

A BALANCED SCORECARD APPROACH TO PROJECT MANAGEMENT LEADERSHIP

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ABSTRACT

In this paper, we discuss ways that project managers can use measurement (using a tool such as the balanced scorecard) to improve the operational performance of their project teams. Project managers will see that attaching measures to outcomes clarifies project objectives and supports well-defined and well-communicated links between the project vision and business strategy. These also enable project managers to more effectively monitor and control project activities for the purpose of improving project results. This paper reinforces the importance of strategy as an added dimension to the traditional triple constraint.

We present this information through our comparison and survey of two projects undertaken by project teams at a large North American global telecommunications organization. The results of our study provide early evidence of the usefulness of the balanced scorecard (BSC) as a tool for improving project management effectiveness. Our study also shows that balanced performance measurement is an important technique for establishing on-strategy project delivery. We propose using this technique primarily as an extension of current practices by adding a strategic measurement dimension.

Keywords: balanced scorecard; leadership; project management practice; measurement theory; business performance management.

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Introduction

There are numerous reports that document cases of projects, particularly information technology (IT) projects, delivered substantially beyond the due date and well above the outlined budget. One such project is the United Kingdom's (UK) notorious IT project Taurus. It was abandoned after it amassed UK£500 million in costs and produced few results. Project reviewers found a lack of project leadership and project definition as factors in causing Taurus's failure (Drummond, 1998). Such failures are often publicly touted by the popular business press in articles that frequently seem intent on vilifying the project management field. Such attention gives the public a lingering negative impression of our field's strategic value.

Project management researchers, however, as the current literature shows, widely recognize the important role organizational leaders play in envisioning a preferred future that encompasses both general strategy and change management. For example, Briner, Hastings, and Geddes (1996) state, "The most significant success factors for project teams is that they have a common and shared idea of what difference they are trying to make as a result of the project" (p. 89). To develop a preferred project outcome through exploratory dialogue with various project stakeholders, organizational leaders must have a clear picture of the strategy the company will implement to achieve the preferred outcome. The leadership's purpose is to define and scope a project so that its reason-for-being is well understood by those who can influence the project's successful execution. A leader's vision helps the project team articulate the project's objectives, goals, and products.

As a solution to the dilemma of lacking a clear project vision, Baccarini (1999) and Davis (1995) offer the Logical Framework Method (LFM) as a tool for defining project success. We agree with the solution offered by these researchers; but we argue that this method can be strengthened if organizations implement it within a strategic measurement framework. Doing so enhances the clarity of the objectives the team seeks to accomplish. And in doing so, organizations could help project teams connect specific project objectives to current strategic gaps. By linking the outcomes of a project with a measurable vision, organizations can enhance the commitment of the individuals on its project teams to their projects.

As far back as the mid-1980s, Tuman (1986) and Cleland (1986) concurrently recognized — and simultaneously presented findings — that contradicted the then-common notion that on-time, on-budget, and on-quality were the most strategically important and valid measures of project success. Yet now, almost two decades later, professionals in our field remain quite focused on this legacy and often seem committed to only using this traditional triple-constrained model. This dependency may indicate our field's lack of finding a definitive alternative to the traditional model.

Our review of the current literature revealed that numerous projects are perceived as failing because of poor leadership and enfeebled articulation of the project vision or a lack of meaningful business impact. These perceptions show the ways that organizations have failed to align their overall strategic goals with the objectives of their individual projects. This information may also reflect how quickly business strategies change and evolve in relation to project timelines. Nonetheless, any tool or technique that can help organizations develop better-articulated strategic goals and objectives and more concrete project visions is a valuable leadership tool. We assert that the balanced scorecard (BSC) could serve as one such tool.

In our ensuing argument we identify the challenges involved in providing project leaders with the tools, methods, and information they need to develop a clear intersection between business strategy and project goals. We also recognize that business environments may be too dynamic to permit the organization to continually articulate and update the intersections between its business strategy and a particular project's goals. Hence, we see the potential for a possible gap in project management practices to emerge, one that arises at the point where these intersections are not well understood and where the ill-defined project vision is internalized by the project team's members and acted on to the organization's ultimate detriment.

Best practice implicitly assumes that project teams have a clear vision of the project that evolves from a process led by the executive sponsor and a project leader. This is the process used in project management's traditional triple-constrained model, which — as mentioned — focuses on time, budget, and quality outcomes and presupposes that all projects that are approved are therefore strategic. To negate this assumption creates communication and decision-making challenges that are perhaps new to many project managers. What if the projects were not strategic? Or what if the strategy evolves more quickly than the project's timelines? If over time a project that was once a highly strategic imperative devolves into a less strategic initiative, project managers may find themselves lost: Traditional business case methods do not provide guidance on ways to confront this situation. Such strategic ambiguity creates severe leadership challenges.

