THE IMPACT OF BALANCED SCORECARD HALL OF FAME INDUCTION ANNOUNCEMENT ON FIRM VALUE

JOHN R. WINGENDER, JR.
Heider College of Business, Creighton University,USA

VASANT RAVAL
Heider College of Business, Creighton University,USA

SAMANTHA J. SCHUETT
Heider College of Business, Creighton University,USA

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Abstract

In recent years, the Balanced Scorecard has emerged as a popular performance measurement and management system used by many organizations globally. This system helps link the strategy and vision of a company to its day-to-day operations. To recognize those companies that have successfully implemented the Balanced Scorecard, the Palladium Group, a leading organization of strategic management, established a widely-respected global program: Balanced Scorecard Hall of Fame for Executing Strategy. Since 2000, 152 companies have been inducted into the Hall of Fame. An event study was conducted to test the impact on firm value from the announcement of induction into the Balanced Scorecard Hall of Fame. If the balanced scorecard properly aligns the business strategy with the short-term operations, these benefits should impact positively on the firm's value. The results suggest some market price effect five- and ten-days prior to, but none following the announcement. The study's findings and opportunities for further research are discussed.

Keywords: Balanced scorecard, Firm value, Firm performance, Strategy execution, Event study.

1. Introduction

The Balanced Scorecard (hereafter BSC) is a strategic measurement and management system that was first formally introduced to the public by Drs. Robert S. Kaplan and David P. Norton (1992). They have produced several subsequent articles outlining in detail the BSC as a strategic performance system (1993, 1996a, 1996b, 2001a, 2001b, 2001c). In an ever-changing, competitive, and highly interconnected environment, they argued, a firm can no longer rely on the traditional approach of solely focusing on financial measures that mask the relationship of such measures to value-creating non-financial measures. Traditional models suffer from an

explicit identification of the linkage between long-term strategies of a company, formulated mostly by top management, and the short-term operational measures, which are often in the form of budgets created by the finance department. This deficiency limits the management's potential to drive performance and is often the reason for failure of many organizations in executing strategy effectively.

The BSC has the potential to improve firm performance for various reasons. It offers a holistic, disciplined approach to measuring and managing an entity's progress toward its mission, goals, and objectives. In addition to commitment of the firm's leadership, it requires involvement of the entire hierarchy. Because of the presence of the BSC, stakeholders are aware of the organization's vision and path to achieve it. The organization is fully and constantly involved in measuring and monitoring progress toward goals, identifying which parts the value chain need improvement, and allocating resources with a focus on improvement of processes and people to bridge such deficiencies.

While there is a degree of concern that expectations of impressive results from the BSC implementation are unrealistic, it appears that if the path to strategic goals is laid out and resources are allocated properly, the results would be better than when the BSC is not adopted and pursued with passion. When the value chain is managed through implementation of a clear vision, ultimately, financial performance – the lagging indicators in the BSC – will show better, more persistent, or more predictable outcomes. Under such conditions, an alignment of company performance with investor expectations is much more likely; when it is achieved, the financial markets can be expected to respond positively to the firm performance.

As more companies adopt the BSC system, the discussion of decision usefulness of the system and its impact on results has spread across the global corporate scene. The media coverage touting the achievements of adopters is not uncommon. Consequently, when the track record of successful BSC implementations is widely accepted by the investor community, it is likely that any news about a company's decision to adopt the BSC may be interpreted by investors as a positive sign of earnings stream expected from the company. The hope of company performance in line with expectations takes hold among present and future investors.

One widely publicized media event that resonates with the financial markets and its players is the induction of selected organizations in the BSC Hall of Fame, a resounding recognition that the inductee has successfully implemented the system. The investor confidence would likely get a boost from such news, resulting in a positive attitude toward firm practices to create value for its stakeholders. Thus, we present the following hypotheses for our study and discuss the findings in the following sections.

H0: Stock returns do not react to the announcement of induction into the Balanced Scorecard Hall of Fame as presented by the Palladium Group for Executing Strategy.

H1: Stock returns react positively to the announcement of induction into the Balanced Scorecard Hall of Fame as presented by the Palladium Group for Executing Strategy.

