Control Methods for Detection and Identification of Fraud in Accounting

Marcela Hradecká

Abstract: Detection of creativity, misstatements and fraud in business corporations can be performed in many ways. These always have the common feature and that is the human factor "creativity". Behavioral effects have implications for human decision-making, as well for defects in behavior. In the context of corporate organizational structure it is appropriate to establish an internal audit department, respective, controlling department, whose focus is the application of control methods for the prevention of irregularities and fraud in accounting, but also the creation and setting higher goals of strategic business corporations.

Inspection activity is performed by financial and non-financial methods. In recent years, great emphasis is placed on environmental management of business corporations, which are reflected into the accounts, "environmental accounting". This paper focuses on the possibility of linking environmental strategic objectives of the firm implemented through methods Balance Scorecard and balance model DMFCA as a way to use environmental cost for inspection accounts of business corporations.

Key words: Fraud · Control Method · Balanced Scorecard · Environment Management · Environment Accounting

JEL Classification: M2 · M41 · M42

1 Introduction

Controlling activities in corporate processes referring to strategic objectives and accounting are ever more demanded. The required standards that include properly set profit and loss account and also the environmental protection tend to be more globalized in character. The management of business corporations has to react flexibly on the new demands and include them into the strategic priorities.

The Balance Scorecard Method is one of the possible implementations of the strategic objective into the organizational structure of the enterprise. It allows the involvement of all employees of the corporation into the fulfillment of the strategic objective without difference of the individual employee’s profession or position. The unifying element during the application of the Balance Scorecard Method is „communication. Concurrent application of the Balance Scorecard Method with other control methods can provide an elaborated system which prevents the discrepancies but also fraud. Very important factor is the management approach to accounting and the degree of creativity of the employees. This paper analyzes the conjunction of the Balance Scorecard Method with the Detection Material Flow (Fraud) Cost Accounting Method DMFCA.

2 Methods

Commonly used expressions accounting are financial, managerial, cost, tax accounting etc. The new concept which slowly gets into the awareness of the entrepreneurial sphere is the “environmental accounting. “ aimed at the protection of the environment and proper disposal of waste stemming for production, including waster (faulty products.

Control activities for the detection of irregularities, mistakes and fraud are the task of the internal audit of the business corporations.

The internal audit commonly applied control activities include:

- Basic documents of the corporation - deed of foundation and amendments, changes and updates of these documents, records of the shareholders general meetings

Ing. Marcela Hradecká, University of South Bohemia in Czech Budejovice, Faculty of Economics, doctoral student, field of study of Economics and Management, Address Studentská 13, PSČ 370 05, České Budějovice, e-mail: hradecka@mh-dane.cz, phone: 602346483
- System of responsibilities for the management of the corporation and the conclusion of contracts (business and employment contracts)
- Following the rules of the corporate Codex if it was created
- Internal rules, procedures and directives
- Organizational structure and the circulation of accounting documents, system of approval of documents
- Transaction systems, namely purchases, sales, cashier transactions, salaries
- Organization of subsystems, software information system, archiving and back up of data
- Stock taking of assets and liabilities, both physical and in documents
- Control of the quality and production processes
- Confirmation letters for confirming receivables and liabilities and their heights
- Subsidies, donations and other contributions, documentation
- Compliance with valid legislation

In case of a specific audit the demands can be extended in view of the expected risks.

Both financial and non-financial methods are used for the control activities.

Financial Methods:
- Calculation methods
- Cost and activities assignment methods
- Managerial accounting analyses
- Financial analysis
- Analysis of profitability and return on investment
- Comparisons
- DMFCA model
- Non-financial Methods:
- Balance Scorecard Method „BSC“
- Competency models
- Non-financial performance measure models

The selected control method DMFCA - Detection Material Flow Cost Accounting (Kouřilová, 2013), detects material, energy, financial and legal balances with the aim to set the environmental costs in accounting books and accenting statements. This method can be used in production plants where apart from the product a side -product in the form of waste is also created. Material for the production taken from the warehouse is not completely (100%) consumed and the waste produced is not recorded in the accounting. This means that the material delivered from the warehouse is fully (100%) accounted into the production costs and distorts the calculation of products and setting of the product price.