In response, project managers may try to create an illusion of tangible progress by relying more heavily upon traditional on-time, on-budget, and on-quality measures—yet this tactic fails to address the strategy ambiguity or establish appropriate project goals. Organizations accepting this approach would divorce their projects, in regard to an on-strategy measure, from critical executive insight and leadership. The centrality of this point is best illustrated with a diagram that creates a quadruple constraint by inserting into the pyramid of the traditional three constraints an *on-strategy* dimension central to managing project success.

A major premise of this paper is that the on-strategy aspects of project management are clearly the shared

responsibility of the project sponsor and the project managers. This shared responsibility demands that these individuals wrestle with this issue via an ongoing dialogue in order to create a process that resolves any ambiguities. The traditional triple constraints, however, are more clearly the direct responsibility of the project manager and project team, once the project sponsor agrees to the project. Figure 1 notes that the connection of the newly added on-strategy dimension is central to the achievement of the other three traditional constraints.

The problem of providing project leaders with the tools and process needed to resolve any potential gaps when emerging strategy does not obviously or consistently intersect with existing project goals is the focus of our proposed change to the current triple-constraint methodology.

To support our conclusions, we are reporting on our previous study of two projects. In this study we tested our above-mentioned proposition. Our research goal was to show that when an organization uses a BSC framework, it could improve the ways it develops its project goals and objectives because the BSC enables an organization to create a better link between project vision and business strategy, which results in more successful outcomes. We also wanted to learn which areas of current project management practice were impacted the most by an organization's use of a BSC. We wanted to discover if the BSC actually improved the project team's ability to make positive strategic decisions.

Project Leadership, Project Vision, and the BSC

To better understand project management, we believe practitioners must distinguish between the management of a project (the day-to-day operations of a project plan in pursuit of an agreed set of outcomes—on-time and within budget) and project leadership (the higher pursuit of the project team's creating purposeful, strategic action that will augment the organization's business strategy and achieve results within the norms and values of the organization).

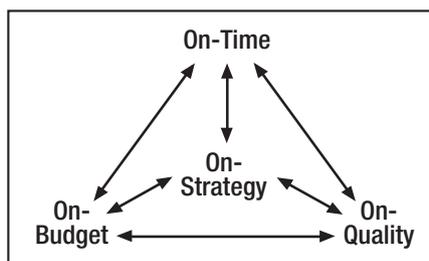


Figure 1. A quad constrained project management model

The current literature shows a general agreement among researchers about the differences between leadership and management (Bennis, 1989; Kotter, 1990; Zaleznik, 1977). There is also an extensive body of literature that has already explored this domain; exploring these differences in this paper has limited utility. What is important to note is that, in general, researchers agree that leadership must exert itself most when the business context is vague, dynamic, or challenging. (There is a lack of citations in the literature indicating how to accomplish this in a project management setting when these same conditions appear.)

By definition, project management is about implementing a change program (Briner et al., 1996; Cleland, 1999; Turner & Cochrane, 1993) in the form of system changes — as in IT projects — or in building projects, new automotive products, airplanes, or weapons systems. This creates a dilemma for project managers who, when faced with a set of ambiguous circumstances, do not appear to have at their disposal very many tools to address these situations.

The project manager acts in many ways as both a leader and a manager; however, the project sponsor may, depending on the project and personalities of the project sponsor and project manager, influence the extent of this overlap (Briner et al., 1996; Cleland, 1999; Morris, 1994). We do not wish to underestimate either of these issues or the behavior and competence of project sponsors and project managers; rather, we want to provide a more concrete method for addressing this gap than simply relying on managerial competence.

Many leadership tasks relate to developing a vision of the project outcome that is practical and yet capable of mobilizing and motivating team members to accomplish the project's goals and objectives. This leadership vision engages stakeholders who are not actively involved in the project; it also inspires them to maintain their support over the project's timeline. This process of envisioning a preferred

future state, of taking a solution-building negotiation approach to defining the scope of the project and then clearly communicating this to the project team and other stakeholders, defines a strategy for realizing the vision, and translating the strategies into operational plans and results.

A vexing problem particularly relevant to our study is the organization's providing leadership to a project team when the project context or business strategy is either ill-defined or dynamic to the point where there is not a clear and measurable connection between the project goals and outcomes and the business strategy. The latter problem could also involve team members who do not necessarily agree on the interpretation of the strategy in relation to their assigned goals and objectives. This problem has been explored in the past, most notably by Bennis and Nanus (1997), Bennis, Spevietzer, and Cummings (2001), and Turner and Cochrane (1993). The existing literature contains both general team-based solutions (Katzenbach & Smith, 1993; Robbins & Finlay, 1997; Yukl, 1998) and specific project-based solutions (Briner et al., 1996; Thite, 1999). In exploring this problem, we found that the connection is either ambiguous or understood by only a few key stakeholders, rather than more broadly accepted by everyone who can influence the full range of project outcomes. Many researchers, particularly Senge (1990), have stressed in their work that a narrowly held vision is insufficient in most leadership contexts and fails to create purposeful coordinated action among all followers. This problem has been so thoroughly studied and documented that we agree with this conclusion.

We noticed another possible problem that arises when a corporate culture or a particular internal set of values is incongruous with project success. This topic is also well studied in the change management literature (Collins & Porras, 1996; Kotter, 1995): The symptoms and causes of this kind of discord at the corporate level are, according to this literature, well understood. More recently, researchers have

begun assessing the impact of this topic in a project context (Yukl, 1998), although primarily from a social-psychological perspective. We propose that researchers look at this problem from the perspective of enhancing the way project leaders use strategic measurement.

For projects with a long time-horizon, it would seem that the most likely cause of a lack of strategic connections is rapidly changing industry or business circumstances. These circumstances most likely occur in mega-project settings; an example is the implementation of enterprise resource planning (ERP) or customer relationship management (CRM) technology, where the time horizon for a significant IT project may run into years and impact upon all core operations of a company. It is critical — especially in these types of projects, where changed strategies can radically influence a project's goals and objectives — that such projects are directly connected, and remain connected, to the company's emerging and changing business strategy. Unless project leaders constantly and purposefully measure the on-strategy dimension of an organization's projects, they may fail to successfully keep projects connected to the organization's evolving business strategy. If these leaders rely purely on the traditional measures of the triple constraint, they could, quite possibly, successfully deliver an ultimately non-strategic project on-time, on-budget, and on-quality!

Regardless of the originating reasons for the problems identified above, any gaps between vision and strategy create potential challenges for the daily operational management of projects, especially when managed under ambiguous conditions. While we do not intend to minimize the efforts of previous authors to address this problem, in general we found that the solutions almost always focus on a desire to present methods directed at the behavior of the team leader or on addressing aspects of the problem resulting from the company's culture or values. There is often a heavy emphasis on motivational theory as

the underpinnings of how leaders influence team members. While useful, these studies do not seem (based on our experience) to address the core problem: The insufficiency or instability of strategy to properly develop and express a project vision that is connected through measurement to tangible business outcomes. In response to this deficit of clarity, we set out a succinct methodology that involves a BSC framework — modified for the project management context — to assist leaders who are facing this dilemma. Although our research used the BSC framework, we believe that any appropriately defined and balanced performance management system could potentially be substituted and would produce a similar effect.

A Balanced Scorecard Approach to Project Management

We now turn our attention to the specific methods for operationalizing business strategy. The BSC is one tool — extensively developed, tested, and demonstrated — that has proven its value within corporate settings. This instrument transforms strategy into operational plans and strategic measures that enable the organization to decide whether or not a project is operating on-strategy. This outcome occurs regardless of situational ambiguity about any one individual's understanding of — or agreement with — the underlying strategy that led to the definition of these measures. One major benefit of this approach is its capability to take a very complex, often ill-defined business strategy and reduce it to a level of specific measurements that shows stakeholders and team members their particular and expected contribution to its ultimate achievement. This tool creates tangible value from measurement and implies taking vague notions of strategy and turning these into executable plans.

However, while proven at the corporate level, to the best of our knowledge only a few researchers have published papers (Stewart, 2001; Stewart & Mohamed, 2001) about applying this methodology to IT projects. These papers discussed extending

the benefits of this approach to the management of major projects. Current literature in the strategy domain suggests that organizations should link planned outcomes to their corporate strategy using a measurement framework. This process is referred to as performance management and is common within corporations. We find it is also a critical deliverable for project leaders interested in on-strategy project delivery and that it is essential to link project outcomes to corporate strategy using measurement as the enabler.

To address this increasing need for leaders to operationalize strategy through projects, we hypothesized that a project-level BSC might enable leaders to use appropriate performance measurement and leadership techniques, which already exist in other parts of most corporations, to help project teams improve their understanding of their organization's business strategy.

Our purpose was to develop, test, and apply a strategic measurement system, based on the BSC methodology, specifically for projects. We anticipated that this approach would itself be immediately valuable to project managers and senior executives of large corporations who are faced with increasingly complex issues related to ensuring a timely understanding of business strategy among disparate and dispersed global project teams—teams that may have varying degrees of ability and interest in understanding the company's overall strategy. Using a project BSC can help address a project vision gap by making strategy easier to understand in a practical rather than theoretical form. The idea is that this helps the company improve its competitive position by ensuring that project managers pursue the on-strategy and on-quality aspects of project management with the same level of effort and vigor they direct to on-budget and on-time concerns. By making this exercise easier to do and more visible at the project level, this overall objective is more readily achieved.