2. Literature review

As Kaplan and Norton state, the BSC is a comprehensive framework that translates a company's strategic objectives into a coherent set of performance measures. To enrich the dashboard of performance, the BSC typically adds three non-financial perspectives that complement the financial perspective: customer, internal business processes, and innovation

and learning. The customer perspective focuses on the satisfaction of the firm's customer base and how well their expectations are being met. Supplementing the customer perspective is the internal business perspective. This function takes into consideration the business processes that have a significant impact on the company's value chain and aims at bettering these processes. The innovation and learning perspective focuses on continual improvement to existing products and processes and the ability to introduce entirely new products with expanded capabilities (See Kaplan and Norton, 1992). As with the traditional method, the financial perspective examines bottom line numbers such as return on investment, return on equity, operating income, and cash flow. Importantly, the scorecard makes explicit the relationships between such financial measures (lagging indicators) with measures in the other three non-financial perspectives. This in turn provides insights on how to drive performance by leveraging these relationships.

A high degree of articulation of the BSC system makes it rather intuitive and on the surface, without any downside risks. However, the BSC has been constructively examined to suggest its limitations. A notable contribution in this regard comes from Norreklit (2000) who concludes that the BSC is a "hierarchical, top-down model that is not easily rooted in a dynamic environment or in the organization. If the balanced scorecard is to become more realistic, [its] control processes should be more interactive during strategy formulation, during the building of the scorecard and during the subsequent implementation (p. 81)." Wongrassamee, Gardiner, and Simmons (2003) compared two organizational improvement models, BSC and EFQM (European Foundation for Quality Management) model from five key perspectives: objectives, strategies and plans, target setting, reward structures and information feedback loops. They concluded that "a problem common to both is "being able to integrate them into a business unit or a whole company. . . Practically, it is difficult to find a perfect match between a company and a performance measurement framework (p. 28)."

In spite of the noted limitations, experimentation of the BSC in the corporate world and among the non-profits continues at a steady pace. In part, this may due to the fact that the BSC allows managers to view the organization through a comprehensive framework of both non-financial and financial measures, rather than focusing on one class of measures alone. It focuses managers on the most critical measures that will promote the most future success within the objectives of the corporate strategy. Measures of progress are determined for each of the four perspectives and then target goals are set. Next, managers take actions that will help the company progress towards their set goals which should stem directly from the strategic objectives of the company. Progress is continually assessed in order to determine the appropriateness of the measures and the targets set. The target measures are communicated throughout the organization to employees at all levels so as to connect the strategic vision to the daily operations performed by the employees. The BSC encourages continuous improvements as target goals are adjusted.

One organization that Kaplan and Norton co-founded is The Palladium Group (formerly the Balanced Scorecard Collaborative). The Palladium Group is recognized as a leader in helping organizations execute their strategies by focusing on strategic management, performance management, and business intelligence. A powerful initiative that the firm has instituted is the Balanced Scorecard Hall of Fame for Executing Strategy. Each year, organizations who have achieved extraordinary performance results following the implementation of Kaplan and Norton's BSC are inducted into the Hall of Fame. To be inducted, the organization (enterprise or leading business unit, public agency, or government entity) must have implemented the BSC by the standards of Kaplan and Norton, shown breakthrough performance results for at least 24 months, and provided a testimonial in which

a senior executive credits the BSC in part to its success. The Hall of Fame is a highly regarded program that spans the globe.

The BSC, properly implemented, is effective and over time, has been embraced as an universal key for the performance improvement of almost any organization, for-profit or not-for-profit (Ashworth, 1999). Whereas other efforts to weave non-financial measures with financial measures into a holistic dashboard achieved very little attention in practice (See for example, Pyramid Model by McNair, et al., 1990, and EP2M Model by Adams and Roberts, 1993), the BSC – introduced by Maisel (1992) and in the same year, by Kaplan and Norton (1992) - has become a widely popular strategic measurement and management system. Its potential to add value has been established over the past 20 years.

Not unlike any system, the benefit of the BSC implementation lies in its successful implementation. Poorly implemented BSC is unlikely to produce impressive gains in the company performance. A high degree of support to the BSC adoption is required from the top management, adequate resources must be provided, stakeholder acceptance should be systematically sought, and persistent efforts should be made across the organization in order for the implementation to succeed. Given these prerequisites, it is likely that successful implementation of the BSC can be found only at a limited number of entities in the universe of all BSC adopters. Put differently, even the BSC could fail (Schneiderman, 1999). We believe an invitation to an organization for induction into the Balanced Scorecard Hall of Fame is a strong indicator the entity's successful implementation of the scorecard.

The link between financial performance and stock prices has been a subject of numerous studies. However, there is limited evidence of the impact of non-financial data on the stock prices. An early study conducted by Ittner and Larcker (1996) examined the information content of announcement of customer satisfaction rankings. Their findings suggest that non-financial information, such as the customer satisfaction rankings, is of value to the market and as well, is incremental information to the investors. The investor interest in studying qualitative, non-financial information such as in the BSC has been recognized (Light, 1998), for the value created by the combined use of both quantitative and qualitative information to drive strategy ultimately mirrors in the market cap of the company. Similarly, an Ernst & Young study (Mavrinac and Siesfeld, 1998) offered evidence that shareholders strongly rely on a broad range of non-financial factors which potentially provide the foundation for the future firm performance. Presumably, the BSC implementation leads to superior company performance and the analysts take this into consideration.

Whereas a series of dedicated events over a long period of time drive the implementation of the BSC, the trigger event that clearly establishes a milestone of successful implementation is the adopter's induction into the hall of fame. Numerous major and minute efforts prior to this announcement can only be considered steps toward the goal of successful BSC implementation. While the invitation for induction is a distinct and credible event arising from a third party outside of the company, its consideration as an event that impacts the company's market price has two limitations. First, the media announcements, company newsletters, or other interactions between the company and its stakeholders may already have resulted in the leakage of the news; this may have been absorbed into the market price of the company stock over time. Second, the market participants may not recognize long-term (positive) consequences of the event, may suspect that this was hype with no real significance to the company's performance, or may just downplay the future impact of the BSC in the life of the company. Nevertheless, we believe the announcement of induction is a high-profiled, credible, and impactful event in the life of a company, and should produce market price effects following the event.

3. Methodology

3.1 Hypothesis

In order to test the theory whether announcements of a firm's induction into the Balanced Scorecard Hall of Fame has an effect on firm value, a hypothesis is developed. The null hypothesis assumes that the announcement of a firm being inducted into the Balanced Scorecard Hall of Fame will have no impact on firm value. The alternative hypothesis is that the firm's value will be positively impacted by the Hall of Fame announcement. The hypothesis is formally stated as follows:

H0: Stock returns do not react to the announcement of induction into the Balanced Scorecard Hall of Fame as presented by the Palladium Group for Executing Strategy.

H1: Stock returns react positively to the announcement of induction into the Balanced Scorecard Hall of Fame as presented by the Palladium Group for Executing Strategy.

Kaplan and Norton (2001a, p. 102) state they have "observed several organizations achieving performance breakthroughs within two to three years of [BSC] implementation." The impact on firm value from successfully using the Balanced Scorecard should already be imputed into the stock price. As mentioned above, this feature is one of the criteria for a company to be inducted into the Balanced Scorecard Hall of Fame. Thus, gains from increasing the value of the firm from implementing this strategy should be already incorporated into the firm's stock price (H0). However, if the announcement of a firm's induction into the Balanced Scorecard hall of Fame conveys news to the market that this company has achieved economic rents from practicing this management strategy, then there should be a positive impact on the firm's value (H1).

Crabtree and DeBusk (2008) test for evidence of long-term impacts on firm value to firms that implement the Balance Scorecard. They used a long-horizon event study methodology to examine the relationship between BSC adoption and shareholder returns. Using a matched pair design, they showed that firms who adopt the BSC significantly outperform firms that do not adopt the BSC over a three year period beginning with the year of adoption. Their extensive analysis indicates that there is a statistically positive impact of its implementation on firm value. This study extends their research by using event study methodology to test for any market price impact from the induction of a company into the Balanced Scorecard Hall of Fame.

3.2 Methods

We use standard event study methodology to measure the magnitude of the effect of the announcement of a firm being inducted into the Balanced Scorecard Hall of Fame on firm value. Campbell et al (1997) discuss the historical development of event study research and summarize commonly used event study methodologies. Event studies measure the value effect of an event under the assumption of market rationality, allowing us to assume that investor assessment of firm value is accurate and reflected in the firm's stock prices. Consequently, any abnormal returns experienced in the event window can be interpreted as a measure of the impact of the event – the announcement of a firm being inducted into the Balanced Scorecard Hall of Fame – on the value of the firm.

