

The balanced scorecard framework— A case study of patient and employee satisfaction: What happens when it does not work as planned?

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Background: The successful utilization of the balanced scorecard (BSC) framework in health care has been demonstrated in the literature. Given these successes, a financially struggling hospital implemented a BSC framework intervention which attempted a culture change centered upon patient satisfaction which it hoped would translate to improved financial stability. Despite the evidence of BSC successes, the intervention, entitled Route 99, did not succeed in this hospital.

Purpose: This case study was conducted to identify learnable lessons and confounding factors associated with the successes and failures of Route 99. Metrics for patient satisfaction and employee satisfaction were examined as reflections of the intervention, the BSC framework, and the confounding financial condition of the hospital.

Methodology: Through case study methodology, mean quarterly patient satisfaction scores tabulated by an outside vendor for inpatient and outpatient services were divided into four time intervals and compared through analysis of variance. Employee satisfaction was measured through a hospital-provided 12-question employee survey, administered through convenience sampling at the beginning and 7 months into Route 99. Each question utilized a 5-point Likert scale and generated two samples which were verified for sample independence through chi-square analysis. Mann-Whitney *U* test was used for comparison.

Findings: Inpatient patient satisfaction scores exhibited a nonsignificant upward trend. However, the analysis of variance demonstrated a significant rise in outpatient patient satisfaction ($p < .05$). An interesting finding was that employee satisfaction declined ($p < .05$) significantly for supervisors and directors in three areas. The inverse relationship between patient satisfaction and employee satisfaction is in contrast to that found in the literature by the authors.

Practice Implications: Examination of the BSC framework, the hospital's financial standing, and the metrics for patient satisfaction and employee satisfaction illuminated the importance of management transparency, leadership support, appropriate metric selection, and the strength of the BSC under turbulent circumstances.

Key words: balanced scorecard, employee satisfaction, hospitals, patient satisfaction

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The balanced scorecard (BSC) framework is a performance measurement model proposed by Kaplan and Norton (1992) in their landmark article in the *Harvard Business Review*. The management technique is a model which translates an organization's vision, mission, and strategy into a condensed set of performance measures used to communicate and evaluate progress toward the vision, mission, and strategy of the organization.

To establish a foundation for decision making, it is necessary to identify reliable performance measurements, link the measurements to a specific strategy, establish achievable targets, communicate and educate the staff, encourage individual and unit goal setting, and develop reward and feedback systems (Jones & Filip, 2000). The BSC emerged in response to criticisms of traditional budgeting and performance assessment (Johnson & Kaplan, 1987). Primarily, it was in response to the need for improved budget methodologies addressed through activity-based costing that was also developed by Kaplan and the shortfall of parameters utilized to manage activities other than financial activities. Due to their slow and aggregate nature, traditional internal accounting systems have provided information to management too slowly for the most effective decision making. Furthermore, organizations should be managed through other important parameters such as capacity utilization and lead time to complement the financial picture (Johnson & Kaplan, 1987). When fully deployed, the BSC transforms strategic planning from an academic exercise into the nerve center of an enterprise (Arveson, 2003).

The BSC framework is built upon similar key constructs as Deming's (1986) total quality management, including customer-defined quality, continuous improvement, employee empowerment, and measurement-based management and feedback. As in total quality management, the BSC incorporates feedback from internal business processes. However, the BSC also incorporates a feedback loop reflecting outcomes of business strategies. Together, they are known as "double-loop feedback" (Argyris, 1991; Balanced Scorecard Institute, 2006). Double-loop learning arises from following and changing, if necessary, the strategic vision. The continual adjustment of strategy is necessary to accomplish permanent change in a business environment (Argyris, 1991). For this study, the BSC constituted the theoretical framework which guided the organizational research.

The BSC framework is composed of four quadrants including financial indicators, customer perspective, internal business functions, and learning and growth of the organization (Kaplan & Norton, 1996). Once each business unit has identified its customer, the business unit leader must address and answer a question associated with each quadrant. From the financial perspective, business unit leaders should answer the question, how does the

owner view our performance? From the customer perspective, managers must know if their organization is satisfying customer needs, so they must answer the questions, are we meeting customer needs and how does the customer see us? From the internal business functions perspective, managers need to focus on internal operations which satisfy customer needs, so they must answer the question, what do we need to do to excel at meeting our customer needs? Finally, from the learning and growth perspective, the business unit leaders must ask the question, how can we continue to create value through innovation, improvement, and learning? Through the answers to these questions, each quadrant can be aligned with appropriate metrics. These metrics as determined by the business unit leaders are then integrated throughout the business unit to reflect and coordinate the strategy of the BSC framework. In the end, the goal of the BSC framework is to maintain the balance among these quadrants while it meets the goals of the business unit (Kaplan & Norton, 1996). Although Kaplan and Norton (1996) have recommended these four quadrants for the BSC framework, they have asserted that the BSC framework is flexible and should be modified to suit the specific needs of a business unit.

Forgione (1997) was the first in the literature to link the BSC with health management as an approach to combine health care financial and quality measures. Forgione reported the implementation of capitated payment systems, and diagnostic-related group reimbursement places powerful incentives in opposition to health care quality. In addition, just as financial disclosures are essential for the efficient allocations of capital resources, quality disclosures are essential for the efficient allocation of health care resources (Pink et al., 2001). Since that time, the BSC has been implemented as part of a growing trend within the health care industry in a variety of health care units including emergency rooms (Huang, Chen, Yang, Chang, & Lee, 2004), psychiatric centers (Santiago, 1999), intensive care units (Meliones, 2000), women's services (Jones & Filip, 2000), burn centers (Wachtel, Hartford, & Hughes, 1999), long-term care facilities (Macdonald, 1998), and human resources (Fottler, Erickson, & Rivers, 2006). Some hospital systems have developed a BSC framework to encompass their entire enterprise (Pink et al., 2001; Yap, Siu, Baker, & Brown, 2005).

Patient satisfaction is an integral part of a health care organization's mission and culture (Cardello, 2001). Patient satisfaction is a multidimensional construct researchers have conceptualized in many ways (Brand, Cronin, & Routledge, 1997; Bryant et al., 1998; Keith, 1998; Nelson, 1990). Depending on the focus of the survey instrument, patient satisfaction scores may reflect efficiency of care, communication with health care professionals, treatment outcome, pain management, or state of the facility.

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Empirical research on patient satisfaction has demonstrated a lack of an accepted conceptual or theoretical model, a lack of standardized methods to assess patient satisfaction, and a continuing need for consensus within the medical profession on the role patient satisfaction should play in health care (Arahony & Strasser, 1993). Studies have shown an association between hospital patient satisfaction and employee satisfaction (Atkins, Marshall, & Javalgi, 1996), clinical outcomes (Leggitt, Potrepka, & Kukulja, 2003), and market share (Zimmerman, Zimmerman, & Lund, 1997).

Employee satisfaction is also a multifaceted metric. Although frequently tracked through employee turnover, attention has been given to other components of employee satisfaction, including employee workload (Atkins et al., 1996; Mycek, 2001), perception of the working environment (Atkins et al., 1996), and empowerment or depersonalization in the workplace (Vahey, Aiken, Sloane, Clarke, & Vargas, 2004). Finally, in multiple studies, employee satisfaction has been positively correlated to patient satisfaction (Atkins et al., 1996; Corvino, 2005; Huey-Ming Tzeng & Katefian, 2002; Leggitt et al., 2003; Mycek, 2001).

In this article, the authors will elaborate on the process utilized by a community hospital to implement a BSC framework strategic business plan centered on patient satisfaction. In addition, the implications of the relationship between patient satisfaction and employee satisfaction for this hospital will be discussed along with the confounding issues caused by the eventual financial failure and closure of the hospital. The article will conclude with a discussion of the learning experiences including the importance of leadership support, management transparency, and the strength of the BSC framework even under adverse circumstances.

Methodology

Case Description

Quantitative research methodology followed a single longitudinal embedded case study design complemented by qualitative participatory research. Yin (2003) notes that case studies are the preferred strategy for studies dealing with *how* or *why* questions. Through the systematic stand-alone implementation of case study methodology for events and contemporary phenomena within real-life context, increased validity of associated findings was accomplished. Furthermore, by using a multimethod approach, data could be compared and contrasted for inconsistencies. This control for both construct and external validity resulted in a well-rounded study (Yin, 2003). Through multiple roles, one of the researchers participated and maintained consistent focus on improvements through the use of

collaborative approaches in organizational management. Theory, research, and practice were performed in parallel and were corrected when necessary to obtain the best knowledge and richest experience of the case study for a naturalistic generalization (Stake, 1978).

Setting and Intervention

The community hospital was a 150-bed teaching nonprofit hospital. At the time of the intervention, January 2003 to December, 2003, the hospital was offering acute care including but not limited to emergency room, intensive care unit, outpatient surgery, surgery, radiology, hyperbaric oxygen therapy, and adult psychiatric care.

Based upon the strengths, weaknesses, opportunities, and threats evaluation of the hospital, the Director's Steering committee developed institutional values and a vision statement, "to be the first choice in health care," to be used in the organizational intervention called Route 99 which was based upon the BSC framework developed by the hospital. The Director's Steering committee consisted of the directors from patient care services, business office, quality management, and the housekeeping departments. The directors of this committee reported to one of five vice presidents who reported to the chief executive officer. These directors also held the knowledge and ability to create a long-range vision and execute a plan to bring the vision into action. The main objective of the intervention was to achieve a shared vision of customer-driven service culture. The articulated strategic management plan and the BSC framework were utilized to develop and implement social and training activities considered beneficial to the staff's ability to translate the learning into culture change. The stated goal of R99 was to achieve 99% excellence in four core areas to accomplish the new vision. The four core areas developed for the BSC framework included (1) customer service, (2) finance, (3) quality of care, and (4) best people. Within the intervention, these core areas were analogous to Studer's (2004) "pillars of excellence."

The "connect-the-dots" team was the name given to the group governing the implementation of the R99 intervention. It consisted of the researcher and nine directors appointed by the vice president of patient care services. Due to the broad expanse of the intervention, the team along with the chief executive officer decided that the intervention should be implemented in phases throughout the hospital. As patient satisfaction was chosen as the driving indicator of success for the intervention and patient care services was the hospital's major interface with patients, it was decided that the implementation of R99 should begin with the customer quadrant of the BSC.

Once the information from the strengths, weaknesses, opportunities, and threats evaluation and the strategic business plan was organized into the BSC framework, it was disseminated to all employees. With a shared vision of improved patient satisfaction scores, each department was allowed to develop goals consistent with the intervention and meaningful to its department. Utilizing instruments with a road race theme introduced at the kickoff event, departments were to display progress toward improved patient satisfaction within the department, fulfilling the first of the double-loop feedback process prescribed by the BSC framework. The kickoff event included administration of the first staff survey along with the introduction of instruments for communicating the progress of the intervention to the employees. A "traffic light" was posted visibly throughout the hospital indicating the status of current patient satisfaction scores, and a "race track" located outside the cafeteria next to the employee bulletin board displayed the status of each unit for employees to view and changed quarterly with updates of patient satisfaction scores.

Feedback teams were also incorporated into the intervention. Continuous improvement teams were comprised of volunteers recruited at the kickoff event, one team each for inpatient and outpatient services. These teams identified patient satisfaction issues and implemented responses to produce continuing improvement. In addition, anonymous feedback cards and drop boxes were available to patients, visitors, and employees for suggestions or complaints. Upon receipt of a feedback card, temporary feedback teams were formed to appropriately address the specific issue presented. Monthly celebrations were also held to unveil and recognize departments achieving patient satisfaction score improvements. These celebrations, feedback teams, and hospital-wide display of patient satisfaction scores worked together to provide the second feedback loop described by Kaplan and Norton's (1996) BSC framework.

Instruments and Measures

The four quadrants developed for the case intervention BSC framework included (1) customer service, (2) finance, (3) quality of care, and (4) best people. Within the intervention, these core areas were analogous to Studer's (2004) pillars of excellence. Consistent with participatory research methods, vice presidents chose metrics within their pillar of excellence. The first pillar, customer service, was measured through the use of patient satisfaction scores as chosen by the vice president of patient care services. The second pillar, finance, chosen by the vice president of finance, was tracked through multiple quantitative measures including overall Medicare length of stay, gain from operations, net income, operating margin, and debt service ratio. The third pillar, quality of care, utilized

occurrences of inpatient acute myocardial infarction mortality and pneumonia antibiotics coverage within 4 and 8 hours and was chosen by the vice president of medical services. Finally, the fourth pillar, best people, included measures chosen by the vice president of human resources which encompassed team work, employee turnover, employee satisfaction, and employee involvement, was measured through a 12-question survey administered on two separate occasions during the intervention. The financial and quality quadrants, although described, are beyond the scope of this publication.

The inpatient patient satisfaction survey, which was provided and administered by an outside vendor, consisted of 38 items measuring 10 subcategories of inpatient patient satisfaction including admission, room, meals, nurses, test and treatments, visitors and family, physician, discharge, personal issues, and overall assessment. The outpatient patient satisfaction survey consisted of registration, facility, test or treatment, personal issues, and overall assessment. The hospital followed the same definitions and constructs of patient satisfaction as the vendor. The instrument reliability and validity has been tested through sample and large-scale testing, client feedback, and focus groups and has been administered through mail to eliminate selection and acquiescence biases (Urden, 2002).

The 12-question employee satisfaction survey utilized a 5-point Likert scale for each question, where values assigned to facilitate analysis were as follows: 1: *strongly agree*, 2: *agree*, 3: *neutral*, 4: *disagree*, and 5: *strongly disagree*. The survey was a needs assessment provided by members of R99 to the hospital and followed the design of Buckingham and Coffman (1999) for measuring the strengths and weaknesses of management to provide an environment conducive to employee satisfaction. Management position (employee, supervisor, and director or higher) was also collected so that data could be analyzed by employment level. No demographic or other identifying information was collected to assure anonymity of respondents. The construct validity for the 12-question survey has been estimated through multifactorial research performed by the Gallup organization, whereas each question's reliability and validity have been estimated through a meta-analysis by Harter and Creglow (1999).

Data Collection

Patient surveys were distributed, collected, and tabulated by an outside vendor. Surveys were distributed via mail postdischarge to patients who utilized the hospital's inpatient and outpatient facilities. The patient surveys were returned to the vendor also via mail services. After removal of any identifying patient information, raw mean patient satisfaction scores were tabulated and delivered quarterly for inpatient and outpatient services to the quality management department by the external vendor.

Sample sizes varied by quarter but have been estimated as approximately 300 and 700 respondents per quarter for inpatient and outpatient areas, respectively.

The employee satisfaction survey was administered two times during the intervention. At the beginning of the intervention, it was designed to determine a baseline of employee perceptions. The second time, 7 months after the initial survey, it was intended to measure any changes in the employee's needs and perceptions of their work environment.

Data Analysis

Raw mean patient satisfaction scores reflected patient satisfaction on a 100-point scale, whereby 100 would be complete patient satisfaction with the hospital services. To determine if a statistically significant change had occurred within the hospital, an analysis of the mean raw patient satisfaction scores from the first quarter of 1998 to two quarters postintervention (June, 2004) was performed. The mean patient satisfaction scores were divided into four time periods. The first time period started on January 1, 1998, a date which corresponds to the first collected quarterly mean patient satisfaction scores for the hospital, and ended on June 30, 2000 (before full-time employee reduction [FTER]). The date June 30, 2000, was chosen due to the occurrence of an FTER. The second time frame ran from July 1, 2000, to December 31, 2002 (FTER-R99). This time frame included the period from the FTER to the time when R99 had begun. The third time frame was January 1, 2003, to December 31, 2003, which encompassed the time period of the intervention (R99). Finally, the two post-intervention quarters (post-R99) included January 1, 2004, to June 30, 2004.

Once the four time intervals were established, Levene's test for equal variances was performed to assure comparability among the four groupings of patient satisfaction mean raw scores. A one-way analysis of variance (ANOVA) was then performed to identify any significant change in mean patient satisfaction score for a given time interval as compared with the other three time intervals. SPSS, Version 12.0, a statistical software, was utilized to generate the patient satisfaction score analysis for both inpatient and outpatient areas of the hospital. These results are limited by the availability of only quarterly mean patient satisfaction scores.

Measures for employee satisfaction were reflected through the use of a 12-question staff survey administered before the intervention began ($n = 227$ or 22% of employees) and 7 months into the intervention ($n = 191$ or 19% of employees) utilizing convenience sampling methods. Sample independence was tested through a chi-square test for independence for each question. Mann-Whitney U test was performed on the responses for each question to

determine if a statistically significant change had occurred from February to September 2003. Direction of change in employee satisfaction was inverse to the change in mean rank or an increase in mean rank would indicate a decrease in employee satisfaction, whereas a decrease in mean rank would indicate an increase in employee satisfaction. Inclusion criteria for survey responses were completion of the survey questions including employee-level identification. In the first survey, 169 respondents failed to identify their employment level and were consequently excluded from the evaluation. In the second survey, only 9 respondents failed to identify their employment level which caused exclusion from evaluation. Prior to the start of this case study, appropriate approvals were sought and received for the protection of human participants from the institutional review board at the University of North Texas Health Science Center.

Results

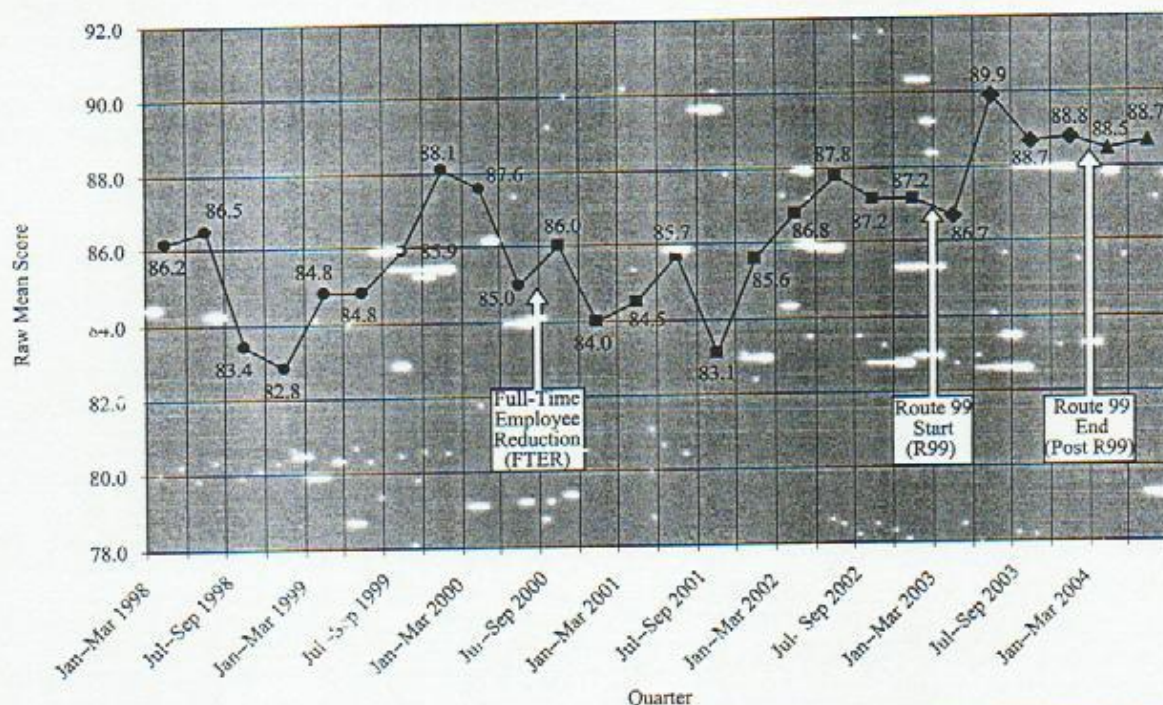
Patient Satisfaction Results

The quarterly raw mean inpatient patient satisfaction scores for the intervention were 79.6, 79.7, 81.6, and 82.3, respectively (Figure 1). These results displayed a moderate upward trend, returning to levels attained 2 1/2 years prior to the intervention. In addition, the postintervention quarter demonstrated a continuation of this trend, with a raw mean score of 82.7. This trend was not shown to be significant by the ANOVA ($p > .05$), and the second quarter of 2004 displayed a slight drop in raw mean score to 82.0. Furthermore, ANOVA did demonstrate a significant difference ($p < .05$) in the mean inpatient patient satisfaction score between the time frame before the FTER (pre-FTER) and the time frame FTER-R99, with a difference of 2.48 points in mean patient satisfaction score (Table 1).

The corresponding quarterly raw mean patient satisfaction scores for the outpatient area were 86.7, 89.9, 88.7, and 88.8, respectively (Figure 2). These mean scores reflected three of the four highest raw mean scores achieved by this hospital through 2003 since it started utilizing the patient satisfaction survey. The outpatient mean patient satisfaction scores for the intervention have been shown to be statistically significant ($p < .05$) by the ANOVA when compared with the two time frames, pre-FTER and FTER-R99, with 3.02- and 2.74-point difference in mean patient satisfaction scores, respectively (Table 1). In addition, the two raw mean patient satisfaction scores for the quarters following the intervention suggest that the outpatient area retained elements of the intervention with regard to patient satisfaction (Figure 2).

Figure 2

Outpatient patient satisfaction raw mean scores. Data from the Quality Management office of the hospital, January 1998 to June 2004.



and linked to departments, teams, and individuals. The level of participation and involvement by a leader in the process of change signals the importance of that change to the organization (Thomson & Strickland, 1998). Kaplan and Norton have also discussed experiences of leaders who managed successful BSC implementations. Each leader emphasized communication and extensive involvement of middle managers and other employees as vital to the success of visions becoming operational and institutionalized (Kaplan & Norton, 2001). Although top management participated in the development of the BSC framework, three of the five vice presidents did not actively support the intervention. According to Deming (1986), the "aim of leadership is to remove causes of failure and to help the people to do a better job with less effort" (p. 248). The leadership support that drove the intervention to accomplish increased patient satisfaction scores was provided by the vice president of patient care services. Despite news regarding upper management changes and financial problems, the vice president of patient care services kept the area on track to deliver health care with increased patient satisfaction.

