



Contents lists available at ScienceDirect

# Accounting, Organizations and Society

journal homepage: [www.elsevier.com/locate/aos](http://www.elsevier.com/locate/aos)

## Financial versus non-financial information: The impact of information organization and presentation in a Balanced Scorecard

Eddy Cardinaels<sup>a</sup>, Paula M.G. van Veen-Dirks<sup>b,\*</sup><sup>a</sup> Department of Accountancy, Tilburg University, The Netherlands<sup>b</sup> Nijmegen School of Management, Radboud University Nijmegen, P.O. Box 9108, 6500 HK Nijmegen, The Netherlands

### A B S T R A C T

This paper investigates how the organization and presentation of performance measures affect how evaluators weight financial and non-financial measures when evaluating performance. We conduct two experiments, in which participants act as senior executives charged with evaluating two business-unit managers. Performance differences between business units are contained in either a financial or one of the three non-financial categories. Specifically, the first experiment studies how organizing measures in a Balanced Scorecard (BSC) format affects performance evaluations. Our results show that when the performance differences are contained in the financial category, evaluators that use a BSC-format place more weight on financial category measures than evaluators using an unformatted scorecard. Conversely, when performance differences are contained in the non-financial categories, whether measures are organized into a BSC-format or into an unformatted scorecard has no impact on the evaluation. The second experiment shows that when performance markers are added to the scorecards (i.e., +, −, and = signs for above-target, below-target, and on-target performance), evaluators that use a BSC-format weight measures in any category containing a performance difference more heavily than evaluators using an unformatted scorecard. Our findings suggest that firms should carefully consider how to present and organize measures to get the intended effect on performance evaluations.

© 2010 Elsevier Ltd. All rights reserved.

### Introduction

Kaplan and Norton (1992) originally introduced the Balanced Scorecard (BSC) to overcome problems that result from a sole focus on financial measures. A BSC enables financial performance measures (grouped into a single financial category) and non-financial performance measures (grouped into non-financial categories including customer, internal business process, and learning and growth) to be displayed in combination. In practice, the format of performance scorecards varies significantly across firms (Lohman, Fortuin, & Wouters, 2004). Some firms organize

their measures into BSC performance categories while others simply provide a general list of measures. How results are presented in a scorecard also varies. Many firms show only target levels and actual results, while other firms supplement this information with performance markers (i.e., +, −, =) or qualitative signs (e.g., red, yellow, and green indicators) to more explicitly indicate the status of the actual results in relation to the target levels (e.g., Malina, Norreklit, & Selto, 2007; Malina & Selto, 2001; Merchant & Van der Stede, 2007). Despite the prevalence of these different formats in practice, little work has been done on how variations in scorecard formats affect performance evaluations.

In this study, we examine how variations in, first, the organization (i.e., BSC versus unformatted scorecard) and, second, the presentation of measures (i.e., the use of

\* Corresponding author.

E-mail addresses: [e.cardinaels@uvt.nl](mailto:e.cardinaels@uvt.nl) (E. Cardinaels), [p.vanveen@fm.ru.nl](mailto:p.vanveen@fm.ru.nl) (P.M.G. van Veen-Dirks).

markers) affect how evaluators weight financial and non-financial measures in performance evaluations. Prior studies have primarily focused on the finding that, when firms use both common measures (i.e., measures common across multiple units) and unique measures (i.e., measures unique to particular units) for their business units, evaluators ignore the unique measures (Lipe & Salterio, 2000). Solutions to this problem have also been explored (Libby, Salterio, & Webb, 2004; Roberts, Albright, & Hibbets, 2004). Many firms, however, use similar scorecards that contain only measures common to all business units (e.g., Malina & Selto, 2001). In such cases, presentation formats and features may well affect how evaluators weight financial and non-financial information in performance evaluations. To investigate these issues, we present two experiments that extend the basic setup of Lipe and Salterio (2002).

Lipe and Salterio (2002) study how information organization (i.e., how organizing measures into a BSC as opposed to an unformatted list) affects the performance evaluation of two business-unit managers. They consider, however, only the case wherein performance differences between the two business units (i.e., consistent above-target performance for one business unit and consistent below-target performance for the other) are located on the non-financial category of customer measures. They show that evaluators using a BSC weigh these measures less heavily than evaluators viewing the same measures in an unformatted scorecard.

