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Survey In Strategical Role of Balanced Score Card In Organizations

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ABSTRACT

The balanced scorecard is a performance management system that enables businesses to drive strategies based on measurement and follow-up. Since the early 1990s the balanced scorecard has been applied in numerous large organizations resulting in many positive results that have been chronicled in the management literature. However, there are few studies addressing the use of a balanced scorecard within small companies. Hence, this paper presents a discussion of the key elements of the balanced scorecard and its applicability to small business.

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INTRODUCTION

The balanced scorecard (BSC) approach helps organizations manage the implementation of their strategies. The BSC measures an organization's performance from four key perspectives: financial, customer, internal business processes, and learning and growth. The BSC approach logically links these four perspectives. Improvements in employee learning and growth result in improved internal business processes, which create better products and services and, therefore, higher customer satisfaction and higher market share, leading to enhanced financial results for the organization. Thus, a good balanced scorecard identifies many cause-and-effect relationships within the business and helps employees and managers appreciate the roles of employee and task as well as the importance of each result to the overall corporate effort.

For a decade, large firms have subscribed to the BSC approach, with mixed results. Most failures follow an inconsistent or half-hearted application of the BSC, or an unwillingness to consider the BSC a dynamic process of self-improvement. The successful implementers of BSC agree on its usefulness for translating strategy into a coherent, linked, limited set of under-standable, measurable operational goals.

Small firms can benefit from the BSC approach by avoiding pitfalls of large firms whose BSC implementations failed. While small firms may deploy measures of performance covering fewer processes, and collect less data to evaluate performance, in the end, the methodology is the same and benefits will inure to small firms willing to treat BSC as a dynamic self-improvement process. Thus, firm size is *not* a barrier to the successful implementation of this important measurement and follow-up tool.

Elite companies successfully apply performance measurement to gain insight into, and make judgments about, the organization and the effectiveness and efficiency of its programs, processes, and people [2]. One criticism of such programs is their failure to measure and monitor multiple dimensions of performance by focusing almost exclusively on financial measures [7]. Studies by Dixon, Nanni, & Vollman (1990), Ernst & Young [14], Neely [39] and Daly [11] suggest that a comprehensive performance evaluation system has greater predictive validity than one that is purely financially oriented.

Recognizing the difficulties of an overemphasis on financial measures, Kaplan and Norton [22,24,25,26], advised that long-term organizational excellence can be achieved only by taking a broad, holistic, and balanced

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approach and not by focusing solely on financials. Using the balanced scorecard (BSC) approach managers are encouraged to take a “balanced view across a range of performance measures” [2] including “...financial and nonfinancial measures relating to a company’s critical success factors” [10].

Hence this paper discusses BSC as a tool applicable to small business to improve their performance and is structured in several sections. First, we outline the BSC approach and illustrate some applications. Next, we present the context, strengths, and challenges of a BSC approach. Then we discuss the applicability of a BSC to small business and what it might look like for a small organization. A summary concludes the paper.

The BSC:

The BSC is an integrated set of financial and non-financial measures. It is an integral part of an organization's strategy execution process that emphasizes communicating strategy to the members and providing feedback to help attain objectives [35]. The score-card can be used at different levels: the total organization, a sub-unit, or even at the individual employee level as a “personal scorecard.” For each level, the BSC approach identifies the key components of operations, sets goals for them, and finds ways to measure progress toward achieving these goals. Taken together, the measures provide a holistic view of performance both inside and outside the organization, and allow each constituent of the organization to see how his or her activities contribute to attaining the organization's overall mission. As Richard Quinn, Vice President of Quality at Sears, has observed, “You simply can't manage anything you can't measure” [30].

This trend toward seeking better measurement systems is well documented. Birchard [6] and Kurtzman [29] report that most US companies seek improvements in the performance measurement area. The shared concern of these companies is that measurement systems that focus on the wrong aspects of performance can undermine the organization's strategic mission by perpetuating short-sighted business practices [19].