When raw mean patient satisfaction scores were evaluated by time interval, visible drops in patient satisfaction scores occurred at a time which coincided with the FTE on July 2000. This finding concurs with Murphy and Murphy (1996) who found that staff reductions have been linked to changes in communications and efficiency which impact patient satisfaction. Given the closure of this hospital in October 2004, the anticipated scores for the metrics patient satisfaction and employee satisfaction preceding this event would have been to trend downward. The employee satisfaction analysis for supervisors and directors and higher followed this downward trend. However, where management employee satisfaction scores demonstrated significant decreases, employee-level employee satisfaction scores trended slightly upward. This observation coincides with the strong leadership push from the vice president of patient care services and the ability of the supervisors to buffer management turmoil from their employees. The first learning experience is a validation of the need for leadership support as prescribed by Deming (1986), Thomson and Strickland (1998), Beer and Eisenstat (2000), and Kaplan and Norton (2001).

Table 2

Twelve-question survey summary

Question	Employment level	Pre-Route 99 n	Post-Route 99 n	Pre-Route 99 mean rank	Post-Route 99 mean rank
Do you know what to expect at work?	Employee	183	155	167.46	171.91
	Supervisor	28	26	26.25	28.85
	Director or above	15	12	13.10	15.13
Do you have the materials and equipment you need to do your work right?	Employee	185	155	174.43	165.81
	Supervisor	28	26	23.96	31.31
	Director or above*	15	12	10.90	17.88
At work, do you have the opportunity to do what you do best every day?	Employee	184	155	171.29	168.47
	Supervisor	29	26	25.03	31.31
	Director or above	14	12	10.79	15.67
In the last 7 days, have you received recognition or praise for good work?	Employee	185	154	164.81	176.23
	Supervisor	28	26	24.89	30.31
	Director or above	15	12	13.37	14.79
Does your supervisor (or director) at work seem to care about you as a person?	Employee	183	155	170.32	168.53
	Supervisor*	29	26	22.14	34.54
	Director or above	15	12	12.20	16.25
Is there someone at work who encourages your development?	Employee	185	154	167.67	172.80
	Supervisor	29	26	24.88	31.48
	Director or above	15	12	12.83	15.46
At work, do your opinions seem to count?	Employee	185	155	167.72	173.81
	Supervisor*	29	26	24.10	32.35
	Director or above	15	12	11.57	17.04
Does the mission/purpose of the corporation make you feel like your work is important?	Employee	184	153	161.40	178.13
	Supervisor	29	26	26.31	29.88
	Director or above	15	12	11.70	16.88
Are your coworkers committed to doing quality work?	Employee	184	155	167.87	172.53
	Supervisor	28	26	29.36	25.50
	Director or above	15	12	12.30	16.13
Do you have a best friend at work?	Employee	185	155	163.31	179.08
	Supervisor	28	26	24.73	30.48
	Director or above	15	12	14.00	14.00
In the last 6 months, have you talked with someone about your progress?	Employee	184	154	166.79	172.73
	Supervisor	28	26	26.09	29.02
	Director or above	15	12	13.60	14.50
At work, have you had opportunities to learn and grow?	Employee	185	155	170.84	170.09
	Supervisor	29	26	27.16	28.94
	Director or above	15	12	11.83	16.71

*Change in mean rank significance ($p < .05$).

Learning Experience 2—Management and Financial Transparency

The shared vision of any organization is based upon the underlying assumption of transparency by management with regard to all areas of the organization when developing the initial BSC framework. In conjunction with a strategic business plan, the BSC framework should have addressed the significant financial issues this hospital was facing. Indeed, if the weak financial status of this hospital had been disclosed to the Director's Steering committee in the beginning, a better strategic plan or shared vision could have been developed to address these significant issues.

As the intervention progressed and it became public, this hospital was in technical financial default of its loan, issues related to leadership support, management, and financial transparency became confounding factors regarding the effectiveness of the intervention. Because this hospital's strategic plan was to be implemented in stages, if the financial issues had been revealed, a different strategy may have been developed and implemented more effectively. We can only speculate about a potentially different outcome for this hospital, but the evidence with regard to the rise in patient satisfaction mean scores and the variety of success seen in other health care settings would lead us to assume a

better outcome. The second learning experience is the need for management and financial transparency.