We found that successfully completed projects required a task manage-

ment focus and an appropriate emphasis on process as a method of tracking and reporting tasks, usually in the form of a project plan based on a work breakdown structure (Project Management Institute, 1996). An understanding of the project management process, its phases, and the appropriate methods to manage deliverables has clearly been the emphasis of the early evolution of our discipline. However, we must not over-emphasize the management aspects without due regard for the essentials of leadership in a project management context.

We suggest that project management professionals acknowledge that the management of a project is the easier of the two things to accomplish. Task and process management is relatively easy to learn and can be applied routinely; leadership of a project, however, is a different matter altogether. In their landmark work *Project Leadership* (Briner et al., 1996, p. 67) emphasize the role of a "sustainer" as a key aspect of successful project sponsorship. They also stress the need for project managers to orient themselves towards alignment and away from enforcement—an elusive concept of trying to create congruence among the team and with the project's goals by using a variety of activities and sources of power to influence others to act in accordance with the project leaders' desired outcomes, rather than relying on a traditional *command-and-control* management orientation. We submit that the use of a project BSC offers organizations a powerful, additional tool for accomplishing this critical success factor and improves project team alignment.

Our collective experience in working worldwide with corporate clients has shown us that many project managers are not fully schooled — either in formal academic settings or through on-the-job project experience — to necessarily note the subtle but important differences between perceived power and actual power. Learning to distinguish between influence and control to achieve results often means the difference between temporarily controlling an outcome

by forced compliance versus creating a lasting change in people's behavior (Greiner & Schein, 1988; Kotter, 1999; Loosemore, 1999; Pinto, 1998). Some project managers, however, may not see the two techniques as very different. As a result, we often observe that project managers eventually come to the conclusion that they really cannot be everywhere at once to vet every decision to ensure that the team appropriately conducts itself in performing its roles and realizing its project. As a result, most managers revert to some kind of *exception-based* or *situational leadership* method to address ongoing challenges, as recommended by established theory (Hersey, Blanchard, & Johnson, 1996). While somewhat effective, this tactic does not completely address the issue.

Results from an earlier study (Hersey et al., 1996) suggest that a project level BSC can also become a tool that provides an indirect form of influence on daily decision-making within a project team: This tool is perhaps more powerful than other methods of influence. By demanding that project team members link their own actions and decisions with the overall intended strategy of the project (which, in turn, is an extension of the corporate strategy, if the BSC methodology was consistently applied), can assist with *on-strategy* project execution. It extends a virtual leadership presence, which injects itself into every critical project event and decision. While this requires additional exploration, this methodology could, if proven in future studies, represent a fairly significant breakthrough in the decision-making methods used for everyday project operations.

The sequence that is used to build a BSC, originally designated by Kaplan and Norton (1998a, 1998b), is well documented. In the literature, what this sequence produces is often referred to as a *strategy map*, a form of causal model. If we intuitively move to apply this existing methodology in a project context, we must consider several important changes:

1. In a project context, the role of the BSC must change from measuring the overall achievement of strategic objectives to measuring the specific results of the project and comparing these to the project's intended impact on the organization's execution of its business strategy.
2. Instead of only focusing on mapping business strategy, we must map the intersection of the project strategy and business strategy and more closely align these strategies as a result of this review and use the project BSC as a tool for leadership; doing so tests this alignment issue more directly.
3. We must modify our approach to measure specific project-related deliverables and objectives, as opposed to higher-level business outcomes, and appropriately settle on project-based measurements that link to strategy.

Once these discernible differences are understood and applied, the basic steps of the original methodology remain the same and are applied similarly. In the interests of brevity, we have chosen to avoid a detailed discussion of the specifics of the original BSC approach in this article to instead focus on its benefit in a project setting.

The hypothesis that we were interested in testing was whether or not the BSC would have a discernible impact on the project team's understanding of business strategy and the specific project's connection to strategy—a critical point in project management leadership. Therefore, the null hypothesis we seek to reject (at a 95% confidence level) is that the BSC has no significant impact on project management outcomes and does not positively impact the project team's performance.

The Pilot Study

We initiated our research while one of us was providing strategic project management consulting services to a global telecommunications firm. The firm has an extensive network and a particularly large presence in the United

States and Europe; it specializes in business services and generates annual revenues in excess of US\$300 million. The firm was a good research candidate because of its representative nature and because it allowed us to initiate and follow two similar-scope and similar-budget projects. These projects gave us the opportunity to test the impact of using BSC in a project management setting.

Each of the two candidate projects (code names *Blue* and *Pip*) met the criteria specified earlier in terms of each being vital to the company's business strategy. The project teams were virtually identical in size: Between 40 and 45 full-time personnel teaming with various consultants and contractors that were required to provide key project deliverables. A number of these individuals were Project Management Professional (PMP®) certified. Both projects had estimated timelines — from initiation to completion — of 9 to 12 months; both had multi-million dollar budgets.

During the project period, we closely monitored both project teams and consulted with each team's global project managers and executive sponsors. The Blue team was managed using the firm's existing project management methodology and according to existing company practices. These methods and practices were generally quite consistent with — and compliant to — standard professional practices, as specified in *A Guide to the Project Management Body of Knowledge (PMBOK® Guide)* (Project Management Institute, 1996). Table 1 summarizes this project's final on-time and on-budget results.

The concept of the BSC was introduced to the Pip team during initial training workshops that preceded the final project planning stages. These sessions, which lasted two days, were held on the company's premises. The team also learned, over a period of three days, the process of extending and integrating the methodology into the company's existing project management framework. Pip (the group using the BSC) showed actual final project outcomes in the three key result areas — on-time, on-budget, and on-quality

— that were better than those achieved by team Blue. While it is not possible to categorically state that this is all due to the use of this methodology, we observed strong evidence that shows the BSC had a positive impact on project performance. The use of this tool did create a higher degree of ownership and involvement from the team in the execution of the project than in the non-scorecard project, as measured by an executive assessment during on-site post-project interviews. The influence of this methodology on executive behavior is a significant finding in its own right.

We surveyed each project team with a particular interest in measuring any apparent differences between the teams that we could attribute to the use of the BSC. (Appendix A shows the questionnaire that we used during this study.) This method closely follows the case study research method proposed by Yin (1994), which added a substantial amount of qualitative insight to our study's less-reliable quantitative results. The sample of 34 returned surveys from among the approximately 40 individuals who worked on the two projects, while an excellent return rate, is not statistically representative of the total population of respondents, and so it is a limiting factor that could not be addressed by an alternate research design in this instance. As a result, the reliability of the sample — measured using Cronbach's Alpha — is a low .63; this result is a function of the limited variability in the responses to individual items from such a small sample. This meant that using statistical tests relevant for a small sample size inhibited meaningful reporting of extensive statistical variations between or among groups.

The primary benefit of the surveys was to identify specific aspects of traditional project management practice that appear to be most influenced by the application of the BSC in a project context (see Table 3). This knowledge may allow future researchers to more specifically identify the best practices that can impact the various elements of traditional project management practice that most companies use today.

During our post-project interviews in January 2001, we gathered additional anecdotal evidence about the qualitative impact of using the BSC. These interviews involved both in-person and over-the-phone discussions with members of the firm's executive team who were directly involved in this research.

Results and Discussion

We applied a variety of statistical techniques to our survey data. We

compared individual results to respondents' answers, in terms of their job title and the length of time — measured in months — that each respondent served on a project team. The survey results do not indicate any meaningful variations based on demographics or project tenure, which suggests that the value of the methodology was consistently experienced within our small sample group.

Specific key result	Blue (non-BSC using group)	Pip (BSC using group)	Actual % difference
On-budget delivery	112 % (US\$9.6 million actual vs. US\$8.6M budget)	98% (US\$12.1 million actual vs. US\$12.3M budget)	14%
On-time delivery	+122% (11 months actual versus 9 months planned)	+110% (11 months actual versus 10 planned)	12%
Completed deliverables	94% (36 of 38 deliverables were 100% complete)	95% (18 of 19 deliverables were 100% complete)	1%

Table 1. Actual project results

ANOVA Analysis* for project results questions	Sum of squares	Sum of squares	DF	Mean	F	Sig.
Questions 1 & 11: On-time delivery	Between groups Within groups Total	7.912 18.117 26.029	1 32 33	7.912 .566	13.975	.001
Questions 2 & 12: On-budget delivery	Between groups Within groups Total	8.147 18.117 26.265	1 32 33	8.147 .566	14.391	.001
Questions 3 & 13: On-strategy delivery	Between groups Within groups Total	24.308 21.722 46.029	1 32 33	24.308 .679	35.810	.000
Questions 4 & 14: Executive/Sponsor Communication	Between groups Within groups Total	48.074 24.161 72.235	1 32 33	48.074 .755	63.671	.001
Questions 6 & 16: External communication	Between groups Within groups Total	17.152 27.231 44.382	1 32 33	17.152 .851	20.156	.000

*The two independent sample t-tests require that the difference between the two samples is distributed. This may well not be the case here, so the Mann-Whitney test (which does not require this assumption) was also conducted, with similar predictions for each difference tested.

Table 2. ANOVA Analysis of responses between groups

Factor Analysis (Our determination of significant factors was based on means-between-groups, using ANOVA analysis at .05 confidence level)	F value	P value
1. Clear project vision	6403.765	.000
2. Clear goals & objectives	18158.824	.000
3. Clearly communicating project status	18158.824	.000
4. Creating detailed project plans	22162.824	.000
7. Assuring adequate project resources	22162.824	.000
9. Assuring an appropriate project team structure	8562.071	.000
10. Status reporting	6403.765	.000
11. Project tracking & control	10094.374	.000
12. Executive/sponsor involvement	6403.765	.000
15. Implementing good risk management practices	5798.118	.000

Table 3. Project factors impacted by the balanced scorecard

While both projects ran longer than initially planned, both groups reported high self-report scores for "On-time delivery" in the questionnaire. In our view, this is explained by the tendency of this company to set very aggressive timelines that project teams often do not feel are realistic or reasonable. Delivery times, as a consequence, even close to these very aggressive targets can be perceived as a reasonable approximation of acceptable on-time performance by the project teams. While statistically this data only weakly supports the impact of the BSC on actual project performance, we believe that it intuitively supports a notional conclusion showing the potential positive impact of the BSC on project performance.

As previously noted, with the small sample sizes available for this research, we found it difficult to conduct reliable parametric analysis. However, if we assume that the normal mean of responses between the two groups is the same (what we believe is an intuitively acceptable assumption, based on our knowledge of the composition of the project teams in question), then it becomes possible to conduct a basic analysis on each group's responses to key questions. Even given the limitations of a small pilot study, Table 2 shows how the application of the BSC had a definite impact on some key aspects of project management practice.

On the basis of this additional analysis, we find sufficient statistical support in Table 2 to reject the null

hypothesis and therefore conclude that the BSC did have a positive impact on the Pip team's project management performance in at least some of the anticipated areas we set out to investigate.

Summarizing the results above into a simple enumerated list indicates that the factors most strongly impacted by the team using the BSC were:

1. On-time delivery (question #1)
2. On-budget delivery (question #2)
3. Executive/Sponsor communications (question #14)
4. External communications (question #16)

The Pip team also felt that it had a direct impact on on-strategy delivery; however, this belief is biased on the BSC method training they received, which deliberately cultivated this belief in order to gain the team's commitment to piloting the BSC approach. Therefore, we have recognized this bias and have not drawn this conclusion as a result.

We expected this final outcome because the entire purpose of applying the methodology is to enable the project team to directly connect their project goals and objectives to measurable strategic outcomes. The Pip team's ability to do this consistently improves its capacity — both internally within the team and externally to the team — to communicate about project outcomes more succinctly.

Most interesting was the Pip project team's belief that the specific factors (listed in Table 3 above) within the generally accepted *PMBOK® Guide*

(Project Management Institute, 1996) were positively impacted by the team's use of the BSC at the project level. This is useful not only as a conclusion in this study but also to help other researchers facilitate future research that confirms our initial findings. Our analysis supports the ways that the BSC measures appear to improve project performance in areas such as project communication, monitoring and control, status reporting, and resource management.

While we, along with the project's participants, observed meaningful qualitative contributions — during project execution — in each of the 15 areas listed in Table 3, our statistical analysis of this data makes the differences meaningful at the prescribed confidence level, thus allowing us to also reject the null hypothesis that the BSC had no impact on project performance. Therefore both quantitatively and qualitatively we find support for the value of this approach in project management.

Conclusions

Our pilot study suggests that moving beyond existing internal project communication practices, and using a BSC framework to make strategic measures and connections clearer, can possibly improve a project team's internal performance in traditional deliverables: on-time, on-budget, and on-quality. We propose that this is because using the BSC in project settings facilitates a wider perspective on project management successes and facilitates a team's linking to a wider range of strategic performance indicators that it can use to appropriately develop a clearer project vision and to more clearly monitor and control individual project goals and objectives. Results from our research further suggest that the BSC framework provided project management teams with additional benefits; however, some of these benefits require more attention and further study to draw firm conclusions about the effectiveness of this framework.

One of the most clearly cited benefits of the BSC by the project team is that it is a tool for communicating

with internal and external project stakeholders. The scorecard itself is less significant than the value of its application so long as the process of developing and using this tool increases the effectiveness of communication between the project sponsor, the project management team members, and other project stakeholders. This information was confirmed often during our post-project interviews with all of these groups. As a result of having participated in the development of the project scorecard, we provided each team member with a common communication template to articulate project performance measures and results. We argue that this created a more powerfully committed team that embodied a deep sense of purpose and vision (the essence of good project leadership).