As a measurement system, the BSC is based on several underlying notions. The first is that financial measures alone inadequately measure the health of a company and that a single-minded pursuit of financial objectives could lead to long-term ruin. The second is that BSC focuses on process, not metrics. As such, it is forward-looking (e.g., “How can our organization retain its best customers?”) rather than backward-looking (e.g., “What were our organization’s earnings per share last quarter?”). The third is that the scorecard is an analytic framework for translating a company’s visions and business strategies into specific, quantifiable goals and for monitoring performance against those goals. When fully deployed, the BSC transforms strategic planning from an academic exercise into the nerve center of an enterprise (Figure 1). Kaplan and Norton further describe the innovation of the BSC as follows:

“The BSC retains traditional financial measures. But financial measures tell the story of past events, an adequate story for industrial age companies for which investments in long-term capabilities and customer relationships were not critical for success. These financial measures are inadequate, however, for guiding and evaluating the journey that information age companies must make to create future value through investment in customers, suppliers, employees, processes, technology, and innovation” (1996b, p. 7).

Across organizations, the relevant BSC components vary depending on the organization’s specific goals and circumstances. However, there is some agreement that a typical BSC would include the following four components in some form [21]:

1. Learning and growth perspective: Can the firm continue to improve and create value for customers?
2. Internal business process perspective: In which capabilities must the firm excel?
3. Customer perspective: How do customers see the firm?
4. Financial perspective: How does the firm look to providers of financial resources?

Inherent in this model is the idea that “gains in the learning and growth perspective lead to improvements in internal business processes, which in turn lead to higher customer satisfaction and market share, and finally to superior financial performance” [21]. Thus, the BSC scheme is organized and rational and identifies for employees and management the importance of each perspective as a feeder of success into the next perspective.

The learning and growth perspective:

This perspective includes employee training and corporate cultural attitudes related to individual and organizational self-improvement. In a knowledge-worker organization, people—the only repository of knowledge—are the main resource and should be in a continuous learning mode. Appropriate metrics can guide managers in focusing training funds where they can help the most. Frequently cited BSC measures for the learning and growth perspective emphasize *employee capabilities* (e.g., employee education and skill levels, employee satisfaction scores, employee turnover rates); *information systems availability* (e.g., percentage of front-line employees with on-line access to customer information, percentage of business processes with real-time feedback); and *motivation and empowerment* (e.g., number of suggestions per employee, percentage of employee suggestions implemented, and percentage of compensation based on individual and team incentives). Kaplan and Norton (2000) emphasize that learning includes not only training, but also mentoring, ease of communication among workers, and technological tools.