Our first experiment extends Lipe and Salterio's work by examining whether the effect of how the measures are organized depends on which type of category—that is, financial or non-financial—contains the performance differences between business units. We predict that information organization will have a greater effect on evaluations when performance differences appear in the financial category. We base this prediction on performance-measurement as well as psychology literature, which suggest both that people are heavily led by financial outcomes and that how people use a BSC to process information may lead these users to place more weight on financial performance measures than users of an unformatted scorecard. We use a  $2 \times 4$  design, manipulating how information is organized (i.e., in a BSC or an unformatted scorecard) when performance differences between two business units are located in either the financial category or one of three non-financial categories. We qualify the results of Lipe and Salterio (2002) by showing that a BSC only “increases” the weight evaluators attach to performance differences when these differences are located in the financial category. We find that when performance differences are located in one of the three non-financial categories, information organization has no effect. We thus also observe no decrease in how measures are weighted for the customer category, which is the only case comparable to that of Lipe and Salterio (2002). We attribute this latter finding to some differences in design choices, which we will explain in ‘Methods and results’.

Increasing the weight evaluators place on financials may not always be the effect firms hope to achieve by using a BSC

instead of an unformatted list of measures.<sup>1</sup> Therefore, our second experiment examines whether the use of markers (i.e., +, –, and = signs for above-target, below-target, or on-target performance) offers a counterbalancing effect. The design of Experiment 2 is similar to that of Experiment 1 except that we add performance markers to the scorecards' results. We hypothesize, and find, that, when supplemented with markers, performance differences on measures of any category, be it financial or non-financial, are always weighted more heavily in a BSC than in an unformatted scorecard.

Our research contributes to the literature in several ways. First, prior results on the use of financial and non-financial measures are still inconclusive (Luft & Shields, 2001; Schiff & Hoffman, 1996). Although the BSC has gained prominence in accounting research as a way of integrating financial and non-financial performance measures (Hoque & James, 2000), we show a consequence of organizing the measures into the BSC categories that may well be uncalled-for if firms adopt a BSC to stimulate the use of non-financials. Our finding in Experiment 1 that a BSC only increases the weight evaluators assign to the financial category, leaving non-financial categories unaffected, adds a new issue to the BSC literature, which to date has focused on the problem of common versus unique measures.

Second, we show how different presentation formats can produce different processing strategies (Payne, 1982; Schkade & Kleinmuntz, 1994). In Experiment 1, we show that grouping and labeling measures (i.e., in a BSC), as opposed to leaving measures unlabeled and in no particular order (i.e., in an unformatted scorecard), helps evaluators identify financials more easily and may activate their beliefs in the relative importance of financials. As a result, a BSC-format increases an evaluator's basic tendency to weight financial measures more heavily than non-financial measures. Experiment 2 shows that performance markers in a BSC can also direct an evaluator's attention to other non-financial categories that contain important performance differences. In this case, BSC users compared with users of an unformatted scorecard, give more weight to any category (financial and non-financial alike) that shows consistently good or bad performance.

These findings have important practical implications for the many firms that use the BSC as a tool to evaluate and reward managers (Kaplan & Norton, 1996; Liedka, Church, & Ray, 2008, p. 74). If evaluators assimilated all measures without bias, then the format of a scorecard would not matter. However, because format, in fact, appears to have a strong impact on how evaluators assimilate measures, firms should carefully consider how they display these

<sup>1</sup> We investigate how organization and presentation of measures affect how evaluators subjectively weigh performance differences on either financial or non-financial measures (when a firm uses a common set of measures). Exact weights often cannot be prescribed because they depend on many factors, including the sensitivity, precision, congruency, and quality of the measures (Libby et al., 2004). We therefore avoid the term *bias*. However, if only the financial measures impact performance evaluations, and non-financials have no impact, we question whether this is always in line with the idea of using a BSC (as opposed to an unformatted scorecard) to direct an evaluator's attention toward the firm's non-financials.

متن کامل مقاله

دریافت فوری ←

**ISI**Articles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات