

Design and Implementation of a Management Control System

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Abstract: This paper tries to implement a management control system to raise the performance of a company with the objective to define and align to the entire organization toward a common strategy and sustainable for all. Information was collected from the major critical issues in order to detect the key sectors of the company where a change is needed. It was established the strategy to be followed and defined management indicators that allowed monitor and validate the implementation of the strategy through the Control Panel and strategic initiatives. Four initiatives were developed to understand the effect that has the control system in the management of the company generating positive results observed in the analysis of results. In order to maintain the strategy was necessary to develop audit reports to permanently check the system status.

Keywords: management control system, strategy, control panel, indicators.

JEL Classification: M40, M41

1. Introduction

The management control system is a tool that allows organizations to have a visible picture of what's happening in the company. It is essential to reorganize the goals and determine a clear view of where the company wants to continue.

In order to be able to design and implement a management control system you need to know the current status of the company, its critical problems and to identify areas in which there is greater need for change.

In addition needs to be measured numerically all the objectives by means of indicators of control and assign a team leader responsible for the attainment of each objective.

2. Theoretical Framework

A Management Control System (MCS) is a set of procedures that help the CEO take their decisions in due time, planning and controlling the activities of the company.

To facilitate the decision-making is fundamental control the evolution of the environment and the variables of the organization itself that can affect their own survival.

The Balanced Scorecard or BSC is a flexible methodology and applicable to all types of businesses, who want to build competitive advantage, need to enhance the performance and profitability, in addition to increasing the value of the company.

It was originated by Drs. Robert Kaplan (Harvard Business School) and David Norton as a performance measurement framework that added strategic non-financial performance measures to traditional financial metrics to give managers and executives a more 'balanced' view of organizational performance (figure 1).

The Balanced Scorecard provides a framework that allows us to describe and communicate a strategy in a way that is consistent and clear. Serves to communicate the strategic objectives to employees.

Strategy maps used to describe the manner in which the intangible assets are mobilized and combined with other assets, to achieve value propositions for the client and the desired financial results.

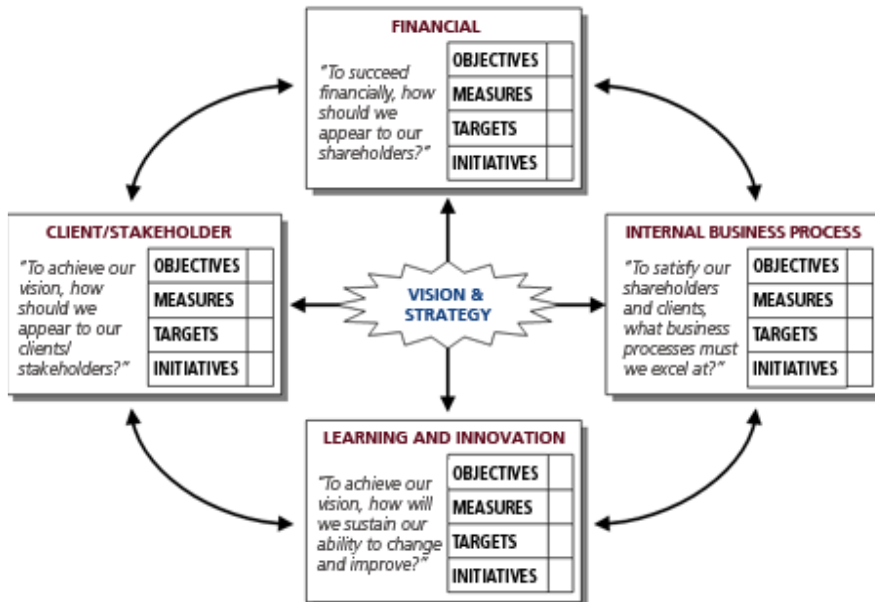


Fig.1. Balanced scorecard in the vision of Kaplan&Norton

The BSC provides a new framework for describing a strategy to link tangible and intangible assets in activities that create value.

✓ **strategic Initiatives** - are activities "keys" that must relate to the objectives of the Balanced Scorecard to evaluate its impact on the Organization's strategy.

The BSC, filters out the initiatives and identifies what you are lacking and communicated to all employees (ultimate source of new ideas, initiatives or programs) where they would be most valuable new initiatives.

✓ **the control matrix** - is a tool that can be used to plan the content and the development of a control system. It shows the plan of action applied to a process out of control. Includes the control variable (which is measured), the form of measurement, the place and time of measurement, the standard, who is doing the analysis, who acts and how to act. This tool is a great help to control system design, implementation, and maintenance of the results obtained.

3. Diagnosis of the current situation

The company object of study for the dissertation belongs to the industry of mines and stone. The company's primary business activity is the processing, crushing and micro spray of the calcium carbonate. The raw material used comes from the earth's crust, i.e. through the removal of the limestone in the quarries.

The company needs to have the resources necessary to have a constant production to meet their customers' orders. There are critical processes when the process, equipment and other resources affecting the continuity of the production process by avoiding the company gives its customers' orders on time.

The resources necessary to maintain a constant production are:

- labor required for each plant;
- machinery in optimal conditions to operate 12 hours per shift;
- raw Material in sizes 3 to 6 cm to supply the plant A;
- raw Material sprayed to supply plant B and C.

In the past few years the company has had a high growth in the demand for their products which has caused inconvenience to the company. The main problem is in the delivery of the product. Already that are not met 100 % of your weekly sales planning, causing lost sales and dissatisfaction among customers.

4. Control system design management

Strategic planning that is done seeks to improve compliance with the program for weekly sales that generates economic losses for the company.

According to the analyzed in the diagnosis of the company it was noted that the main problems are within the operational part of the company. For this reason analyzes the value chain to determine the main activities and of value to the company.

The company has concentrated most of their activities in the part of operations (maintenance, stowed, wineries, production), this being the fundamental pillar for the company to achieve compliance with the programming of their sales. The strategy starts with the creation of a department of operations to unify and control all the operations.

It is necessary to define the mission and vision of the goals that you want to achieve within a period of time.

In addition, it identifies the competitive advantage and the departmental values.

After performing and analysing the SWOT matrix is that the specific strategy that the organization needs is adaptation, being specifically of functional type because it is geared to improve the productivity of operations.

5. Implementation and analysis of results of the MCS

To implement the system of control in the management of the company there is a need to involve the entire team at work in the new strategy.

The aim of implementing a management control system is to be able to organize, improve and control all the operating processes of the company. This system seeks to integrate all functions to generate positive results for the company.

In order to fulfill the management control system will need to implement the strategic initiatives that generate a positive change in the indicators.

The strategic initiatives with greater impact that allow you to raise the performance of the department of operations are:

- Elaboration of a labor incentive plan.
- Elaboration of a system of planning and production control
- Elaboration of a planned maintenance program for the critical equipment of each plant.
- Elaboration of a system of 5's (organization, order and cleaning) in the cellar of spare parts and workshop.

Develops each initiative being developed for each as the following:

Labor incentive plan: There is a focus group to determine the causes of absenteeism.

As a result, it was found that the main cause is the excessive burden hours. For this reason are set three 8 hour shifts.

Planning and control system of production: It was determined the production capacity (sacks per hour) for each of the plants. In addition, it analyzes the historical demand from 2010 until 2011 with

The objective of forecasting the demand for the first 5 months of 2013. It then makes a manufacturing plan that determines a minimum and maximum production.

Planned maintenance plan: designing cards of assets for each critical equipment of the three production plants. Formats are developed inspection: mechanical, electrical and lubrication. At the end you are designing a plan of planned maintenance that summarizes the major activities necessary to maintain the operational team.

System of 5S's: Is implemented during the month of November and December the first 3 pillars of the philosophy of 5D's: organization, order and cleanliness. They were created the red cards to remove obsolete objects, signs of identification and training to the winemakers on the use of the system.

✓ **The audit**

The audit is a tool that is used to measure the degree of efficiency and performance of the objectives set by the company. Mainly consists in reviewing all the documents that those responsible for each objective to subsequently develop a general report that assesses whether there are or non-conformities in the management control system.

The audits are divided in three ways using for each a respective report:

Report of the auditor general: The overall report of audit is a report that summarizes in a general way the management control system. Here is detailed the conformity of the strategic objectives that arise. This document condenses the whole strategy to be reviewed at the managerial level.