To study whether an event has any impact on the market, we measure event-day cumulative abnormal returns (CARs) and test their statistical significance. We focus primarily on whether or not there was a market price effect of the announcement of a firm being inducted into the Balanced Scorecard Hall of Fame for Executing Strategy within a reasonable time period, called the event window, following the announcement of such news. The event window is the amount of time, usually measured in number of trading days, taken by investors to absorb the impact of a new event. According to the efficient market hypothesis, new information is immediately incorporated into the stock price. Consequently, a short event window is likely to more reliably test the market effect of an event.

An event study methodology is used to determine the price effect of the disclosure of an event (Conrad, 1989; Holland and Wingender, 1997; Groff and Wingender, 2010). Single factor market model parameters are calculated using the estimation period of trading days before the event date to approximate one year of stock returns. The estimation period begins 321 trading days before the event and ends 70 days before it. Across the companies in our sample, these dates cover several market cycles. For this study, we use market model event study method and test the results for significance with the standard residual method. The market model event study method uses a linear regression to predict stock returns; then it compares the predicted value to its actual return. To test whether the cumulative abnormal return is significantly different from zero, we use the standardized cross-sectional method. We use the equally-weighted CRSP (Center for Research in Security Prices) index for the model's market returns. We also employ a generalized sign test, which differs from the simple sign test in that the fractions of positive and negative returns under the null hypothesis are determined by the fractions observed in the estimation period, rather than fixed at 0.5. *Beta*s in the market model are estimated using the method of Scholes and Williams (1977). To statistically test the data, the null hypothesis that the introduction of the event has no effect on the returns of the underlying security will be rejected if the Z-statistic is significant at the 0.10 level or lower in a one-sided test.

The abnormal return (ABR_{jt}) is the difference between the actual return (R_{jt}) on a specific date and the expected return ($E(R_{jt})$) calculated for the firm on that specific date. The expected return is calculated using the parameters of a single index regression model during the pre-event estimation period. The regression model parameters are determined by the following equation:

$$R_{jt} = a_j + b_j R_{mt} + e_{jt}$$

where

R_{jt} = the return on security j for period t,
a_j = the intercept term,
b_j = the covariance of the returns on the jth security with those of the market portfolio's returns,
R_{mt} = the return on the CRSP equally-weighted market portfolio for period t, and
e_{jt} = the residual error term on security j for period t.

Betas (β_j) in the market model are estimated using the method of Scholes and Williams (1977). Ordinary Least Squares (OLS) was used to estimate the slope and intercept parameters for each security in the data set. The market model estimation is adjusted for possible first order autocorrelation with a GARCH(1,1) approach. These estimates were then used to calculate the expected return for the event window, from which the abnormal returns (AR_{jt}) can be calculated as follows:

$$AR_{jt} = R_{jt} - (\alpha_j + \beta_j R_{mt})$$

where R_{jt} is the observed return of security j on Day t and R_{mt} is the return of the CRSP equally-weighted market index on Day t. The estimates of alpha and beta are those calculated above from the estimation period. The average abnormal return (AAR_t) is calculated as the mean AR_{jt} for all N securities:

$$AAR_t = \frac{\Sigma_{j=1}^{N} AR_{jt}}{N}$$

where t is the trading day relative to the event. The cumulative average abnormal return from Day T_1 to Day T_2 ($CAAR_{T_1,T_2}$) is calculated as follows:

$$CAAR_{T_1,T_2} = \sum_{t=T_1}^{T_2} AAR_t$$

Test statistics are calculated as in Patell (1976). Standardized abnormal returns (SAR_{jt}) are defined as follows:

$$SAR_{jt} = \frac{AR_{jt}}{S_{jt}}$$

S_{jt} is further defined as the square root of the security j estimated forecasted variance:

$$S_{jt}^2 = S_j^2 (1 + \frac{1}{D_j} + \frac{(R_{mt} - R_m)^2}{\Sigma_{k=1}^{D_j} (R_{mk} - R_m)^2}$$

where R_{mt} is the observed return on the market index on day t, R_m is the mean market return over the estimation period, and D_j is the number of trading day returns (251) used to estimate the parameters for firm j, and S_j^2 is calculated as follows:

$$S_j^2 = \frac{\Sigma_{k=1}^{D_j} AR_{jk}^2}{D_j - 2}$$

Finally, the test statistic Z_{T_1,T_2} for the null hypothesis that the $CAAR_{T_1,T_2}$ equals zero is defined as:

