up procedure, which had the advantage that the strategic objectives could be checked for their plausibility. In the case that each employee is measured by the KPI’s of his own BSC, the whole firm is involved in this process, i.e. everyone can make a contribution to strategy revision. In this sense the BSC realises knowledge management and brings about the existence of a common understanding of the strategy, i.e. each employee understands how his or her action contributes to the firm's strategy. A feedback process is initiated, collecting information about the strategy’s attainment of its objectives and passing it on.

Within the framework of the internal market, clearly differentiable responsibilities and profit centres were defined. This clear differentiation was the basis for the success of the practical implementation. Each person responsible for a profit centre knew his/her area of responsibility and the objective agreement derived from the strategy.

A further, critical success factor was the realisation and acceptance that the four classical perspectives could not cover all aspects relevant to achieve the firm’s goals. The Balanced Scorecard concept was adjusted to the needs of the energy supplier by adding the fifth perspective, “business process optimisation”. With this perspective the governance of realisation of the identified savings potentials was unerringly supported.

The BSC can only be an instrument of strategy implementation if its contents, the KPI’s, are consequently derived from the strategy. This method secures that later the desired strategic objective will be implemented. In the long run the BSC system produces a broad agreement about the strategic objectives within the network area, since all profit centres decide on the strategic objectives in the objective setting discussions. This convincing and consistent procedure increases acceptance by managers and employees.

During the implementation phase of the Balanced Scorecard system the appointment of responsible persons
for each KPI was critical to the success. The responsible persons consequently supported and pressed ahead with the implementation of their KPI’s. Of significance was to analyse and secure the data accessibility in order to avoid the development of "null key performance indicators". KPI’s whose data accessibility could only be ascertained at a later point in time were set as “inactive” in the BSC system and only activated when the data became accessible.

In the development phase of the KPI’s the motto "less is more" was applied. It was useful to concentrate only on certain basis. This guaranteed clarity and avoided the danger of expecting too much from the employees and discouraging them in the implementation process. The restriction to the essential KPI’s brought about an optimisation of BSC system.

In the framework of Balanced Scorecard projects it is often attempted to develop the perfect solution in the first pass. One success factor was that a step-by-step, i.e. iterative procedure was chosen. Instead of waiting long for the perfect solution, one began with a small solution. In the course of time the only vaguely defined KPI’s of the beginning phase become ever more precisely determined with the increasing, valuable experience and routine. The expansion or refinement of the BSC system occurs in the context of a continual improvement process through checking and scrutiny (e.g. "Are the developed key performance indicators still effective, i.e. do they still have a control effect?") of the selected perspectives and KPI’s by the responsible persons and business unit controlling. If required, an adjustment of the BSC system took place in mutual agreement.

The implementation of a BSC system is a long-term process, which needs a neutral driver to secure its implementation. The business unit controlling offers its services here, taking on process responsibility as consultant and mediator between board of directors and executive management. The cost and speed of implementation are decidedly dependent on the driver of the process and the existing data basis.

Since not all employees can participate immediately in the development and implementation of the BSC system, this process should be supported and driven by early, target group specific and comprehensive communication measures. To prevent rumours and anxiety, all employees should be appropriately informed and integrated into the process as much as possible.

Finally, the consistent and uniform documentation of each KPI and BSC secured by the grid’s business unit controlling was the basis for the successful implementation of the new management and governance system throughout the firm. It had the effect of a contract between the network board of directors and the particular profit centres, as they agree that they want to have themselves measured against the agreed KPI’s.

POTENTIAL FOR FURTHER DEVELOPMENT

Experience shows that certain aspects of the BSC approach implemented here are still capable of development.

For example the BSC approach offers the opportunity of specifically integrating, supervising and controlling the risk management fundamentally required in the network business through appropriate KPI’s. This contributes to the sharpening of internal risk-consciousness.

Furthermore, the firm’s objectives expressed in the identified KPI’s should be broken down to the employee level as far as possible, i.e. each employee is given a BSC with agreed KPI’s against which his performance is measured. In addition, through the linking of a payment and incentive system with the BSC, the performance and motivation of the employee can be increased and aligned with the strategy. If payment and sanctions are not implicitly or explicitly linked to the BSC system at some time after collecting sufficient experience, it will not be possible to use the BSC as a management system in the long run.

Over and beyond that, important further development potential presents itself in the context of the technological implementation. Only whoever is in a position to quickly analyse existing data throughout the firm will be able to react to the rapidly changing market conditions in competition. Balanced Scorecard implementation should take place in the middle and long term on the basis of a solid and user-friendly, multi-user-capable IT solution. In particular, it is necessary to give the profit centre the possibility to provide actual and targeted values and trends with appropriate commentaries and to build in corresponding progress reports vitally important for controlling. A EDP system which is set up on a good, dependable data base (e.g. Data-Warehouse solutions), offers the users a broad spectrum of report and analysis tools and is linked to the existing reporting system, is desirable in the future.

REFERENCES: