The Balance Scorecard versus Traditional Measurement System

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The focus of this was to determine whether the Balanced Scorecard would be accepted versus another system. We asked the participants to take a ten question survey in relationship to the Balance Scorecard preference. We analyzed the data using the z-test for proportions. We concluded that the participants who used Balance Scorecard and the participants who did not use it would select either measurement system. In addition, most participants would choose the Balance Scorecard in comparison to any other system and yet, the participants would not switch to Balance Scorecard from another measurement system and vice versa.

INTRODUCTION

The American Balanced Scorecard has been implemented in various international countries throughout the world but has not been a popular option for international organizations (Bedford, Brown, Malmi, & Sivabalan, 2008; Bourguignon, Malleret, & Norreklit, 2004; Braam & Nijssen 2004; Carmona, Iyer, & Reckers, 2011; Chavan, 2009; Cohen, Thiraios, & Kandilorou, 2008; Peddler, 1999; Pezet, 2009; Speckbacher, Bischof & Pfeiffer, 2003; Wegmann, 2007). Previous studies have concentrated on (a) the design and performance impacts of the Balanced Scorecard, (b) implementation practices, and (c) the usage and effect on performance internationally. This study is a continuation of our previous study in which we focused on the impact that national culture played on the implementation of the Balanced Scorecard (McCaskill & Roussas, 2013). In this study, we focused on whether the participants would accept the Balanced Scorecard as the measurement system of choice versus an aligned to the objectives cost-time-quality monitoring system.

We will demonstrate how the participants in four countries view the balanced Scorecard and whether these participants accept the Balanced Scorecard as an adequate measurement system. We also will demonstrate the likeliness of participants to change measurement systems. We will base our analysis on empirical research collected in the U.S., France, England, and Italy.

The Balanced Scorecard

Kaplan and Norton (1997) conceived the Balanced Scorecard originally as a diagnostic tool, which provided managers with a comprehensive assessment of organizational performance. The Balanced Scorecard translates the vision and strategy of the organization (Tayler, 2010). The Balanced Scorecard also provides a framework for a company to pinpoint its strategic objectives and measure its performance

by way of four perspectives; financial, customers, internal business processes, and learning and growth (Tuan & Venkatesh, 2010).

The American Balanced Scorecard is a formal management tool that links strategic objectives with management performance indices (Chiang & Lin, 2009). By using the Balanced Scorecard, managers attempt to capture both financial and non-financial indicators by aligning business activities to the vision and strategy of the organization, improve internal and external communications, and monitor an organization's performance against strategic goals (Sharma, 2009). This system emphasizes leading and lagging indicators, internal performance perspectives, and quantitative and qualitative objectives (Chiang & Lin, 2009). The success of the Balanced Scorecard depends on the clear identification of the financial and non-financial variables and their accurate and objective measurement (Sharma, 2009).

The usage and implementation of the Balanced Scorecard in international settings has been researched by several authors (Bedford et al., 2008; Braam & Nijssen, 2004; Carmona et al., 2011; Chavan, 2009; Cohen et al., 2008; Speckbacher et al., 2003; Sandu, Baxter, & Emsley, 2008). In recent years, the Balanced Scorecard has begun garnering more support from European and Far East countries where less emphasis is placed on financial criteria, which is where the emphasis is placed in Anglo-Saxon countries, and more attention is placed on long-term strategic issues (Butler, Letza, & Neale, 1997; Hui, 2010). This attention to long-term strategy coupled with the desire of companies in these European and Far East countries to measure performance and achieve success has fueled the use of the Balanced Scorecard in recent years (Hui, 2010).

The main purpose of this study was to address the Balanced Scorecard in terms of whether participants in the USA, France, England, and Italy would be willing to accept the Balanced Scorecard or if they would be willing to replace the management system they currently use. The role that national culture plays in its implementation is also addressed. Another purpose of this study is to provide some preliminary insight on how some foreign companies could be successful in implementing the Balanced Scorecard. The research on acceptance by European nations is limited, however, this study adds to research already conducted on the Balanced Scorecard by researchers in other European countries and around the world (Arroyo & Pozzebon, 2010; Bedford et al., 2008; Chang, Tung, Huang, & Yang, 2008; Chavan, 2009; Cohen et al., 2008).