$$Z_{T_1,T_2} = \frac{1}{\sqrt{N}} \sum_{j=1}^{N} Z_{T_1,T_2}^{j}$$

where

$$Z^{j}_{T_1,T_2} = \frac{1}{\sqrt{Q^{j}_{T_1,T_2}}} \sum_{t=T_1}^{T_2} SAR_{jt}$$

and

$$Q^{j}_{T_1,T_2} = (T_2 - T_1 + 1)\frac{D_j - 2}{D_j - 4}$$

To test the data, the null hypothesis that the announcement of a firm being inducted into the Balanced Scorecard Hall of Fame for Executing Strategy event has no effect on the returns of the underlying security will be rejected if the Z-statistic is significant at the 0.10 level or better.

The generalized sign test is used as a nonparametric test of the impact of the announcements. For each trading day or month in the event periods the number of securities with positive and negative average abnormal returns (cumulative or compounded abnormal returns for windows) is calculated. The generalized sign test statistic controls for the normal asymmetry of positive and negative abnormal returns in the estimation period. The significance levels for the generalized sign test are calculated. The null hypothesis for the generalized sign test is that the fraction of positive returns is the same as in the estimation period. For example, if 46% of market adjusted returns are positive in the estimation period, while 60% of firms have positive market adjusted returns on event day −1, then the test, based on the normal approximation to the binomial distribution, reports whether the difference between 60% and 46% is significant at various levels.

3.3 Data collection/organization

In order to collect the necessary data, the list of current Hall of Fame members was retrieved from the Palladium Group's website (2011). Research was then conducted through an electronic search of news media containing the press release with the date of induction announcement. The time period explored spanned from January 1, 2000 to December 31, 2010. Of the 152 companies currently in the Hall of Fame, the dates of announcement for 142 of them were retrieved from press releases. Eight more dates were retrieved via electronic communication with Robert Howie, the Chief Marketing Officer of the Palladium Group and director of the Balanced Scorecard Hall of Fame. According to Mr. Howie, there was no press release announcement for the first group of initiates. He supplied the date of June 1, 2000 for these initial eight companies.

The sample was sorted by date of announcement, industry, and region. The inductees to the hall fame comprised of U.S. Corporations (20%), Non-U.S. Corporations (42%), and non-profit/governmental organizations (38%). The latter category of inductees does not have equity investors and thus could not be included in the analysis. The event study used the daily return data available on the files of the Center for Research in Security Prices (CRSP). Since CRSP data do not include non-U.S. corporations, we had to also exclude this category from the final sample. Consequently, the sample consisted of only 28 U.S. Corporations listed on the New York Stock Exchange or NASDAQ. Of these, eight companies did not have data during the model's required estimation and event periods. Consequently, the final sample comprised of only 20 firms.

4. Hypotheses testing and discussion of results

4.1 Hypotheses testing

The results for the event study are reported in Table 1. The one-day average abnormal return on Day 0 is 0.43% with a Generalized Sign Z statistic of 2.005 that is statistically significant ($p < .05$). There are 14 firms with positive abnormal returns on the event date of the announcement that the firm has been selected for the Balanced Scorecard Hall of Fame. There are 6 firms with negative abnormal returns on the event date. The event window of the day of the announcement and the subsequent trading day is calculated to see if there is any spill-over news. The event window $[T_0,T_1]$ has a positive cumulative average abnormal return of 0.83% that is statistically significant ($p < .05$). However, after this event period, the windows for one week of trading days after the announcement date of $[T_1,T_5]$ and for two weeks of trading days after the announcement date of $[T_1,T_{10}]$ have negative cumulative abnormal returns (-0.40% and -1.28%, respectively) and they are not significantly different than zero.

Table 1 – The Market Price Effects of the Announcement of Becoming a Member of the Balanced Scorecard Hall of Fame

Event Day	N	Mean CAR (%)	Positive:Negative	Portfolio Time-series (CDA) t	Generalized Sign Z
Hall of Fame Announcement	20				
(-10,-1)	20	2.31	14:6*	1.417$	2.005*
(-5,-1)	20	1.76	16:4**	1.524$	2.901**
(-1,0)	20	0.16	11:9	0.215	0.662
(0,0)	20	0.43	14:6*	0.831	2.005*
(0,+1)	20	0.83	14:6*	0.626	2.005*
(+1,+5)	20	-0.40	12:8	-0.346	1.110
(+1,+10)	20	-1.28	11:9	-0.788	0.662

The symbols $, *, **, and *** denote statistical significance at the 0.10, 0.05, 0.01, and 0.001 levels, respectively, using a one-tail test.

