Journal of Transportation Management

Volume 27 | Issue 1 Article 3

7-1-2016

Keys to successful balanced scorecard implementation and use based on published implementation attempts

Aarom J. Hepler
United States Air Force, AarJamHep@gmail.com

Bradley E. Anderson
Ball State University, beanderson@bsu.edu

Martha C. Cooper
The Ohio State University, Cooper.7@osu.edu

Jeffrey A. Ogden
Air Force Institute of Technology, Jeffrey.Ogden@afit.edu

KEYS TO SUCCESSFUL BALANCED SCORECARD IMPLEMENTATION AND USE BASED ON PUBLISHED IMPLEMENTATION ATTEMPTS

Aarom J Hepler
United States Air Force

Bradley E. Anderson
Ball State University

Martha C. Cooper
The Ohio State University

Jeffrey A. Ogden
Air Force Institute of Technology

ABSTRACT

In recent years many companies have evolved from being centrally located and managed to decentralized, multi-national companies consisting of many separate entities to be strategically managed. In response to this and other changes, such as the need for better measurement of performance, a strategic management tool was developed called the Balanced Scorecard (BSC). This research provides a tool to guide and evaluate BSC implementation. A meta-synthesis approach was used to examine qualitative BSC data available in the literature that suggested eleven keys to successful BSC implementation and use. These keys are then used to benchmark an implementation in a government logistics organization.

INTRODUCTION

"If you're not keeping score, you're only practicing" (Schneiderman, 1999). This statement is meant to emphasize the rationale and need for the strategic management method known as Balance Scorecard (BSC) that was developed by Professor Robert Kaplan, an accounting professor at Harvard University, and Doctor David Norton, a consultant from the Boston area (Niven, 2003). These researchers led a study of a dozen companies to explore new methods of performance measurement with the hypothesis that traditional financial measures of performance were ineffective for successful management. From this study, the BSC was born, with a scorecard balanced through careful selection and implementation of four perspectives: financial, customer, internal-business-process, and learning and growth.

Over the last 15 years, the Balanced Scorecard methodology has matured. It was sharpened by its developers through such books as *The Strategy Focused Organization, Strategy Maps,* and *Alignment* (Kaplan & Norton, 2000, 2004, 2006). Operational experience has also been accumulated through a number of BSC implementations, so that organizations have information available to implement and/or analyze BSCs. Now businesses around the world are asking: "What are the key areas of BSC implementation that an organization must address in order succeed?" The most important implication of this research is to ensure the BSC methodology is understood and properly implemented to "inspire and motivate all employees, set direction for the organization, and encourage alignment from top to bottom" (Niven, 2003).

BACKGROUND

In 1992, Kaplan and Norton published their article "The Balanced Scorecard—Measures That Drive Performance." *Harvard Weekly Review* hailed it as one of the 75 most influential ideas of the

twentieth century (Niven, 2003). Shortly after its introduction, companies around the world started implementing their own BSC and proving its success, such as Mobil, Best Buy, BMW Financial Services, Canon USA, Wells Fargo and many, many more. One example of the BSC's success is Mobil. In 1992, Mobil needed a $500 million infusion from their parent company to sustain operations. By 1994, it was the least profitable company in its sector. Executives knew things needed to change and decided to roll out the BSC. Within a year, Mobil had the top profitability rating with profits 56 percent higher than the industry average, and it was suggested that this was due in part to the BCS. Mobil's success continued to reach new heights, reflecting the number one ranking in profits in 1997—for a third consecutive year. (Kaplan and Norton, 2002) Since its inception, over half of the Fortune 1000 organizations have adopted the BSC (Marr and Schiuma, 2003). It has matured through numerous publications with lessons learned and critical focus areas which should be addressed to improve.

The BSC was developed as a management system using performance measurement to assist decision makers in understanding and accomplishing strategic goals (Kaplan and Norton, 1996). This is accomplished by building and balancing causal-linked objectives into a "balanced scorecard," through which an organization provides a framework that tells the story of the organization's strategy (Niven, 2003). The BSC methodology recognizes the fallacy of relying on just financial measures. Therefore, it integrates those financial measures with three critical operational measures into a structure or "balanced scorecard" with four perspectives: financial, customers, internal business processes, and learning and growth (Kaplan and Norton, 1996). Companies can use this balanced scorecard framework to select a balanced set of objectives and measures to effectively manage their organizations.

The BSC retains financial measures and introduces drivers of future performance. Financial measures are measures of past performance, where the organization has gone, and not necessarily where it is going. These are lagging indicators. They may have been adequate for industrial-age companies for which investments, long-term capabilities and customer relationships were not as critical for success, but financial measures alone are inadequate in today's age of future value through investment in customers, supplies, employees, processes, technology, and innovation (Kaplan and Norton, 1996). By combining financial and performance measures, the BSC provides insight into organizations' operations and assists in implementing stratNiven, 2003).

Since the conception of the Balanced Scorecard (BSC), companies have succeeded and failed at its implementation. Researchers have analyzed and published these results. A review of these results suggests eleven keys to successfully implement and use a BSC, which when followed, will improve the probability of a company's BSC success.

Methodology

A meta-synthesis approach was used to identify and develop the list of key areas for BSC implementation and use. A meta-synthesis is the synthesis or aggregation of qualitative studies. According to Marshall and Rossman (1989) the process of meta-synthesis of qualitative data within this research was based on data reduction and interpretation. This is accomplished by taking "voluminous amounts of information and reducing it to certain patterns, categories, or themes and then interpreting this information by using some schema" (Creswell, 2003).

Data were primarily collected in the format of case studies which evaluated a company's BSC implementation and use. Additionally, data provided through books and articles were also included. Before data reduction commenced, inclusion criteria were established to focus and guide research efforts. First, the inclusion criteria loosely stipulated that data were collected through case studies which analyzed and provided results from a company's BSC implementation and use. Secondly, with the fairly new nature of the BSC concept, no time

stipulations were imposed—a lesson learned immediately following the BSC conception would be just as important as a more recent lesson learned. Finally, all case studies that met the above inclusion criteria were included regardless of geographic region in which studied organizations were located. Advice and guidance published through books and articles from the BSC originators and associates were also utilized only if they met the following inclusion criteria. Inclusion of books and articles were utilized only when the author's research was supported through case studies. Identifying case studies which validated the author's advice and guidance proved to be a simple task since the format for their publications were an expansion of lessons learned throughout BSC implementation and use.

Once the above inclusion criteria on case studies, books and articles had been established for data collection, we followed Tesch's (1990) eight steps for developing an organizing system for unstructured qualitative data.

Qualitative analysis contains questions of feasibility, validity, study selection, mechanism and interpretation. To combat these issues, keys were only identified as keys upon finding confirming evidence from multiple sources through multiple researchers. Banning (2001) describes that the act "of looking at phenomenon from a variety of vantage points" improves the validity of a researcher's findings. Simply stated, a key to successful BSC implementation and use did not become a key unless it was supported by more than one document.

FINDINGS AND DISCUSSION

The meta-synthesis resulted in eleven keys to successful BSC implementation in a logical progression of 8 steps for BSC development and use (Table 1).

The sources of these findings are shown in Table 2, which lists case studies that contributed to one or more keys to successful BSC implementation and use by topic(s) addressed. The keys numbered 4 through 7 are listed under implementation step 4, as they should be established in concert with each other. Implementing them together is needed so that objectives and performance measures are quantified and present causal relationships derived through the implementation of a strategy map. The keys to successful implementation are now described in detail.

Deploy BSC from the Top Down (Step 1)

The BSC is designed to be a strategic management tool, and it requires top-level development, support and involvement. The BSC has primarily proven successful in studies showing it was deployed from the top of the organization. Some BSC consulting agencies even have a standard operating instruction

TABLE 1
KEYS TO SUCCESSFUL BSC IMPLEMENTATION AND USE

Implementation Order	Key to Successful BSC Implementation and Use	
1	1	Deploy BSC from the Top Down
2	2	Establish BSC Framework
3	3	Standardize Within the BSC--but Do Not Standardize Content
4	4	Select the Right Objectives and Performance Measures
	5	Quantify Objectives or Their Performance Measures
	6	Ensure Objectives Present a Causal Pattern
	7	Implement Strategy Maps
5	8	Select Software to Help--Not Hinder
6	9	Select BSC Goals and Timelines for Their Completion
7	10	Simplify Management Systems--Do Not Just Add To Existing Framework
8	11	Cascade the BSC

TABLE 1
META-SYNTHESIS SOURCES AND RESULTS

	Deploy BSC from the Top Down	*Establish BSC Framework*	*Standardize Within the BSC--but Do Not Standardize Content*	*Select the Right Objectives and Performance Measures*	*Quantify Objectives or Their Performance Measures*	*Ensure Objectives Present a Causal Pattern*	*Implement Strategy Maps*	*Select Software to Help--Not Hinder*	*Select BSC Goals and Timelines for Their Completion*	*Simplify Management Systems--Do Not Just Add To Existing Framework*	*Cascade the BSC*
(2GC Active Management, 2006)	X	X		X	X	X	X		X		X
(Active Strategy, 2007a)	X	X		X		X		X			X
(Active Strategy, 2007b)	X	X		X				X	X		X
(Antarkar et al., 2001)	X	X	X							X	
(BSC case study: UNUM corp., 1999)	X	X		X	X				X		X
(Cardemil-Katunaric & Shadbolt)					X	X	X				
(Chen & Chou)	X			X	X	X	X		X		
(Cobbold & 2GC Active Mgmt, 2001)	X	X	X					X		X	X
(Cuganesan et al., 2006)	X	X			X	X	X		X		X
(Excitant, 2005a)				X		X			X	X	
(Excitant, 2005b)	X										
(Lawrie et al., 2001)	X		X					X		X	X
(Malina & Selto, 2001)		X		X		X			X	X	
(Neely, 2007)				X	X						
(Niven, 2006a)			X								
(Othman, 2006)						X	X				
(Paladino, Jul 2007)		X					X	X	X		X
(Schneiderman, 1999)	X			X				X	X		
(Stephen, 2006)	X						X	X	X		X
(Strategy execution and alignment, 2007)	X	X				X					X
(Weinstein & Castellano, 2004)				X					X		

to decline consultation service to companies that do not have this top-level involvement. First, top-level involvement provides benefits by building consensus on the direction in which the company should focus, strengthens commitment towards selected objectives and goals, and simultaneously facilitates team building. Secondly, by having top-level involvement, the execution of the company's initiatives will be supported and financial backing provided. Case studies have shown that top-level involvement and deployment does indeed provide positive results *(UNUM Corporation,* 1999; Active Strategy, 2007b; Antarkar, Cobbold, and 2GC Active Management, 2001; Cuganesan, Ford, and Khan, 2006; Schneiderman, 1999).

Ultimately, BSCs should be deployed from the top-down for two main reasons. The first reason is to ensure management has come to a consensus on their strategic goals, objectives and measures. The second reason the BSC is deployed from the top-down is so it will be formulated to best fit the corporation as a whole and carry with it support and financial backing.

Establish BSC Framework (Step 2) Implementing a BSC can be a slow, laborious process and requires a strong implementation framework, as well as vehicles to aid in monitoring and continually improving the BSC's performance. Without these, implementation efforts may fail, or if a BSC is successfully implemented and not continuously improved, it could become stagnant.

The UNUM Corporation utilized innovative vehicles to motivate employees and monitor the company's performance and direction. One way UNUM ensured their BSC met the needs of their customers was through a benchmark survey. This survey measured employees' perceptions of how the company was doing at meeting its vision of "... having the mind of a customer and the pride of an owner;" and by having employees evaluate eleven different areas, such as "live by our word" and "strive together towards goals." Ultimately, the company's goal was to increase the number of employees who believed these behaviors were being practiced and decrease the number of those who did not.

Secondly, UNUM created trust workshops and a 360 degree appraisal system to help further ensure that managers were aligned to the corporate BSC. A third motivator, which UNUM agreed was one of their biggest successes, was the 1998 Goals Stock Option Plan. This plan provided employees with a stock option grant and was believed to motivate employees because their actions now affected themselves fiscally. UNUM also incorporated an annual bonus for meeting company goals. The combination of the stock option plan and the bonus for meeting the annual goals provided the motivation for the employees to reach both short and long-term goals. Another key part of UNUM's BSC development was a continuous improvement processes. These processes included development of best practices, regular reviews to evaluate the company's BSC, obtaining feedback from their managers, and publishing questions. Evidence of the improvement in the company through these innovative vehicles was presented in UNUM's 1997 Annual Report, which stated that the company was "closer than ever to its vision...of world leadership in disability and special risk insurance." (*UNUM Corporation,* 1999)

Standardize Within the BSC—But Do Not Standardize Content (Step 3)

Prior to developing a BSC, standards should be established. In addition to identifying areas to standardize, this key also identifies what not to standardize when cascading the BSC.

Standardizing within a BSC can be accomplished in different areas such as standardizing vocabulary to define BSC components to increase communication as well as understanding (i.e. what exactly do the terms vision, objectives, measures, initiatives, etc. mean?) and standardizing design process and review cycles to promote continuous improvement. However, standardizing BSC content in cascaded scorecards, in the form of mandatory objectives and measures, risks diminishing employee buy-in and potentially reduces the ability to further optimize the cascaded scorecard through its individualization.

Nivenfelt felt so strongly on the topic of standard vocabulary that he wrote an entire article titled "The Importance of Terminology to Your Balanced Scorecard." In his introduction, he quoted Karl von Clausewitz, a German General:

> "The first task of any theory is to clarify terms and concepts that are confused…Only after agreement has been reached regarding terms and concepts can we hope to consider the issues easily and clearly, and expect others to share the same viewpoint…." (Niven, 2006a).

The importance of a standard vocabulary extends into determining a set of BSC standards. Niven explained that "what passes for measures in your shop, may be a key performance in another," and having differences such as these "can have a profound impact on the success of your BSC." He concluded by stating that an organizational team should invest in a terminology exercise, so they can

> "agree on specifically [what the common terms] mean..., construct a solid foundation from which to launch both their Scorecard building efforts and educational initiatives..., and finally and possibly most importantly, give team members insight into unique perspectives held by their colleagues...leading to a stronger team." (Niven, 2006a)

Two case studies completed by 2GC Active Management on companies disguised as "Crosshouse" and "TRURO" evaluated the area of standardization. (Crosshouse is a multi-national fast-moving consumer goods company and TRURO is a multi-divisional oil firm based in the Middle East.) Through their study of Crosshouse, 2GC concluded that a standardized approach

> "facilitated auditing of BSC design work, and also built a common vocabulary within the organization.... This helped promote internal discussions concerning strategy, and also made it easier for units to learn about their new unit's strategy and performance." (Lawrie, Cobbold, and 2GC Active Management, 2001)

Conversely, the case study on TRURO found that a less standardized "default design approach" was set in place for cascading the BSC to ensure consistency throughout the project. They found that using a common design helped with "communication and performance issues both during and after the design project." However, with this benefit, the company also incorporated a standardized "objective based BSC architecture," which bordered on the negative aspect of standardized content. Because of this, 2GC Active Management concluded TRURO "reduced the availability of the developers of the...BSC...to ensure alignment with the overall goals of the business." (Antarkar et al., 2001).

Select the Right Objectives and Performance Measures (Step 4)

The selection of the "right" objectives is crucial to a company's BSC success (Schneiderman, 1999). Commonly, executives, who have historical knowledge and know what areas their company must succeed in to be profitable, meet to discuss and select their BSC objectives and performance measures. But there are scientific methods available to also make these selections. One such way is through the use of a quality function deployment (QFD) (Schneiderman, 1999). QFD was introduced in 1972 by Yoji Akao to aid in physical design. Since then, it has also been shown to be valuable in non-physical designs. Literature revealed a small study where QFD was used on the systematic selection of textbooks, as well as a more applicable, larger study where QFD was used in developing a BSC for an air cargo terminal. By applying a scientific method for selection, such as the QFD, users could "concurrently engineer towards the goal of ensuring the satisfaction of shareholders, employees and external customers" (Chen and Chou, 2006).

Quantify Objectives or Their Performance Measures (Step 4)

A company should also take care to measure what they want to manage and to not manage what they currently measure (Excitant, 2005b; Kaplan and Norton, 2004). There were two important areas noted in this section when selecting BSC objectives or their performance measures. First, they need to be quantified to clearly relay the priorities of the

company to their employees and permit statistical analyses about a BSC's success to stay the course, change directions or simply convince sponsors of the BSC's success. Secondly, when numerous measures are identified to represent a single objective, those measures should be weighted to reflect each measure's importance on the objective. This permits organizations to prioritize their efforts and resources as well as properly analyze hypothesized relationships.

Under the BSC framework, there are two reasons why objectives or performance measures require quantification. First, managers sometimes choose "vague and nebulous terms" to identify an objective (Niven, 2003). Selecting quantifiable objectives (or performance measures when a vague objective is named) provides employees at all levels with the ability to clearly understand the objective. This permits "all employees [to] focus their energies and day-to-day activities on the [now] crystal clear goal" (Niven, 2003). Secondly, quantified objectives (or performance measures) permit management to question and test their hypothesized cause and affect relationships.

Ensure Objectives Present a Causal Pattern (Step 4)

Objectives should be selected in such a fashion that they are all linked through cause-and-effect (Kaplan and Norton, 1996). The rationale behind this relationship is that a properly constructed scorecard should tell the story of the business unit's strategy through a sequence of relationships. According to Drucker, "The most common source of mistakes in management decisions is the emphasis on finding the right answer rather than the right question" and BSC is no exception (Schneiderman, 1999). It is not enough to simply select objectives that meet the criteria within each of the BSC's perspectives. Emphasis should be placed on selecting objectives which "...identify and make explicit the sequence of hypotheses about the cause-and-effect relationships so that they can be managed and validated" (Kaplan and Norton, 1996). This philosophy of the obligatory cause-and-effect relationship throughout the BSC should link all objectives, from the bottom of the strategy map to the top.

> *"The failure to develop a causal model of the strategy will cause organizations to develop performance measures that are not tied to how the organization intends to compete. The outcome is a collection of measures that is fragmented and adds little value add to the organization. The BSC ends up becoming an exercise in developing more paper work and information collection that does not have a strategic impact*."(Othman 2006).

Implement Strategy Maps (Step 4)

Another critical part of the BSC, a strategy map, is a necessary tool used to "align priorities of different domains and to help balance the tangible and intangible elements in the overall strategic plan" (Kaplan and Norton, 2004). In 1982, Brookings Institute showed that the majority of an organization's value was tangible—62 percent (Blair, 1995). Lev estimated that by the end of the twentieth century, tangibles would account for only 10 to 15 percent of a company's value (Webber, 2000). While the developers identified the strategy map to assist in the balance of tangibles and intangibles, it has also proven to be a globally recognized form of understanding the user's strategy and causal objective measures.

Kaplan and Norton explained how a strategy map can help organizations align their strategy and its characteristics:

> *"Physically, a strategy map is a single page split into four horizontal bands or rows – one for each perspective, plus information listing areas of alignment, such as strategic change. Each band displays its area's priorities with the names circled. These priorities range from long-term shareholder value on the financial band to the customer value proposition on the customer band. Arrows link related subjects, up and down, from one band to another. The result is one page that describes the company's value proposition and growth strategy, plus the linkages that explain how those objectives will be achieved." (Kaplan and Norton, 2004)*

Prior to using a strategy map as a part of the BSC, organizations experienced negative side effects. "Organizations went overboard with the number of measures they adopted." Furthermore, "not only were there too many to measure and manage, they were often only marginally relevant or conflicted with other measures." The absence of scorecards also contributed to a lack of required linkage between the strategy and objectives. (Armitage and Scholey, 2004) These effects could still hold true for organizations that do not apply them today.

Select Software to Help— Not Hinder (Step 5)

Software should help—not hinder—the efforts to manage business processes. This concept is especially important when implementing and using a BSC, which has structural roots in a company's ability to capture and monitor measurement data with appropriate software. Should software become a roadblock to success rather than an enabler, discouragement and non-productivity becomes inevitable.

South Florida Miami-Dade County's Office of Strategic Management apparently knew software was a key to strategic success when they selected Active Strategy Enterprise™ software. This software permitted drilldown capability starting with top-tier objectives and ending with the supporting measures. (Active Strategy, 2007b) In addition to the ease of data review throughout the different levels and data collection, this system also facilitated "deeper and more beneficial reviews of performance, allowing key managers to focus not only on how they have been performing to date, but much more importantly on where performance levels need to be and how they will get there." (Active Strategy, 2007b)

The literature showed that helpful software is required to help mitigate difficulties in BSC implementation and use. It provides the capability to capture and utilize all BSC data. Helpful BSC software also increases employee buy-in and moral which could lead to increased productivity.

Select BSC Goals and Timelines for their Completion (Step 6)

Like objectives, goals and their timelines are commonly selected subjectively. Arthur M. Schneiderman, independent consultant on process management, contended that:

> "...rather than negotiating scorecard goals, they should be based on knowledge of the required corrective actions, or absent that knowledge the capabilities of the improvement process as captured in an empirical model such as the half-life method" (Schneiderman, 1999). Schneiderman also expanded this reasoning stating that if a goal is too low, the company will underperform relative to its potential; if the goal is too high, the company will underperform according to others' expectations. In either circumstance, a non-desirable outcome will be the result." (Schneiderman 1999)

In the case study of UNUM Corporation, goals were believed to have a strong impact on obtaining desired results. UNUM selected and referred to their goals as 'Goals 1998.' Farrar commented, "Specifying a year by which we reach our goals worked well...because it gave employees something definite to aim for..." (UNUM Corporation, 1999). The case study on UNUM Corporation showed the benefit of establishing goals which were met by a corresponding timeline, but it also demonstrated that they may have also been doing themselves an injustice if those goals were established below the company's potential.

Operating without the establishment of goals would lead to organizations just going through the motions. To maximize potential and results, not only do goals need to be set and worked towards, the "right" goals need selected.

Simplify Management System — Do Not Just Add To Existing Framework (Step 7)

This step is important in managing precious resources and obtaining employee buy-in. Niven wrote that "the key to BSC success lies in selecting, and measuring, just those processes that lead to

improved outcomes for customers, and ultimately allow you to work toward your mission" (Niven, 2002). The BSC was designed to operate as the central management system within an organization. Maintaining current measures until the new BSC is online could prevent a management gap. However, a decision to add the BSC to the existing framework with no intention of making it the primary management system ultimately increases the number of measures which must be tracked. This increase could lead to reduced employee buy in and diluted results to the decision makers.

2GC Active Management echoed the viewpoint that the BSC should be the central management system by stating the "BSC...is designed to improve focus on what is important.... This increases clarity and reduces ambiguity." TRURO chose not to replace their current management system with their BSC, and "the introduction of additional processes [without reduction in current measures] did not lead to simpler or more effective business processes." (Antarkar et al., 2001) In a rare case where a company identified through implementation of a BSC that they were in fact not using enough measures to monitor operations, measures could be added. For Crosshouse "new information was relevant and valuable. This offset resistance to [the] increase..." (Lawrie et al., 2001).

Only measures that lead to improved outcomes for customers, and ultimately allow an organization to work toward their mission, should be utilized. By focusing on other than these measures, companies consume precious resources and may decrease moral.

Cascade the BSC (Step 8)

Without cascading the BSC, the executives would not know where the company is trying to go and what it is trying to achieve. By cascading we mean translating the corporate-wide scorecard down to first business units, support units or departments and then teams or individuals. Without this translation of corporate-wide strategy down to the lowest tier, workers would be left in the dark and unable to direct their efforts accordingly. Niven opened his commentary on cascading the BSC to create alignment by describing a story about former President Johnson's tour of Cape Canaveral during the space race to the moon. Niven says that:

> *"During his visit, the president came across a man mopping the floor and asked him, "What's your position here?" The gentleman looked up from his pail and proudly replied, "I'm sending a man to the moon." Such is the power of alignment, when every person, regardless of role or rank, possesses a clear line of sight between his or her job and the organization's loftiest goals*." (Niven, 2003)

Niven quantified this point by including the results presented by consulting firm Watson Wyatt that only 49 percent of employees understood their company's goals, a 20 percent decrease from a study completed just three years earlier (Niven, 2003).

Cascading scorecards down to the team and even the individual level provides employees the understanding as to the critical nature of their contributions towards the company's strategic vision. Furthermore, this understanding could even encourage employees to develop personal measures to assist the company in achieving their strategy. Without establishing goals, even at the lowest levels, companies could fail to reach their potential.

How to Use the Eleven Keys

Table 1 suggests an ordering to be used with implementing a BSC. Using this ordering scheme is important in BSC implementation, as each sequential step relies on success in the previous step to be most effective. For example, if you don't deploy the BSC from the top down with the full support of leadership, it's unlikely adequate resources will be allocated for steps 2 through 11 to be successful. The keys numbered 4 through 7 are listed under implementation step 4, as they should be established in concert with each other. Implementing them together is crucial so that objectives and performance measures are adequately quantified and present causal

relationships derived through the implementation of an organization-wide strategy map.

IMPLEMENTATION

Determining the key BSC areas an organization must address and succeed in to optimize its use was the first of two goals of this research. The second goal was to assess an organization with these key areas. This was done for Headquarters Air Force Materiel Command (AFMC) to determine if their BSC implementation and use aligns with what the literature indicates is required to obtain optimal results.

This assessment was done through an analysis of both historical and perceived differences between their implementation and the eleven keys to successful implementation. The historical approach identified specifics within each key area based on data provided by the organization that oversees AFMC's BSC and data obtained from their strategic organizational web page. Data was obtained in the form of presentations, meeting minutes, and instructions. Perceived differences were identified by comparing the guidance developed within each of the eleven key area with AFMC's specifics for each of those key areas. Recommendations were provided to AFMC by identifying gaps or perceived differences between AFMC's BSC and the literature's guidance.
To provide a specific assessment, AFMC was assigned one of three ratings within each of the eleven key areas. The three possible ratings were:

1. Low - critical area within a key was missed
2. Medium - met the basic intent of the key
3. High - fully met the intent of the key

Specific instances of both high and low performance were identified within each of the key areas in order to highlight successes, as well as elements upon which improvement could yet improve the existing BSC program. This assessment with recommendations was provided in a formal report to AFMC for actions they deem most appropriate. Although specific results of AFMC's assessment can't be shown, we'll discuss significant general results that showed the greatest impact on their BSC program. Although AFMC established a BSC infrastructure which developed governance and processes, the BSC program was not cascaded down to the lower tiers. This alone is enough to result in implementation failure. However, combine this with failing to ensure that objectives present a causal pattern while chasing an ever-changing array of metrics and the result becomes clear. This AFMC BSC implementation effort was doomed to failure because significant dimensions were never completed. This effort eventually lost funding support, due to lack of progress.

CONCLUSION

We identified 11 keys for BSC success, based on reviewing cases found in the literature. Understanding the BSC concept and its key areas to successful implementation and use are critical in developing or evaluating a company's BSC. The contribution of this research is based on a meta-synthesis of several implementations of the BSC within firms. A list of BSC implementation and evaluation key focus areas has not been previously compiled, to our knowledge. The managerial implications of using these key focus areas can be seen in this research through the successful and unsuccessful examples depicted in the development and description of the eleven BSC keys, as well as the consistent outcome shown in the implementation case.

REFERENCES

2GC Active Management (2006), "Organizational Performance Management in a UK Insurance Firm: Aligning Individual's Goals with the Business Strategy," 4 October 2007 http://www.2gc.co.uk/pdf/2GC-IIC.pdf

Active Strategy (2007a), "Driving Strategic Transformation and Embedding Accountability at TriHealth, Inc.," 11 October 2007, http://www.activestrategy.com/pdfs/TriHealth_Case_Study.pdf

Active Strategy (2007b), "Miami-Dade County: Becoming a Results-Oriented Government with ActiveStrategy Enterprise," 9 October 2007 http://www.activestrategy.com/about_us/miami_dade_case_study.aspx

Antarkar, N., Cobbold, I. and 2GC Active Management (2001), "Implementing the Balanced Scorecard—Lessons and Insights from a Multi-Divisional Oil Company," 1 October 2007 http://www.2gc.co.uk/pdf/2GC-Truro.pdf

Armitage, Howard and Scholey, Cam (2004), "Hands-on Scorecarding: How Strategy Mapping Has Helped One Organization See Better Its Successes and Future Challenges," *CMA Management*, 78(6).

Blair, M. M. (1995), *Ownership and Control: Rethinking Corporate Governance for the Twenty-First Century*, Brookings Institute Press., Washington, D.C., ISBN: 0815709471.

Busha, C. H. and Harter, S. P. (1980), *Research Methods in Librarianship Techniques and Interpretation,* New York: Academic Press.

Cardemil-Katunaric, G. and Shadbolt, N. (2006), *The Balanced Scorecard as a Spontaneous Framework in an Agricultural Hybrid Cooperative Under Strategic Change: A Case Study in the New Zealand Kiwifruit Industry*, 1 October 2007 http://www.ifama.org/tamu/iama/conferences/2006conference/Symposium%20Presentations/Ombu%202/Ombu%202/S3_O2/S3_O2_1132_Shadbolt.pdf

Chen, M. C. H. and Chou, S. Y. (2006), "A BSC Framework for Air Cargo Terminal Design: Procedure and Case Study," *Journal of Industrial Technology,* 22(1)

Cobbold, I. and 2GC Active Management (2001), *Implementing the Balanced Scorecard—Lessons and Insights from a Financial Services Firm Balanced Scorecard Case Study—Arran Ltd.*, 1 October 2007 http://www.2gc.co.uk/pdf/2GC-Arran.pdf

Creswell, J. W. (2003), *Research Design Qualitative, Quantitative, and Mixed Method Approaches*, Thousand Oaks, California: Sage Publications.

Cuganesan, S., Ford, G. and Khan, H. (2006), *Using Strategy Maps and the Balanced Scorecard Effectively: The Case of Manpower Australia,* 9 October 2007 http://www.mgsm.edu.au/download.cfm?DownloadFile=5CEAF106-9185-1122-50ED311B730670BB

Excitant. (2005a), *The Case for Balanced, Structured, Performance Management*, 15 November 2007 http://www.excitant.co.uk/

Excitant. (2005b), *Strategy Only Sticks if You Have Active Support and Involvement from the Top…and Follow Through*, 15 November 2007 http://www.excitant.co.uk/

Griffis, Stanley E. and Cooper, Martha C. and Goldsby, Thomas J. and Closs, David J. (2004) "Performance Measurement: Measure Selection Based Upon Firm Goals and Information Reporting Needs," *Journal of Business Logistics*, 25 (2): 95-118.

Kaplan, R. S., and Norton, D. P. (1992), "The Balanced Scorecard—Measures that Drive Performance," *Harvard Business Review*, 70(1): 71-79.

Kaplan, R. S., and Norton, D. P. (1996), "Using the Balanced Scorecard as a Strategic Management System," *Harvard Business Review, 74*(1): 75-85.

Kaplan, R. S., and Norton, D. P. (2002), *The Strategy-Focused Organization.* Harvard Business School Press.

Kaplan, R. S., and Norton, D. P. (2004), "*Strategy Maps Converting Intangible Assets Into Tangible Outcomes*, Boston: Harvard Business School Press.

Kaplan and Norton (2006), *Alignment: Using The Balanced Scorecard To Create Corporate Synergies,* Harvard Business School Press, Boston, MA

Lawrie, G., Cobbold, I. and 2GC Active Management (2001), *Strategic Alignment: Cascading the Balanced Scorecard in a Multi-National Company Balanced Scorecard Case Study—Crosshouse,* 1 October 2007 http://www.2gc.co.uk/pdf/2GC-Crosshouse.pdf

Makridakis, Spyros and Wheelwright, Steven C. and Hundman, Rob J. (1998), *Forecasting: Methods and Applications,* John Wiley and Sons Ltd.

Malina, M. A., and Selto, F. H. (2001), "Communicating and Controlling Strategy: An Empirical Study Of The Effectiveness of The Balanced Scorecard," *Journal of Management Accounting Research, 13*(1): 47–90.