The sampling population consisted of professionals in the Phoenix area, London, Rome, and Paris. The participants were explained the purpose of the survey and were made aware that they had the choice not to participate if they so choose. The survey questions along with the corresponding hypotheses are listed below.

The survey questions and the corresponding hypotheses

1. **To what extend are you familiar with Balanced Score Card (Balance Scorecard)?**

1	2	3	4	5	6	7	8	9	10
Not very familiar								Very familiar	

H1o*: $\rho \leq .50$ - Most people are not aware of Balance Scorecard.*
H1a*: $\rho > .50$ - Most people are aware of Balance Scorecard.*

2. **To what extend have you used Balanced Scorecard?**

1	2	3	4	5	6	7	8	9	10
Not at all								Very much	

H2o*: $\rho \leq .50$ - Most people do not use Balance Scorecard in their work.*
H2a*: $\rho > .50$ - Most people use of Balance Scorecard in their work.*

3. **If you have used it, how effective do you feel is Balanced Scorecard as a measurement and monitoring system?**

1	2	3	4	5	6	7	8	9	10
Not at all								Very much	

H3o*: ρ≤.50 - Most people who used Balance Scorecard in their work do not think that Balance Scorecard is an effective measurement and monitoring system.*
H3a*: ρ>.50 - Most people who used Balance Scorecard in their work think that Balance Scorecard is an effective measurement and monitoring system.*

4. **If you have not used it, how effective do you perceive Balance Scorecard to be as a measurement and monitoring system?**

1	2	3	4	5	6	7	8	9	10
Not at all								Very much	

H4o*: ρ≤.50 - Most people who did not use Balance Scorecard in their work do not feel that Balance Scorecard is an effective measurement and monitoring system.*
H4a*: ρ>.50 - Most people who did not use Balance Scorecard in their work feel that Balance Scorecard is an effective measurement and monitoring system.*

5. **If you have used it, how would you compare the Balance Scorecard with the traditional monitoring system of measuring cost, time, and quality in alignment with the strategic objectives?**

Worse	Not as good	The same	As good	Better

H5o*: ρ≤.50 - Most people who used Balance Scorecard in their work do not think that Balance Scorecard is better than the traditional monitoring system of measuring cost, time, and quality in alignment with the strategic objectives.*
H5a*: ρ>.50 - Most people who used Balance Scorecard in their work think that Balance Scorecard is better than the traditional monitoring system of measuring cost, time, and quality in alignment with the strategic objectives.*

6. **If you have not used it, what is your perception of the Balance Scorecard in comparison to the traditional monitoring system of measuring cost, time, and quality in alignment with the strategic objectives?**

Worse	Not as good	The same	As good	Better

H6o*: ρ≤.50 - Most people who do not use Balance Scorecard in their work do not feel that Balance Scorecard is better than the traditional monitoring system of measuring cost, time, and quality in alignment with the strategic objectives.*
H6a*: ρ>.50 - Most people who do not use Balance Scorecard in their work feel that Balance Scorecard is better than the traditional monitoring system of measuring cost, time, and quality in alignment with the strategic objectives.*

7. **If you were the decision maker, to what extend would you use the Balanced Scorecard versus an aligned to the objectives cost-time-quality monitoring system?**

1	2	3	4	5	6	7	8	9	10
Not at all								Very much	

H7o*: ρ≤.50 – As decision makers, most people would not use the Balance Scorecard versus an aligned to the objectives cost-time-quality monitoring system.*
H7a*: ρ>.50 - As decision makers, most people would you use the Balance Scorecard versus an aligned to the objectives cost-time-quality monitoring system.*

8. **If you were the decision maker, to what extend would you use an aligned to the objectives cost-time-quality monitoring system versus the Balance Scorecard?**

1	2	3	4	5	6	7	8	9	10
Not at all								Very much	

H8o*: ρ≤.50 – As decision makers, most people would not use an aligned to the objectives cost-time-quality monitoring system versus the Balance Scorecard.*
H8a*: ρ>.50 - As decision makers, most people would use an aligned to the objectives cost-time-quality monitoring system versus the Balance Scorecard.*