An interesting observation from the results in Table 1 is that there is a statistically significant positive cumulative abnormal return in the 2 weeks leading up to the announcement that a firm is being recognized for its induction into the Balanced Scorecard Hall of Fame. For the one week before the announcement $[T_{-5}, T_{-1}]$ the cumulative average abnormal return is 1.76% ($p < .01$). For the two weeks before the announcement $[T_{-10}, T_{-1}]$ the cumulative average abnormal return is 2.31% ($p < .05$). This movement would suggest that the information of the firms to be inducted into the Balanced Scorecard Hall of Fame is leaking out before the actual announcement. It indicates that the market values this information as very positive and it has a significant impact on firm value. We find that membership in the Balanced Scorecard Hall of Fame is an economically positive event for the average firm.

4.2 Discussion of results

From the results of the event period, each expected result was compared to the actual results. It was then determined whether or not each result (variance) was abnormal. Additionally, it was determined if the variances were significant or not. Significance was determined for the following days: ten, five, and one day before and after announcement as well as the actual announcement day itself.

The results showed significance for only two of the days analyzed: ten days before announcement and five days before announcement. There was a 99% confidence level of the abnormal returns at the 10 day mark and a 95% confidence of the abnormal results five days before announcement. Of the other days analyzed, no significant results were returned.

These results were somewhat different than what was expected before testing. It was assumed that the significant abnormal returns would result after the announcement date but this was not the case. We surmise that there may be a possible leak of information from the companies before induction. The Hall of Fame organizers, the Palladium Group, notify winners of their induction status about 30 days before the actual award, with a requirement that the recipients will make no pre-announcement prior to the actual award ceremony. The organizers believe there have been no inductees that have ever violated this policy.

The only other conceivable reason that was determined was that the small sample size skewed the results. Although there was significance, there were only 20 companies used in the study which makes the results less reliable. It could be the case where the firms used in the study had a correlation that was actually random and not a true correlation. As the years go on and more firms are inducted into the Hall of Fame, a larger pool sample will be available for further testing.

5. Conclusion

In the long-horizon study by Crabtree and DeBusk (2008), the definition of event was rather broad; their study covered the first three years of BSC implementation. In addition, the study used matched-pair sample, which provided relative and yet important contrast between the doers and non-doers of the BSC. Indeed, the contribution of a holistic strategic measurement and management system such as the BSC is practically undeniable. Whether this will surface as a one-time event effect in an event study is contingent on the definition of "event." In this study, the event – induction into the hall of fame – is a culmination of tireless efforts of a company over a period of time (24 months) preceding the event. Any hint of the company's efforts to implement the BSC could have generated earlier, and perhaps gradual, absorption of the news into the company's stock price.

A limitation of this study comes from the final sample size. We couldn't control the sample size; it was limited by the number of inductees into the hall of fame whose shares traded in the U.S. financial markets. Data similar to CRSP can be found for non-U.S. corporations, but may not be comparable to, and thus cannot be combined with, CRSP data. Additionally, since no public information was available regarding the candidates for the hall of fame that were rejected in the same industry as the inductees, we could not use a matched-pair sample.

In the years following the BSC implementation, other things remaining the same, the company is likely to remain financially healthy. However, an event study would not capture this due to the efficient market. Consequently, other ways to explore this question should be considered. One possibility is to create a hypothetical portfolio of all companies actively engaged in the BSC and track its financial performance, controlling other variables, and comparing the portfolio's return with non-BSC-users' matched portfolio with similar risk levels. On the flip side, it would be interesting to see if companies that exited active use of the BSC (due to leadership change, for example) had any material adverse effects on their stock prices. For an effective implementation of a comprehensive dashboard, a great deal of efforts and other resources need to be committed. Therefore, an overriding question for chief executives is whether the balanced scorecard is worth the cost (compared to its value). Future studies to develop insights in a cost-vs.-value comparison of a holistic dashboard would add

to the current knowledge and enhance our understanding of the role and significance of comprehensive scorecards.

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