Audit Report by objective: This report evaluates what is done to achieve each strategic objective in a detailed manner. Here's a review of the initiatives, plans, activities that the responsible run to achieve the goals.

Prior to the audit report on the objectives it is important to review the status of the indicators and validate it.

✓ **Analysis of results**

For the analysis of result compares the initial state of the indicators to which you applied the strategic initiative. The strategic objectives with their respective indicators that undergo changes that can be used to improve the performance of the company are:

Applied Initiative: Program of 5S's

-Reduce waste operating in a 5% = indicator: % of waste in the winery and workshop.

-Achieve a 80% compliance with 5's in the workshop and warehouse of spare parts = indicator: % clutter and organization.

In the month of November starts with the program of 5S's next to the head of cellar and two winemakers.

During the first two weeks was obsolete parts, elements not needed, spare parts poorly located and without signs in the hangers, reason by which The value is in

red. The last two weeks of the month you start to train and to discard parts, relocate the necessary, develop and put up the signs. For these indicators the results shown in the table are the first to have in the Management Control System, i.e. there are no past data. Now you can say that there is a control in the cellar of spare parts.

Applied Initiative: Program of 5S's

-reduce by 10% the unplanned stops production = Indicator: unplanned stops

-meet in a 70 % the maintenance plan planificado = Indicator: % of implementation of the plan for planned maintenance.

To implement a plan of planned maintenance to the plants is achieved demonstrate a reduction in production downtime. In spite of the fact that there are still external causes to maintenance that cause unplanned downtime but has enabled us to reduce their percentage. For the indicator of implementation of the plan for planned maintenance in the month of November is designed the plan of planned maintenance.

At the end results are the first that you have for this indicator.

It is now clear that the department of operations can have a control in the maintenance of your critical equipment. An initiative to create the planned maintenance plan helps to know the tasks to be performed and to follow up.

Applied Initiative: incentive plan meet labor in a 100% with the incentive plan operational staff labor = Indicator: rate of absenteeism.

In the month of December the management decides to increase a work shift of 11 additional people, reducing the work load of 12 to 8 p.m. weekdays. This initiative is achieved thanks to implement management previously considered this solution to improve the assistance of the staff and reduce the rotation of the same.

Applied Initiative: Program of 5S's meet in a 90% with the planning of production weekly = Indicator: Programming of production accomplished this indicator receives an improvement in the Management Control System since it implements the initiative planning and production control.

In the month of December has not yet started the forecasts of production but can be seen that there is an improvement because of all the activities that are carried out with the other initiatives.

6. Conclusions

- The management control system maintains as a fundamental pillar in its design the monitoring and control. The strategy needs to be durable in time for this are assigned responsible and define the frequency of meetings to take actions and decisions on MCS.
- There is no department of operations defined that unifies maintenance, logistics and production. So that when designing a management control system has the necessity of creating a department of operations.
- The audits is a vital process for the continuous improvement of all management control system since it allows an objective assessment of the development, implementation and monitoring of the same and above all the validation of the results that the dashboard displays. This provides greater confidence in the high direction in decision-making timely and effective.

7. Recommendations

Is required the commitment of the leaders of each of the strategic objectives and indicators for which the data is consistent and real which allows to take right decisions.

The company must perform general integrated audits during the first three months of the management control system so that by the end of this review is possible to determine the frequency of the audit of each strategic objective.

It has to be determined the budget for the entire MCG then to analyze in detail all the necessary initiatives to achieve all the goals during the 5 years. It is important to quantify the total benefits of the system.

Acknowledgment: This work was cofinanced from the European Social Fund through Sectoral Operational Programme Human Resources Development 2007-2013, project number POSDRU/159/1.5/S/140863, Competitive Researchers in Europe in the Field of Humanities and Socio-Economic Sciences. A Multi-regional Research Network, sau Această lucrare a fost cofinanțată din Fondul Social European prin Programul Operațional Sectorial pentru Dezvoltarea Resurselor Umane 2007 – 2013, Cod 204 Finance – Challenges of the Future Contract: POSDRU/159/1.5/S/140863, Cercetători competitivi pe plan european în domeniul științelor umaniste și socio-economice. Rețea de cercetare multiregională (CCPE)

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