9. **If you were already using an aligned to the objectives cost-time-quality monitoring system to what extend would you consider switching to using Balance Scorecard?**

1	2	3	4	5	6	7	8	9	10
Not at all								Very much	

H9o*: ρ≤.50 – Most people would not switch to the Balance Scorecard versus an already used aligned to the objectives cost-time-quality monitoring system.*
H9a*: ρ>.50 - Most people would switch to the Balance Scorecard versus an already used aligned to the objectives cost-time-quality monitoring system.*

10. **If you were already using Balance Scorecard, to what extend would you consider switching to using an aligned to the objectives cost-time-quality monitoring system?**

1	2	3	4	5	6	7	8	9	10
Not at all								Very much	

H10o*: ρ≤.50 – Most people would not switch to an aligned to the objectives cost-time-quality monitoring system versus an already used Balance Scorecard system.*
H10a*: ρ>.50 - Most people would switch to an aligned to the objectives cost-time-quality monitoring system versus an already used Balance Scorecard system.*

TABLE 1
ANALYSIS RESULTS

Survey question	Sample size	Critical z value (z_{crit}) at α=.05 + or –	Calculated z value (z_{calc})	Reject Ho (when $z_{calc<} z_{crit)}$ / Do not reject Ho (when $z_{calc>}z_{crit)}$	Accepted Hypotheses
1	59	1.65	2.73	Reject Ho	Most people are aware of Balance Scorecard
2	58	1.65	-3.68	Do not reject Ho	Most people do not use of Balance Scorecard in their work.
3	53	1.65	2.06	Reject Ho	Most people who used Balance Scorecard in their work think that Balance Scorecard is an effective measurement and monitoring system.
4	41	1.65	3.9	Reject Ho	Most people who did not use Balance Scorecard in their work feel that Balance Scorecard is an effective measurement and monitoring system.
5	46	1.65	1.47	Do not reject Ho	Most people who used Balance Scorecard in their work do not think that Balance Scorecard is better than the traditional monitoring system of measuring cost, time, and quality in alignment with the strategic objectives.
6	40	1.65	1.9	Reject Ho	Most people who do not use Balance Scorecard in their work feel that Balance Scorecard is better than the traditional monitoring system of measuring cost, time, and quality in alignment with the strategic objectives.
7	60	1.65	5.58	Reject Ho	As decision makers, most people would use the Balance Scorecard versus an aligned to the objectives cost-time-quality monitoring system.
8	58	1.65	1.84	Reject Ho	As decision makers, most people would use an aligned to the objectives cost-time-quality monitoring system versus the Balance Scorecard.
9	48	1.65	1.15	Do not reject Ho	Most people would not switch to the Balance Scorecard versus an already used aligned to the objectives cost-time-quality monitoring system.
10	48	1.65	0	Do not reject Ho	Most people would not switch to an aligned to the objectives cost-time-quality monitoring system versus an already used Balance Scorecard system.

Table 1 above projects the sample size for each question. Some participants chose not to respond to all questions. The hypotheses were test applying the one tail z test for proportions at the significance level of α=.05, which implies the z critical value for z to be + or – 1.65. Because all of the alternate hypotheses are one tail hypotheses and all stating ρ>.50 the z critical value was +1.65 for all of them. From the results we can conclude that most participants are aware of the Balance Scorecard although most of them do not use it. It was interesting to see that the participants who used the Balance Scorecard thought that the Balance Scorecard is an effective measurement system but not better than any other measurement system. And yet, the participants who did not use the Balance Scorecard thought that the Balance Scorecard is better than any other measurement system. As decision makers, the participants who used Balance Scorecard and the participants who did not use it would select either one of the systems. Based on the results of question 7 though, it appears that most participants would choose the Balance Scorecard in comparison to the any other system. It is also interesting to see, based on the results of questions 9 and 10, that the participants would not switch to Balance Scorecard from another measurement system and they would not switch to another measurement system from using Balance Scorecard.

In conclusion, the participants who used Balance Scorecard and the participants who did not use it would select either measurement system. In addition, most participants would choose the Balance Scorecard in comparison to the any other system and yet, the participants would not switch to Balance Scorecard from another measurement system and they would not switch to another measurement system from using Balance Scorecard.