Learning Experience 3—Strength of the BSC

Even in the failure of this hospital, the BSC framework has demonstrated its strength through increased patient satisfaction scores. Its ability to guide management from defined vision to shared vision and onto actionable and measured success was demonstrated through the rise in patient satisfaction scores despite confounding events. When the strategic plan was developed, the BSC framework encouraged appropriate evaluation and implementation of metrics to achieve the goals of the plan. Through the strong leadership support in patient care services, the shared vision of patient satisfaction defined by the BSC framework remained the focal point and was translated into action by the employees despite upper management changes and hospital financial disclosures. Because the metrics were put into place with the specific purpose to measure the status of the intervention, the BSC framework provided constructive feedback for attainment of the desired goal, increased patient satisfaction scores.

Whereas inpatient patient satisfaction scores returned to levels attained 2 1/2 years prior to the intervention, the outpatient patient satisfaction scores were consistently higher than a peak patient satisfaction score 3 years earlier. The authors attribute the increases in both inpatient and outpatient patient satisfaction scores to the successful learning experience of the employees through the intervention. The third learning experience is the strength of the BSC framework as a management tool, even in adverse conditions.

Practice Implications

The future of the health care industry is certain of one thing, change. For organizations to flourish with the ever-changing technological advances, multiple stakeholders, and consumer expectations, health care management teams need to accurately assess their market and financial position. For this hospital to evolve and survive, it attempted to change through the use of the BSC framework. The failure of the intervention in this case study has validated the need for leadership support and management transparency as suggested by Deming (1986) and as indicated as an underlying construct of the BSC by Kaplan and Norton (2001).

Where leadership support was present, for example, in patient care services, focus was maintained to achieve the defined vision set forth, in this case, increased patient satisfaction. However, the responsibility for effective vision communication has to be shared rather than

centralized. Due to most of the senior management team not "buying in" to the strategic plan from the beginning, this hospital lost the benefit of all vice presidents serving as communication managers. Without the cooperation from other departments and the communication necessary to address the source of problems, improvement efforts could not be incorporated as lasting changes for the organization.

The successful implementation of the BSC was also hindered in this case by the lack of transparency by management, particularly in the financial quadrant. The result was an unfortunate mismatch in metrics and strategic goals. To effectively utilize the BSC framework to achieve strategic goals, metrics must be assessed as to their effectiveness to measure and communicate specific strategic goals. The correct and accurate selection of internal and external metrics is essential for successful implementation of a strategic plan. Metrics selected prior to the start of the intervention need to be monitored throughout implementation and changed as necessary based upon their observed ability to reflect the strategic plan. As this case study illustrates, failure to adapt metrics can result in misleading outcomes. Although patient satisfaction is an important metric and significant improvements were achieved, it did not drive the necessary change to save this hospital from financial failure. Health care executives must be aware that patient satisfaction is a complex metric. Its all-encompassing nature may not make it suitable as a system performance measure or as a reflection of employee satisfaction as demonstrated in this case study.

However, the ability of the BSC framework to significantly improve the patient satisfaction metric has validated the effectiveness of the double-loop feedback developed by Kaplan and Norton (2001) and demonstrated the strength of this approach even in adverse circumstances. With accurate metric selection, a well-implemented measurement system can yield the feedback health care managers need to improve clinical care and services.

In an organization which desires to change its culture or strengthen its position within a given health care market, these concepts must align. Alignment must include consistency in plans, processes, information, resource decisions, actions, results, and analysis to support key organization wide goals (Baldrige National Quality Program, 2005). Without leadership support, management transparency, and accurate metric selection, any tool, even one that has demonstrated itself as effective as the BSC framework, will not accomplish the strategic goal set before it.

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