Marr, B. and Schiuma, G. (2003), "Business Performance Measurement-Past, Present and Future," *Management Decision,* 41(8): 680-687.

Marshall, C., and Rossman, G. B. (1989), *Designing Qualitative Research*, Newbury Park, California: Sage Publications.

Mooraj, S., Oyon, D., and Hostettler, D. (1999), "The Balanced Scorecard: A Necessary Good or an Unnecessary Evil?," *European Management Journal, 17*(5): 481-491.

Neely, A. (2007), "The Search for Meaningful Measures," *Management Services,* ABI/INFORM Research

Niven, P. R. (2002), *Balanced Scorecard Step by Step: Maximizing Performance and Maintaining Results*, John Wiley and Sons.

Niven, P. R. (2003), *Balanced Scorecard Step-By-Step for Government and Nonprofit Agencies*, John Wiley and Sons.

Niven, P. (2006a), *The Importance of Terminology in Your Balanced Scorecard*, 2007 http://balancedscorecard.biz/articles/Importance_of_Terminology.pdf

Niven, P. (2006b), *Training for Balanced Scorecard Success*, 9 December 2007 http://www.senalosa.com

Othman, Rozhan (2006), *Balanced Scorecard and Causal Model Development*, Emerald Group Publishing Limited.

Paladino, B. (Jul 2007), 5 Key Principles of Corporate Performance Management, *Strategic Finance,* ABI/INFORM Research.

Schneiderman, A. M. (1999), "Why Balanced Scorecards Fail," *Journal of Strategic Performance Measurement,* 2(6): 11.

Stephen, B. (2006), *Beating the Balanced Scorecard Blues*, 7 March 2007 http://www.wipfli.com/Wipfli/Impact_Magazine/Industry_Archive/Health_Care/General/200601HCA_Balanced_Scorecard_Troubleshooting.htm

Tesch, R. (1990), *Qualitative Research Analysis Types and Software Tools*, New York: Falmer Press.

UNUM Corporation (1999), *Building and Implementing a Balanced Scorecard Case Study*, 13 December 2007 http://www.exinfm.com/training/pdfiles/Balanced Scorecard Cs.pdf

Webber, A. M. (2000), New Math for a New Economy, *Fast Company,* 214.

Weinstein, L. B., and Castellano, J. F. (2004), "Scorecard Support," *Management for Strategic Business Ideas.* 78(2): 18.

Yin, R. K. (1994), *Case Study Research Design and Methods*, Thousand Oaks: Sage Publications.

BIOGRAPHIES

Major Hepler is the Exercise Section Chief for Plans Operations and Exercises Division, Logistics Directorate, Special Operations Command Central, MacDill AFB, FL. Major Hepler provides real world and exercise logistics support to joint and partner forces throughout the Middle East. He received his MS in Logistics and Supply Chain Management at the Air Force Institute of Technology. His expertise covers deployment policy, supply operations, fuels management, vehicle management and distribution operations at squadron and major command levels. Email: AarJamHep@gmail.com

Professor Anderson is an Assistant Professor in the Department of Information Systems and Operations Management, at Ball State University, Muncie, IN. He earned his PhD in Operations Management from Indiana University – Bloomington. He has published in such journals as the Journal of Transportation Management, Computers and Industrial Engineering, Mathematical and Computer Modeling, and the Journal of Defense Modeling and Simulation. He was a Logistics Readiness Officer, during a 23-year United States Air Force career. He is now the 'Point Person' for the Undergraduate Logistics and Supply Chain Management Major at the Miller College of Business, Ball State University. Email: beanderson@bsu.edu

Professor Cooper received her Ph.D. from the Ohio State University where she is a Full Professor in the Department of Marketing & Logistics, Fisher College of Business. She has co-authored three books on customer service, partnerships and strategic planning for logistics, and conducts an annual study on women in logistics. She has published in such journals as Industrial Marketing Management, The International Journal of Logistics Management, The International Journal of Physical Distribution and Logistics Management, The Journal of Business Logistics, The Journal of Classification, The Journal of Marketing Research, The Journal of Personal Selling and Sales Management, Applied Psychological Measurement and Psycho-metrika. Email: cooper.7@osu.edu

Professor Ogden is an Associate Professor of Logistics and Supply Chain Management at the Air Force Institute of Technology in the Department of Operational Sciences. He received his Ph.D. from Arizona State University. He has published in such journals as International Journal of Production Research, Quality Management Journal, International Journal of Applied Logistics, Supply Chain Forum: An International Journal, International Journal of Production Research, The International Journal of Logistics Management, and the Journal of Purchasing and Supply Management. Email: Jeffrey.Ogden@afit.edu.