The waste produced has, however, its value for further processing or use and can be resold as raw material for other subjects. The failure to record it and not to put the value of the waste into the accounts distorts the economic results and the bottom line of the company in the area of production costs and also lowers the margin and the added value from the sale of products. If the corporation does not record (file) the waste of production it establishes room for possible fraud and theft. At the same time the corporation fails to generate possible added profit from the sale of this. This means another distortion of the revenues of the corporation. It is therefore necessary to revise the flow of stocks especially in the area of materials and follow the flow simultaneously both in CZK (crown) units and natural units. Changes in accounting\(^1\) which took place in 2016 led to changes of recording and accounting of the flow of stocks and corporation’s own activities. The revenue approach accounting was cancelled and replaced by cost accounting. This means that revenue accounts in the accounting groups 61 a 62 „changes of the stocks from own activities,“ and they were replaced by cost accounts of the group 58 „changes in the stocks of own activity and activation. “ The rectifications in the cost area is more precise and do not distort the corporation’s turnover. In addition the extraordinary profit/loss was completely eliminated which means the cancellation of extraordinary cost and revenue accounts.

The four basic balances of the DMFCA can be developed into strategic objectives of the business corporation not only to provide for the increase of the value of the corporation but for environmental aspects. The Balance Scorecard\(^1\) is suitable for the aiming, and management of corporate strategy. The main pillars of this method are finance,

---
\(^1\) Zákon č. 563/91 Sb. o účetnictví
customers, inner relationships (employees) and education and training. All these pillars lead towards setting the strategic objectives of the corporation. DMFCA method helps to effectively apply the Balance Scorecard management method because it is based on precise recording of materials and waste and the Balance Scorecard method needs for it most effective implementation the most detailed evidence from the production and operation area.

3 Research results

The research conducted in production corporations showed that in 78% of the researched business corporations regular or occasionally losses occur, that can be financially measured and that are caused by improper handling with the production process waste. Those corporation, where the Balance Scorecard or the DMFCA management methods were introduced, or where they are both used in a combination the financial losses as a result of poor material flow management do not occur.

On the basis of the research the authors recommended the use of the Balance Scorecard method to all production corporations as the most suitable method for the management of the corporation. This method also seems the most appropriate when applied to environmental strategic objectives.

The final question of the research: Why should the business corporation select this strategic objective?

The answer is simple. The motivation to increase future sales, profits of the corporation and the increase the value of the corporation. Provided the management of the business corporation decides to adopt the new strategy „Absolut green factory“ in time and well planned manner it can fully influence the planned sales, costs and investment connected with the strategic plan in individual years and manage through it the cash flow of the corporation. If the management of the business corporation waits for the issued environmental directives and regulations of the European Union or alternatively for the more restrictive domestic legislation in the area of environment it may happen that the company will not be able to react in a short time to the tightened ecological limits or to the prohibition of some non-ecological packaging or the prohibition of dumping of this non ecological packaging.

The results of the research can be presented on the following example: Application of the Balance Scorecard method on a production corporation which produces gloves.

On the basis of data from financial profit and loss accounts, conducted analyses and audits the management of the business corporation received a negative report on the economic performance of the corporation. On the basis of the results it was decided to adopt the Balance Scorecard method. In the framework of the strategy a new major objective was selected and it was decided that the production corporation which produces leather gloves will become absolute green factory. It is therefore not a collection of tiny measures in the form of cost or investment cuts restrictions, on the contrary, it is an overall change of the approach to material, energy waste and natural resources management. Business corporations plan investment into heat pumps, weight control systems, new conveyor technologies and further training of the staff.

New directives, budgets, procedures and other instruments for reaching the target will be created to reflect on the individual tasks arising from the strategic objective.

Basic documents which were used by the corporation when setting the strategic objective for the Balance Scorecard method:

- Profit and Loss Final Accounts of the last five years
- Energy audit
- Marketing plan
- Sales and return on investment plan
- Financial and accounting audit
- Social audit
- Ecological audit
Figure 1 Strategic objective - Balance Scorecard method

Year 2016

GOAL

Glover Ltd.

Production of gloves

MODIFICATION OF THE MAIN OBJEKTIVES

Introduction of the program GREEN FACTORY = maximal lowering of environmental impact during production of gloves

Source: Author’s own research

Figure 2 Strategic Objectives of the production corporation according the major areas – Balance Scorecard method