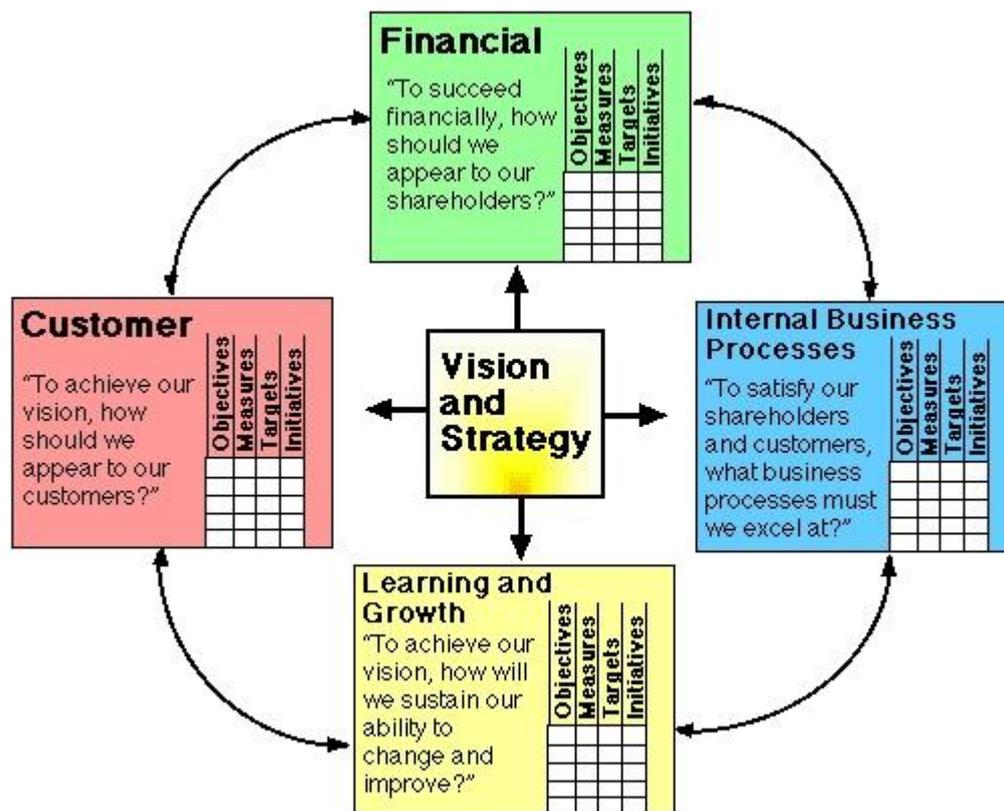


Fig. 1: Key perspectives in the balanced scorecard approach to increasing organizational excellence. Adapted from the Balanced Scorecard Institute.

The internal business process perspective:

Metrics based on this perspective allow managers to evaluate how well their business is running, and whether its products and services conform to customer requirements (the mission). These metrics must be carefully designed by those who know these processes most intimately; with firms' unique missions these cannot be developed exclusively by outside consultants. Frequently cited BSC measures for the internal business process perspective include the *innovation process* (manufacturing capabilities, number of new products or services, product development times, and number of new patents), *operations process* (yield, defect rates, product delivery time, on-time deliveries, average time taken to manufacture orders, setup time, manufacturing down time), and *post sales service* (time taken to replace or repair defective products, hours of customer training for using the product).

The customer perspective:

Recent management philosophy has shown an increasing realization of the importance of customer focus and customer satisfaction in any business [9,20,38]. If customers are not satisfied, they will eventually find other suppliers who will meet their needs. Poor performance from this perspective is thus a leading indicator of future decline, even though the current financial picture may look good. In developing metrics for satisfaction, customers should be analyzed in terms of kinds of customers and the kinds of processes for which an organization is providing a product or service to those customer groups. Frequently cited BSC measures for the customer perspective include market share, customer satisfaction, customer retention percentage, penetration of targeted market segments, and time taken to fulfill customer's requests.

The financial perspective:

Kaplan and Norton do not disregard the traditional need for financial data. Timely and accurate funding data will always be a priority, and managers will do whatever necessary to provide it. Often there is more than enough handling and processing of financial data. With the implementation of a corporate database, more of the processing can be centralized and automated. However, a non-BSC emphasis on financials leads to an "unbalanced" situation with regard to other perspectives, implying a need to include additional data such as risk assessment and cost-benefit data in this category. Frequently cited BSC measures for the financial perspective

include operating income, revenue growth, revenues from new products, gross margin percentage, cost reductions in key areas, economic value added, and return on investment.

An example of these four perspectives in an actual business is presented in Figure 2 [31]. As can be seen, once the strategy is identified, tactical objectives and performance standards in support of the strategy within the four perspectives are clearly delineated giving an organization a balanced measurement system.

	Objective	Metric	Target Rate	Initiatives
Financial	Department should be self-sustaining	Total software revenue $\geq 2x$ (total Full Time Equivalent ¹ Employee salary + benefit costs)	25% year 1 100% year 4	<ul style="list-style-type: none"> Provide marketing with benefits analysis of product and support Monthly review of sales with marketing
Customer	Deliver complete solutions	Number of customer requests for new or missing features	<25 per release year 1 <10 per release year 2	<ul style="list-style-type: none"> Review and analysis of requirements with marketing
	Deliver timely solutions	Release date to marketing	± 1 week of plan year 1 $\pm 1/2$ week of plan year 2	<ul style="list-style-type: none"> Review and analysis of requirements with marketing Schedule creation and review with marketing
	Deliver timely support	Days answer to customer inquiries to customer's satisfaction	1-3<1 day 1-3<3 days 1-3<2 weeks	<ul style="list-style-type: none"> Review and analysis of issues with marketing Team defect analysis
Operational	Increase quality of delivered software and support	Number of customer requests for bug fixes	<25 per release year 1 <10 per release year 2	<ul style="list-style-type: none"> Design review process Code review process
	Streamline development process	Reduce average time for defect repair	25% year 1 50% year 2	<ul style="list-style-type: none"> Team defect analysis
		Reduce defect density	25% year 1 50% year 2	<ul style="list-style-type: none"> Design review process Code review process
Learning and Growth	Increase C programming language knowledge	Code review defects found	>90% year 1 >99% year 2	<ul style="list-style-type: none"> In house system training in C Code review process
	Increase software process knowledge	Number of engineers using the Software Engineering Institute Personal Software Process	25% year 1 50% year 2 100% year 3	<ul style="list-style-type: none"> PSP training
	Educate sales and marketing on our software's value	Number of sales agreements showing separate software revenue line items	25% year 1 100% year 4	<ul style="list-style-type: none"> Training of sales and marketing personnel on the benefits provided by our software

Fig. 2: An example of a balanced scorecard at a small software company (after Mair, 2002).

Extant BSC implementations:

Recent articles and books discuss the advantages of the BSC and its application in the for-profit sector [19,22,23,24,25,26,29,32,36,40,41]. Among the numerous successful users of the BSC are the AM & R division of Mobil Oil, Tenneco, Brown and Root, AT&T, Intel, 3Com, and Elf Atochem.

Philips Electronics has used the BSC to align company vision, focus employees on how they fit into the big picture, and educate them on what drives the business [16]. As an essential aid to communicating business strategy, the BSC works as a vehicle to create a quantitative expression of the business strategy from key financial indicators. In fact, Philips Electronics' management team uses it to guide the quarterly business reviews worldwide in order to promote organizational learning and continuous improvement [16].

Adopters in the service sector include the international accounting firm Ernst and Young [49], the Bank of Montreal [6], Allstate Corp. [6 and Cigna Insurance's property-and-casualty division (McWilliams, 1996). Even non-profit organizations such as universities (e.g., U. of California at San Diego) and governmental agencies (e.g., Department of Commerce) have embraced the BSC to help them become more effective [43,17].

Context, strengths, and challenges of the BSC:

Context:

According to Abernathy (2000, p. 31), the typical employee does not understand the organization's strategy and consequently fails to focus on the right things; does not know his or her personal role in accomplishing the strategy and as a result does what is required, not what is needed; and does not know how well he or she is doing or how to improve strategic results and thus, assuming performance is adequate, does not try to improve. In addition, employees in many organizations pursue personal rather than organizational goals, because of

disharmony between employee and organizational strategies and goals, and because of existing reward structures that focus on individual or sub-unit achievements rather than the achievement of corporate goals [28]. In such a corporate environment, organizational suboptimization is the result of sub-organizational optimization. Frigo and Krumwiede (2000) suggest that the BSC can help remedy this situation because it requires organizations to engage in several beneficial activities. These activities delineate the major strengths of the BSC, as outlined in the following section.

Strengths:

The first strength the BSC approach is a focus on the company's strategic direction. A BSC approach helps management communicate the company's mission by linking performance measures to its mission and strategy. While the idea of tailoring the company's performance measurement system to its strategy is almost commonsensical, several studies conducted over the years note that too many firms fail to implement it properly. Kerr [28], for example, described how many companies' performance measurement systems rewarded behaviors other than the ones they hoped to obtain from their employees (e.g., firms often hope for teamwork but reinforce individual effort).

Another advantage is the implementation of performance measures for each perspective that clearly relate to each other and to the mission of the organization. Thus, although the measures are necessary, communicating the importance of each activity as a crucial link in the larger organizational chain of events offers employees an appreciation of the context in which each task is performed and the context in which each result will be evaluated.

The BSC approach limits the number of measures of performance used. Thus, it avoids a proliferation of measures and focuses management attention on measures crucial to the successful implementation of strategy. The BSC avoids the tendency to engage in the "majoring in the minors" characteristic of many organizations and managers [8,46].

Finally, implementing the balanced scorecard is a beneficial activity because it responds to common questions raised in annual employee motivation surveys, such as "How does what I do every day fit into the bigger picture of the company?" The BSC enables employees to understand what they need to do on a daily basis to impact results [16].

Challenges of the BSC:

In many cases, the BSC no doubt delivers improvements over what existed before. But almost any organizational intervention triggers the Hawthorne effect [27], named for experiments conducted in the 1920s and '30s on a group of production employees at Western Electric. Those studies showed that attention placed on the activities being measured invariably led to performance improvements. Hence, many of these early BSC successes may simply be a manifestation of this phenomenon.

Although the BSC is comprehensive in its coverage of perspectives, it might be that an organization, based on its particular strategy, might do better by focusing on one or more of these measures rather than having a balanced emphasis in each of the four areas, because different strategies have different requirements for success. Indeed, Slater, Olson, and Reddy [45] argued that the scorecard should be "unbalanced," based on the strategy of the business. Using Treacy and Wiersema's [47,48] "value disciplines," they asserted that product leaders should emphasize the innovation and learning perspective; customer-intimate companies (those that excel in customer intimacy) should emphasize the customer perspective; the operationally excellent should emphasize the internal business perspective; and all of the value disciplines should pay attention to the financial perspective. Their rationale was that each value discipline has a performance perspective that is a leading indicator of its financial performance.

This "unbalanced" perspective is supported by Olson and Slater [42] who found that as a group, prospectors (organizations seeking to locate and exploit new product and market opportunities; Miles & Snow, [37]) emphasized the innovation and growth perspective more than any of the other strategy types, and high-performing low-cost defenders placed greater emphasis on the financial perspective than did low-performing ones. High performers that have adopted this competitive strategy also placed significantly lower emphasis on both the customer perspective and the innovation and growth perspective than did low performers. This suggests that attempting to get close to their customers and pursuing innovation and market growth detracted from low-cost defenders' quest for efficiency.

Thus, a balanced approach may not be appropriate for all organizations, and benefits can be derived from matching an emphasis in the scorecard to strategy type. McAdam & O'Neill [33] likewise suggest that the BSC method is potentially so broad that it may divert resources from those few areas that really are vital to shareholder return and does not readily weight the relative importance of the metrics it uses. While the four categories may have been right for Analog Devices (the first organization to use the BSC approach) at the time, they are not necessarily right for all organizations in all situations.

The applicability of the BSC to small business:

Many large organizations have identified the BSC methodology as their chosen approach for deploying strategic direction, communicating expectations, and measuring progress towards corporate objectives. According to a recent survey by Bain & Company, approximately 50% of *Fortune* 1,000 companies in North America and about 40% in Europe use a version of the BSC [16]. Heaney [18] indicates that the BSC is used by over half of the companies in *Fortune's* Global 1000 companies.

These data suggest that the BSC is primarily used by large organizations. This is regrettable since small businesses represent more than 99% of all employers, and employ more than half the private work force [3]. Small business entrepreneurs create more than two out of every three new jobs and generate about 50% of the nation's gross domestic product. Furthermore, more than three million minority-owned small businesses are providing job opportunities for millions of Americans in thousands of communities across America [3]. Small business, then, is important to America and activities to improve these organizations are of critical importance.

Large international firms tend to face more turbulent and competitive environments, have more dispersed and varied products and processes to coordinate and monitor, and have more resources for undertaking change initiatives. In comparison, small or local companies may have different needs, and what works for large companies may be ineffective or unnecessary for them [10]. However, the benefits of the BSC can be just as significant for small businesses. Indeed, they may be more important since small companies focus mostly on financial goals, because they are often fighting for survival and it is difficult to make plans for the future when most of the effort is directed to making ends meet in the present [12].

Most small firms require lower volumes of information to carry out their operations and evaluate their performance than do their larger counterparts. Nonetheless, the value of the information, and the communication of that information within the small firm, is crucial to the success of the small firm. Therefore, while the scope and magnitude of performance evaluation across the firm may be less in the small firm, the need for, and the benefits of, an effective system of performance evaluation is vital to all firms.

Small firms enjoy innate advantages in their ability to achieve consensus and impart to employees news of change. The smaller number of interested internal parties reduces challenges to effective communication and facilitates corporate-wide team participation. It is easier to get ten people on board than it is to get ten thousand people on board, and it is easier to identify a party or parties not on board within a group of ten than within a group of ten thousand.

The underpinnings of the BSC approach are as relevant to the small firm as to the large. Small firms have employees performing operational tasks and processes. If the employees are effective and efficient (i.e., sufficiently trained and motivated), then internal business processes will be efficient. Efficient operations run by effective employees should generate higher quality output, which will attract and keep satisfied customers. Repeat customers contribute marginally more to the firm's bottom line than do new customers who must be wooed. In short, the BSC can work as well for the small firm as for the large firm. The BSC's complexity may be diminished and its formality may be dampened in the context of a small firm, but neither its importance nor its utility suffers negative consequences related to firm size.

Concluding remarks:

The BSC emphasizes measurement in four key business areas or perspectives. These four perspectives provide for a more comprehensive evaluation of the organization than the traditional emphasis on tangible and financial assets of the organization. Incorporating these perspectives in the BSC offers a framework for translating strategic objectives into performance measurements that gauge the effects of implemented strategies and provide feedback on the performance of strategic initiatives.

We believe that the BSC offers some useful generic performance measurements that apply to practically all organizations. Companies, small or large, need to know how they measure up to their own goals and standards, and the BSC can give them the advantage they need to evaluate themselves accurately and, as a result, place themselves in a better position to compete. The main goal for small business is to manage their overall performance so that they make a profit. Birch [5] said it best when he indicated that "The key point to remember is that what get measured gets managed" (p. 45).

REFERENCES

- [1] Abernathy, W.B., 2000. *Managing without supervising: Creating an organization-wide performance system*. Memphis, TN: William B. Abernathy.
- [2] Amaratunga, D., D. Baldry and M. Sarshar, 2001. Process improvement through performance measurement: The balanced scorecard methodology. *Work Study*, 50: 179-188.
- [3] American Small Businesses, 2003. Retrieved June 26, 2003, from <http://www.whitehouse.gov/infocus/smallbusiness>