REFERENCES

Arroyo, P., & Pozzebon, M. (2010). Implementing a Three-Level Balanced Scorecard System at Chilquinta Energía. *International Journal of Case Studies in Management,* 8(2), 1-20.

Bedford, D., Brown, D., Malmi, T., & Sivabalan, P. (2008). Balanced Scorecard design and performance impacts: Some Australian evidence. *Journal of Applied Management Accounting Research*, 6(2), 17-36.

Bourguignon, A., Malleret, V., & Norreklit, H. (2004). The American Balanced Scorecard versus the French Tableau de Bord: The ideological dimension. *Management Accounting Research*, 15(2), 107-134.

Braam, G. J. M., & Nijssen, E. J. (2004). Performance effects of using the Balanced Scorecard: A note on the Dutch experience. *Long Range Planning*, 37, 335–349.

Butler, A., Letza, S. R., & Neale, B. (1997). Linking the balanced scorecard to strategy: Long Range Planning. *International Journal of Strategic Management*, 30, 242-253.

Carmona, S., Iyer, G., & Reckers, P. M. J. (2011). The impact of strategy communications, incentives and national culture on balanced scorecard implementation. *Advances in Accounting*, 27(1), 1-13.

Chang, W., Tung, Y., Huang, C., & Yang, M. (2008). Performance improvement after implementing the Balanced Scorecard: A large hospital's experience in Taiwan. *Total Quality Management & Business Excellence*, 19, 1257-1258.

Chavan, M. (2009). The balanced scorecard: a new challenge. *Journal of Management Development*, 28, 393-406.

Chiang, C., & Lin, B. (2009). An integration of balanced scorecards and data envelopment analysis for firms benchmarking management. *Total Quality Management & Business Excellence*, 20, 1153.

Cohen S., Thiraios, D., & Kandilorou, M. (2008). Performance parameters interrelations from a Balanced Scorecard perspective: An analysis of Greek companies. *Managerial Auditing Journal*, 23, 485-503.

Hui, L. (2010). Building up a performance indicator system of international projects, based on the balanced scorecard. *Management Science and Engineering*, 4(2), 82-91.

Kaplan, R. S., & Norton, D. P. (1997). Using the balanced scorecard as a strategic management system. *Long Range Planning*, 30(1), 75-85.

Peddler, S. (1999, June). A survey of France: Irreconcilable differences? Retrieved from http://www.economist.com/node/322271

Pezet, A. (2009). The history of the French tableau de bord (1885-1975): Evidence from the archives. Retrieved from http://hal.archives-ouvertes.fr/docs/00/49/86/70/PDF/Pezet_revised_-_2.pdf

McCaskill, A., & Roussas, S. (2013). Balance Scorecard and the role of National Culture. Retrieved from http://c.ymcdn.com/sites/www.acbsp.org/resource/collection/A04D586B-B128-4097-A27C-DD1B7E857831/ACBSP_Annual_Edition_Volume_3.pdf

Sandu, R., Baxter, J., & Emsley, D. (2008). The Balanced Scorecard and its possibilities: The initial experiences of a Singaporean firm. *Australian Accounting Review*, 18(1), 16-24.

Sharma, A. (2009). Implementing Balance Scorecard for performance measurement. Retrieved from https://brainmass.com/file/319238/Performance+Measurement.pdf

Speckbacher, G., Bischof , J., & Pfeiffer, T. (2003). A descriptive analysis on the implementation of Balanced Scorecards in German-speaking countries. *Management Accounting Research*, 14, 361-387.

Tayler, W. (2010). The Balanced Scorecard as a strategy-evaluation tool: The effects of implementation involvement and a causal-chain focus. *The Accounting Review*, 85, 1095-1117.

Tuan, L. T., & Venkatesh, S., (July, 2010). Balanced scorecard implementation at Rang Dong Plastic Joint-stock Company (RDP). *Management Science and Engineering*, 5(7), 126-135.

Wegmann, G. (2008). The balanced scorecard as a knowledge management tool: A French experience in a semi-public insurance company. Retrieved from http://ideas.repec.org/p/dij/wpfarg/1080902.html