<table>
<thead>
<tr>
<th>FINANCE</th>
<th>CUSTOMER</th>
<th>EMPLOYEES</th>
<th>TRAINING</th>
</tr>
</thead>
</table>
| • Lowering of costs of transportation of the material by the installation of new conveyors  
• Installation of weight control system in the raw leather dispatch and from the packaging line  
• Stock taking (accounting) of products in both monetary and natural units  
• Stock taking (accounting) of waste and faulty products in both monetary and natural units  
• Decommissioning of the gas boiler room and the installation of the heat pump of the air-air system for the heating of water and the production hall  
• Installation of new water management recuperation of water | • Get attention of a new sector of the market for which our leather waste is a raw material  
• Use more aggressive business conditions with customers who place larger orders (large order volumes) | • Motivational part of the wage to discourage production of waste and faulty pieces  
• Preparation for the start of production of belts made of recycled leather  
• Prohibition of smoking on the whole premises  
• New obligatory directive on separation of waste and litter  
• All suppliers will receive new standard description of packaging for goods ordered by our company  
• Repairs of machines only in company’s service station  
• Daily recording of the electrical energy consumption of the machines  
• Purchases of only ecological raw materials | • Teaching of English in all administrative departments  
• Training on stock taking and accounting of waste  
• Training on ecological packaging for the purchasing department |

Source: Author’s own data
The area of finance can be divided into 3 subareas: investment, financial per se and nonfinancial

- The installation of new conveyors of raw materials lowered the transportation costs it leads to a decrease of electricity consumption and the lowering of production costs.
- Decommission and dismantling of the gas boiler room and the installation of the heat pump, leads to a large decrease of energy consumption and to lowering of production costs.
- Installation of the weight control system of the raw materials dispatch and of semi-finished products for the sewing operators, leads to better control of the production material flow and handling and at the same time prevents loss of material.
- Stock taking (accounting) of waste in both weight units on the basis of control weighing, allows better stocktaking and accounting of stocks, semi-finished products and production environmental waste. The control is taken both in monetary and weight units.
- Installation of a new water management, leads to large savings of water. Water is recuperated for possible secondary use.

Customer

- New segment of market. Customers for whom our leather waste is a raw material. Registered (accounted) environmental waste becomes goods that can be sold to newly addressed customers and sales can be generated.
- Concentration on customers with higher volume of orders. It allows better planning of logistics, delivery of production inputs but also better use of the raw material during production. Production costs savings are reached.

Employees – internal relations

- Motivational part of the wage for keeping the quality of products, the amount of faulty products (spoilage) decreases.
- Preparation of production of a new product, the accounted environmental waste will be processed on the company premises.
- Separation of waste and litter, the corporate environmental codex is established.
- New standard for accepting raw material only in ecologically recyclable or disposable packaging, leads to protection of the environment.
- Repair and servicing of machines within the company, leads to saving of costs for the transport and reduction of down time in production.

Training

- Teaching of English for the staff, will allow reach more effectively not only the domestic market but also market abroad. The sales shall increase.
- Training on stock taking and accounting of waste shall make staff familiar with the corporate codex and the environment protection requirements and the proper registering and accounting of environmental waste of production.

The strategy of the business corporation Absolute green factory brings in the first stage big investment into new technologies. The management of the business corporation has to decide in close cooperation with the controlling department whether they will use foreign capital, for example a bank loan or their own capital for the investment. Another important economic consideration will be the calculation of the cost effectiveness of the investment and the rate of return of the investment. These planned calculations will be reflected in the production calculations because the savings in production costs (electricity, water and sewage, heating) will result in lower costs in the costs calculation.

Cost effectiveness of the investment:

\[ R = \frac{\text{profit from the investment}}{\text{investment}} \]  

Savings from production costs influence the value of the profit from the investment

Rate of return of the investment

\[ N = t_c + (CF_t; \ldots, CF_x) \]  

\( t \) – Number of years of repayment, \( CF \) – power of cash flow
Into the value of the power of cash flow are reflected the savings of production costs and also the lowering of overall costs reached by improved stock taking and accounting of waste on the stocks accounts.

Calculation formula for production:

\[
\text{Variable costs} \\
\text{Operating costs} \\
\text{Fixed costs} \\
\text{Margins} \\
\text{Price}
\]

Indirect and other costs in the calculation formula are influenced by lowering of operational environmental costs, energy and this way they influence the price of products. Further, there occurs the lowering of the value of the direct cost of the material for production by the reduction of environmental waste.

4 Conclusions

Control methods implemented into the internal organization of the business corporation allow improvement in the detection of discrepancies and in some cases even frauds. The investment into technology does not mean only a financial burden for the enterprise and the increase of debts of the corporation but can, when the strategic objectives are properly set lead to savings of long term operational costs and protect the environment which is currently a global trend.

„Failure to follow the global trends and passing the corporate strategic objectives can lead to bankruptcy of the business corporation as the enterprise cash flow shall be negative in the long run.“

References


Zákon č. 563/91 Sb. o účetnictví