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Educational case

Chemico: Evaluating performance based on the Balanced Scorecard

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ABSTRACT

For the past decade Chemico Inc. has been pursuing a successful strategy producing an innovative type of plastic that is replacing steel in the production of cars. Chemico has plants around the world, and demand continues to grow. Operations have recently commenced at three new plants in China. You have obtained performance data for the three plants in the form of a Balanced Scorecard (BSC) in which each manager's performance is compared against the company's targets. As the Financial Controller for Chemico it is time for you to evaluate the three plant managers and distribute the bonus pool between them.

1. Introduction

Chemico Inc. produces an innovative type of plastic that is replacing steel in the production of cars. The industry is very competitive and prices continue to fall as the production process is improved. Chemico has a very successful strategy focused on continually reducing production costs and the effective utilization of its expensive plant and equipment. Chemico seeks to capture market share by providing the cheapest product on the market; however, quality is also important.

The production process involves thousands of variables that must be monitored and adjusted to determine the energy requirements and yield (output compared with input). Furthermore, the highly toxic waste associated with the production process must be managed carefully and must undergo expensive treatment before being released. Highly trained and experienced engineers are the key to ensuring that the process is efficient and that improvements are continually identified.

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In summary, Chemico's strategy is to invest in training and workplace conditions to improve the engineers' innovation and process management skills. This then results in more efficient operations and lower production costs. Market share then increases through low prices while maintaining a high gross margin.

The production process requires huge amounts of energy, which has led Chemico to set up three new plants in China where there is an abundance of low-cost coal. The plants were established 6 months ago and it is now time to evaluate the performance of each plant. In this regard, please complete Exhibits 1 and 2.

2. Implementation guidance and teaching note

2.1. Case synopsis

This case provides an engaging tool for teaching the principles of the Balanced Scorecard (BSC) with an emphasis on the relationships between lead and lag performance measures. In addition to the causal relationships between Learning and Growth, Internal Processes, Customer, and Financial measures, the impact of environmental performance can also be recognized by integrating environmental measures into the organization's strategy map (SM).

In evaluating the managers, students make judgments about the relative importance of the different performance measures thereby exposing their implicit weightings and biases. An important feature of the case is that students are evaluating the managers' first 6 months of operations. This allows the relationships between lead and lag indicators to be clearly tracked across time. Furthermore, the subsequent debriefing of the evaluations demonstrates the power of the SM and clearly highlights the time lag between implementing the company's strategy and achieving financial targets.

3. Overview of the task

Students assume the role of Financial Controller and evaluate the performance of three managers based on measures presented in the BSC format (Exhibit 1). The task is based on a research instrument developed by Lipe and Salterio (2000). Of particular interest in their research was the finding that individuals may not be using the BSC effectively for performance evaluation. For example, subsequent research found that evaluators focus on common measures of performance rather than the measures that are specific to the organization's strategy (for example, Dilla & Steinbart, 2005).[1] Determining the implicit importance that students place on various measures within the BSC exposes the typical biases and cognitive limitations identified in this previous research. Reflecting on their experience in evaluating the three managers provides a rich basis for a discussion of the behavioral issues involved in implementing the BSC.

Performance of the three managers is contrived such that the sum of all the percentages above and below target is approximately the same. Therefore, an equal weighting placed on each measure would lead to equal evaluations and rewards. Manager A's performance, however, is consistent with an investment in the lead indicators of performance identified in the organization's strategy, but which has not yet flowed through into satisfactory financial performance. In contrast, Manager B achieves well above target in the financial (i.e., lag) indicators of performance. Upon further analysis, however, it can be seen that this is achieved at the expense of performance that, according to the organization's successful strategy, will determine financial performance in the future. Specifically, results indicate that Manager B has not invested in employee training and the result is beginning to be seen in employee dissatisfaction and turnover. In summary, financial performance is significantly above target, but the lead indicators of performance suggest that the organization's strategy is not being pursued, and the superior financial performance is unlikely to continue.

[1] Further discussion of the research findings is presented in Table 2.