We also argue that using the BSC in the way we have indicated has the benefit of making complex strategy more understandable at the operational level in terms of specific operating targets for the project (project management). The importance of achieving this objective cannot be underestimated since it is the essential value-adding element of improved project management practices within an organization.

We therefore suggest that the process of building a project BSC brings added depth and reliability to any project's business case and to management's ability to provide oversight for achieving the totality of project benefits, the ultimate goal of any well-formed project management methodology. As in a corporate setting, the BSC adds value to participants and promotes more reliable communication and more effective decision-making. We propose that the BSC — with a demonstrated ability to make a strong connection between business strategy and project vision through an understanding of measures and metrics that guide coordinated and deliberate action at the project level — is a valuable tool for project management professionals to adopt and make their own.

References

- Baccarini, D. (1999). The logical framework method for defining project success. *Project Management Journal*, 30(4), 25-32.
- Bennis, W. (1989). *On becoming a leader*. San Francisco: Peresius Publishing.
- Bennis, W., & Nanus, B. (1997). *Leaders strategies for taking charge*. New York: Harper Business.
- Bennis, W., Spevietzer, G., & Cummings, T. G. (2001). *The future of leadership*. San Francisco: Jossey-Bass.
- Briner, W., Hastings, C., & Geddes, M. (1996). *Project leadership*. Aldershot, UK: Gower.
- Cleland, D. I. (1986). Measuring success: The owner's viewpoint. *Proceedings of the Project Management Institute's Annual Seminar & Symposium*, Montreal, 6-12.
- Cleland, D. I. (1999). *Project management: Strategic design and implementation*. Singapore: McGraw-Hill Education—Europe.
- Collins, J., & Porras, J. I. (1996). Building your company's vision. *Harvard Business Review*, 74(5), 65-78.
- Davis, K. H. (1995). Logical framework analysis: A methodology to turn vision into reality. *Proceedings of the AIPM National Conference*, Adelaide, Australia, 393-397.
- Drummond, H. (1998). Riding a tiger: Some lessons of Taurus. *Management Decision*, 36(3), 141-146.
- Greiner, L. E., & Schein, V. (1988). *Power and organization development: Mobilizing Power to implement change*. New York: Addison-Wesley Management.
- Hersey, P., Blanchard, K., & Johnson, D. E. (1996). *Management of organizational behavior: Utilizing human resources*. London: Prentice Hall International.
- Kaplan, R. S., & Norton, D. P. (1998a). Putting the balanced scorecard to work. *Harvard Business Review on Measuring Corporate Performance*, 147-181.
- Kaplan, R. S., & Norton, D. P. (1998b). Using the balanced scorecard as a strategic management system. *Harvard Business Review on Measuring Corporate Performance*, 183-211.
- Katzenbach, J. R., & Smith, D. K. (1993). *The wisdom of teams - Creating the high-performance organization*. Boston: Harvard Business School Press.
- Kotter, J. P. (1990). What leaders really do. *Harvard Business Review*, 68(3), 103-111.
- Kotter, J. P. (1995). Why transformation efforts fail. *Harvard Business Review*, 73(2), 59-67.
- Kotter, J. P. (1999). *John P. Kotter on what leaders really do*. Boston: Harvard Business School Press.
- Loosemore, M. (1999). Responsibility, power and construction conflict. *Construction Management and Economics*, 17(6), 699-709.
- Morris, P. W. G. (1994). *The management of projects a new model*. London: Thomas Telford.
- Pinto, J. K. (1998). *Power & Politics in project management*. Sylva, N.C.: Project Management Institute.
- Project Management Institute. (1996). *A Guide to the Project Management Body of Knowledge*. Upper Darby, PA: Project Management Institute.
- Robbins, H., & Finlay, M. (1997). *Why teams don't work - What went wrong and how to make it right*. London: Orion Publishing Group Ltd.
- Senge, P. M. (1990). *The fifth discipline - The art & practice of the learning organization*. Sydney: Random House.
- Stewart, R. A., & Mohamed, S. (2001). Utilizing the balanced scorecard for IT/IS performance evaluation in construction. *Journal of Construction Innovation*, 1(2), 147-163.
- Stewart, W. E. (2001). Balanced scorecard for projects. *Project Management Journal*, 32(1), 38-53.
- Thite, M. (1999). Leadership styles in information technology projects. *International Journal of Project Management*, 18(2), 235-241.
- Tuman, J. (1986). Success modeling: A technique for building a winning project team. *Proceedings of the Project Management Institute's Annual Seminar & Symposium*, Montreal, 94-108.
- Turner, J. R., & Cochrane, R. A. (1993). The goals and methods matrix: Coping with projects with ill-defined goals and/or methods of achieving them. *International Journal of Project Management*, 11(2), 93-102.
- Yin, R. (1994). *Case study research*. Thousand Oaks, CA: Sage.
- Yukl, G. (1998). *Leadership in organizations*. Sydney: Prentice-Hall.
- Zaleznik, A. (1977). Managers and leaders: Are they different? *Harvard Business Review*, 55(3), 67-78.