- [4] Balanced Scorecard Institute (n.d.). Retrieved June 3, 2003 at <http://www.balancedscorecard.org/basics/bsc1.html>
- [5] Birch, C., 1998. Balanced scorecard points to wins for small firms. *Australian CPA*, 68: 43-45.
- [6] Birchard, B., 1995. Making it count. *CFO: The Magazine for Senior Financial Executives*, 11: 42-51.
- [7] Brignall, S., and J. Ballantine, 1996. Performance measurement in service business revisited. *International Journal of Service Industry Management*, 7: 6-31.
- [8] Busby, J.S., 1999. An assessment of post project reviews. *Project Management Journal*, 30: 23-29.
- [9] Chabrow, E., 2002. Keep 'em happy. *InformationWeek*, 907: 20-22.
- [10] Chow, C.W., K.M. Haddad and J.E. Williamson, 1997. Applying the balanced scorecard to small companies. *Management Accounting*, 79: 21-27.
- [11] Daly, D., 1996. Performance measurement and management. *Management Accounting*, 78: 65-66.
- [12] DeFeo, J.A., 2000. Measuring what matters. *Industrial Management*, 42: 31-33.
- [13] Dixon, J.R., A.J. Nanni and T.E. Vollman, 1990. *The new performance challenge: Measuring operations for world class competition*. Homewood, IL: Business One Irwin.
- [14] Ernst and L.L.P. Young, 1998. *Measures that matter*. Cambridge, MA: Ernst & Young Centre for Business Innovation.
- [15] Frigo, M.L., and K.R. Krumwiede, 2000. The balanced scorecard. *Strategic Finance*, 81: 50-54.
- [16] Gumbus, A., and B. Lyons, 2002. The balanced scorecard at Philips electronics. *Strategic Finance*, 84: 45-49.
- [17] Haddad, K.M., 1999. Using the balanced scorecard for improving finance education. *Financial Practice & Education*, 9: 92-101.
- [18] Heaney, P.D., 2003. Can performance be managed? *Progressive Grocer*, 82: 11-13.
- [19] Hoffecker, J., and C. Goldenberg, 1994. Using the balanced scorecard to develop companywide performance measures. *Journal of Cost Management*, 8: 517.
- [20] Holloway, A., 2002. It's all about relationships. *Canadian Business*, 75: 80.
- [21] Horngren, C.T., G. Foster and M.D. Srikant, 2000. *Cost accounting: A managerial emphasis*. Upper Saddle River, NJ: Prentice Hall.
- [22] Kaplan, R.S., and D.P. Norton, 1992. The balanced score card—Measures that drive performance. *Harvard Business Review*, pp: 171-179.
- [23] Kaplan, R.S., and D.P. Norton, 1993. Putting the balanced scorecard to work. *Harvard Business Review*, 135-147.
- [24] Kaplan, R.S., and D.P. Norton, 1996a. *The balanced score card*. Boston, MA: Harvard Business School Press.
- [25] Kaplan, R.S., and D.P. Norton, 1996b. Using balanced scorecard as a strategic management system. *Harvard Business Review*, pp: 75-85.
- [26] Kaplan, R.S., and D.P. Norton, 2000. *The strategy-focused organization: How balanced scorecard companies thrive in the new business environment*. Boston, MA: Harvard Business School Press.
- [27] Kenny, G., 2003. Strategy: Balanced scorecard—Why it isn't working. *New Zealand Management*, 50: 32-34.
- [28] Kerr, S., 1975. On the folly of rewarding A, while hoping for B. *Academy of Management Journal*, 18: 769-783.
- [29] Kurtzman, J., 1997. Is your company off course? Now you can find out why. *Fortune*, 135: 128-130.
- [30] Lingle, J.H., and W.A. Schiemann, 1996. From balanced scorecard to strategic gauges: Is measurement worth it? *Management Review*, 85: 56-61.
- [31] Mair, S., 2002. A balanced scorecard for a small software group. *IEEE Software*, pp: 21-27.
- [32] Maisel, L.S., 1992. Performance measurement: The balanced scorecard approach. *Journal of Cost Management*, 6: 47-52.
- [33] McAdam, R., and E. O'Neill, 1999. Taking a critical perspective to the European Business Excellence Model using the balanced scorecard approach: A case study in the service sector. *Managing Service Quality*, 3: 191-197.
- [34] McWilliams, B., 1996. The measures of success. *Across the Board*, 33: 16-20.
- [35] Mendoza, C., and R. Zrihen, 2001. Measuring up. *Financial Management (CIMA)*, pp: 26-29.
- [36] Migliorato, P., N. Natan and D.P. Norton, 1996. A scoring system for creating JVs that survive. *Mergers and Acquisitions*, 30: 45-50.
- [37] Miles, R., and C. Snow, 1978. *Organizational strategy, structure, and process*. New York: McGraw-Hill.
- [38] Needleman, T., 2003. Customer satisfaction is supreme. *Internet World*, 9: 6.
- [39] Neely, A., 1998. *Measuring business performance*. London: Economist Books.
- [40] Newing, R., 1994. Benefits of a balanced scorecard. *Accountancy*, 114: 52-53.
- [41] Newing, R., 1995. Wake up to the balanced scorecard. *Management Accounting*, 73: 22-23.

- [42] Olson, E.M., and S.F. Slater, 2002. The balanced scorecard, competitive strategy, and performance. *Business Horizons*, 45: 11-16.
- [43] Relyea, S.W., 1998. From gutter balls to strikes: UCSD's balanced scorecard program.
- [44] National Association of College and University Business Officers *Business Officer*. Retrieved August 4, 2003 at <http://www.nacubo.org/website/members/bomag/9806/scorecard.html>
- [45] Slater, S.F., E.M. Olson and V. Reddy, 1997. Strategy-based performance measurement. *Business Horizons*, 40: 37-44.
- [46] The Nielson Group., 2003). *The Nielson report*, 3, 1-4. Retrieved August 1, 2003 at <http://www.nielsongroup.com/newsletter/vol3issue4.pdf>
- [47] Treacy, M., and F. Wiersema, 1993. Customer intimacy and other value Disciplines. *Harvard Business Review*, 71: 84-93.
- [48] Treacy, M., and F. Wiersema, 1995. *The discipline of market leaders*. Reading, MA: Addison- Wesley.
- [49] Vitale, M., S. Mavrinac and M. Hauler, 1994. D. H.: The chemical division's balanced scorecard. *Planning Review*, 22: 17-45.