Appendix A – Project Questionnaire

In our continuing quest to improve our methodologies and results with clients, we would appreciate you taking a few minutes to complete the following brief questionnaire. It is designed to have you describe your experiences on this project and your use of the Align360 Project Balanced Scorecard, if applicable. We are interested in understanding its value as a project management tool. Please return this questionnaire immediately to your Align360 project manager.

Demographics

1. Project you are involved with:

2. Have you been with the project since the beginning? **YES** **NO**

3. If not, please indicate in number of months you have been on the project: _____ months.

4. Your title/level within the organization (optional): _____

Your specific project results

Please tell us how well you think your project team did on this project. Using a scale of 1 to 5, with 1 being poor and 5 being excellent, please rate the following project outcomes.

QUESTION	RATING				
1. We delivered our project on-time.	1	2	3	4	5
2. We delivered our project on-budget.	1	2	3	4	5
3. We achieved our project's strategic objective for the company.	1	2	3	4	5
4. Our project team understood how the project fit into the big picture.	1	2	3	4	5
5. We had clear goals and objectives for the project that all project team members understood.	1	2	3	4	5
6. We communicated well with others in the company about our project.	1	2	3	4	5
7. We understood and mitigated project risk as best as we could.	1	2	3	4	5
8. By our team standards, I would consider this project well managed.	1	2	3	4	5

9. Of the factors listed below, please circle any that you feel are critical to managing a project to its successful conclusion (measured as on-time, on-budget, and on-strategy). Please circle all factors that apply.

- | | | |
|--------------------------|--------------------------------|---|
| 1. Clear project vision | 2. Clear goals & objectives | 3. Clearly communicating project status |
| 4. Detailed project plan | 5. Detailed work breakdown | 6. Detailed staffing plan |
| 7. Adequate resources | 8. Formal budget | 9. Appropriate project team structure |
| 10. Status reporting | 11. Project tracking & control | 12. Executive/Sponsor involvement |
| 13. Contingency funds | 14. Good project methodology | 15. Good risk management practices |

10. If you could identify only one of the 15 factors listed in question #9 that is frequently, in your experience, not performed well on projects, which factor would you chose (please identify the number and the description):

_____ Factor Description: _____

(Note: Only respond to this section if your team used a project balanced scorecard.)

On a scale of 1 to 5, please rank your understanding of the impact that using the project balanced scorecard had on the project you were working on. On this scale, 1 means virtually no impact or difference from other projects you have worked; 5 means the scorecard had an immediate and measurable impact on the project's results.

19. Of the factors listed below, please circle any that you feel were strongly impacted by your team's use of the project balanced scorecard (a measurable impact to on-time, on-budget, or on-strategy delivery, as a result of using this tool for this project). Please circle all that apply.

QUESTION	RATING				
	1	2	3	4	5
11. The project balanced scorecard improved our on-time delivery.	1	2	3	4	5
12. The project balanced scorecard improved our on-budget delivery.	1	2	3	4	5
13. The project's strategic goals were clearer to me using the scorecard.	1	2	3	4	5
14. It improved my ability to communicate with executives about the project's progress.	1	2	3	4	5
15. It improved my ability to communicate with my team about the project's progress.	1	2	3	4	5
16. It improved our project team's ability to communicate with each other.	1	2	3	4	5
17. It made us more aware of project risks.	1	2	3	4	5
18. It helped me manage the project better.	1	2	3	4	5

- | | | |
|--------------------------|--------------------------------|---|
| 1. Clear project vision | 2. Clear goals & objectives | 3. Clearly communicating project status |
| 4. Detailed project plan | 5. Detailed work breakdown | 6. Detailed staffing plan |
| 7. Adequate resources | 8. Formal budget | 9. Appropriate project team structure |
| 10. Status reporting | 11. Project tracking & control | 12. Executive/Sponsor involvement |
| 13. Contingency funds | 14. Good project methodology | 15. Good risk management practices |

20. If you could choose only 1 of the 15 factors for project success listed in question #19 that was most impacted by your use of the project balanced scorecard, which one would you chose (please note the number and the description below):

_____ Factor description: _____

21. Would you use this tool again for future projects? **YES NO**

22. Please write, in the space below, any additional comments about using the project balanced scorecard that you wish to pass along to us:



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