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Combining Measurement Frameworks

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Abstract

This paper reviews and summarizes financial measurement systems and evaluates them against some core management constructs. First, accurate information is fundamental for decision making. Recent improvements in financial control systems and processes offer improvements in the accuracy of the cost and profit data being reported to management. Techniques such as Activity Based Costing (ABC), the Balanced Scorecard, and the Economic Value Added (EVA) concept have improved the accuracy of financial data and given companies that implement them a competitive advantage. Second, the EVA approach can be used to account for the total cost of the capital employed to generate revenues, and provides a metric for measuring the economic value added by corporate operations. Shareholders and the investment community are pressuring managers to deliver value and are demanding more accurate and transparent performance measurement approaches. Combining new and improved performance measurement frameworks may provide synergies that provide even more benefits.

The ABC, Balanced Scorecard and EVA techniques are reviewed and evaluated for compatibility to see if they could be used simultaneously in combination, or whether they are mutually exclusive of each other. An analysis of the benefits provided by each technique is persuasive. ABC is a superior method of allocating overhead and indirect costs to products and services so a more accurate evaluation of their profitability can be made. The Balanced Scorecard enables managers to identify and track a number of financial and non-financial metrics to provide an accurate view of operating performance. EVA is an "economic" metric for measuring corporate performance that takes into account the cost of equity on assets employed and helps managers report out accurate valuations of economic profit. Since each technique involves improving the accuracy of information provided to economic decision makers, and can be tailored to a particular project's critical success factors, the three techniques were found to be complimentary and can be used in combination.

Contents

Introduction

This paper reviews and summarizes a report on financial measurement systems[1] produced by Stern Stewart,[2] and evaluates the report against some core management constructs. First, accurate information is fundamental for decision making. Recent improvements in financial control systems and processes offer improvements in the accuracy of the cost and profit data being reported to management. Techniques such as Activity Based Costing (ABC), the Balanced Scorecard, and the Economic Value Added (EVA) concept have improved the accuracy of financial data and given companies that implement them a competitive advantage. Second, the EVA approach defined by Stern Stewart accounts for the total cost of the capital employed to generate revenues and provides a metric for measuring the economic value added by corporate operations. Shareholders and the investment community are pressuring managers to deliver value and are demanding more accurate and transparent performance measurement approaches. Combining new and improved performance measurement frameworks may provide synergies that provide even more benefits.

The ABC, Balanced Scorecard and EVA techniques were reviewed and evaluated for compatibility regarding whether they could be used simultaneously in combination, or whether they are mutually exclusive of each other. An analysis of the benefits provided by each technique is persuasive. ABC is a superior method of allocating overhead and indirect costs to products and services so a more accurate evaluation of their profitability can be made. The Balanced Scorecard enables managers to identify and track a number of financial and non-financial metrics to provide an accurate view of operating performance. EVA is a new "economic" metric for measuring corporate performance that takes into account the cost of equity on assets employed and helps managers report out accurate valuations of "economic profit." It is said to be an appropriate metric that can align the interests of shareholders and managers by tying incentives to actual increases in valuations of an organization. Since each technique involves improving the accuracy of information provided to economic decision makers, and can be tailored to a particular project's critical success factors, the three techniques were found to be complimentary and can be used in combination. Each is discussed below.

Activity Based Costing (ABC)

Origin of ABC

Activity based costing was originally developed by two Harvard Business School Professors, Robert Kaplan and William Bruns.[3] Their text focused on problems faced by companies that attempted to modernize their management accounting systems. Sample companies were studied (including

[1] Shinder, Mark and David McDowell (1999), *ABC, The Balanced Scorecard and EVA – Distingushing the Means from the End*, EVAluation Periodical, Stern Stewart Europe Limited, London, Vol. 1, Issue 2, April, 1999, pg.s 1 -5.

[2] Stern Stewart Europe Limited is a financial consulting firm that developed the Economic Value Added (EVA) concept to replace traditional balance sheet metrics of income and earnings per share in support of economic decision making. Using the EVA metric offers an accurate approach to set goals, measure financial performance, evaluate business strategies, allocate capital, and determine opportunities that will add value into the enterprise.

[3] Bruns, Jr., William J. and Robert S. Kaplan (1987), editors, Accounting and Management: Field Study Perspectives, pg. ix, pg. 374, Harvard Business School Press, October, 1987.

Weyerhaeuser, Johnson & Johnson, and Hewlett-Packard) and were analyzed as they designed and implemented new control systems for measuring product costs and managerial performance. Around the time or their book, the manufacturing industry had new automation technologies and improvements that reduced the proportion of direct labor and material costs of products, but had an increase in the proportion of overhead and indirect costs. Consequently, the traditional accounting approach of allocating overhead costs to direct labor started resulting in increasingly more inaccurate cost determinations.

Description

Activity based costing is a method focused on more accurately allocating overhead and indirect costs to facilitate accurate cost determination of production units or services. It assigns resource costs to cost objects, such as products or services, based on activities performed for the cost objects. Resource costs are assigned to the activities based on their use of resources, and activity costs are computed by summing up the cost of each resource used to make a product or service. Resources costs are assigned only to the products and services that actually demand the activity, and are assigned to products and services in proportion to the amount of the resource service they demand.

Activity based costing has grown in popularity in recent times due to:[4]

1. Significant increases in manufacturing overhead costs.
2. Overhead costs that no longer correlate well with direct labor hours; i.e., they are no longer directly proportional to the hours worked due to automation.
3. Increased diversity of products to meet increasing diversity of customer demands.
4. The practice of producing some products in large batches, while using some common equipment to product other products in small batches.

Benefits of ABC

Benefits of ABC include the proper costing of transactions, the ability to accurately trace specific costs to customers, products and services, and the ability to accurately measure customer and product profitability.[5] The implementation benefits of ABC in the manufacturing industry have been widely recognized. Service industries are said to benefit from the ABC method of cost allocation as well, "due to the fact that service firms usually have high overhead costs and are labor intensive."[6] ABC can help services companies identify and allocate overhead and indirect costs and quantify labor costs associated with each activity.

Six benefits are said to flow from implementing an ABC control system:[7]

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[4] "Development of Activity Based Costing," described at the costleadershipstrategy.com website, published at: http://www.costleardershipstrategy.com/product-costing/development-of-activity-based-costing/, pg. 2 of 5, 3rd paragraph.

[5] Witherite, Jeffrey and Il-woon Kim (2006), Implementing Activity-Based Costing in the Banking Industry, Bank Accounting and Finance Journal, April – May, 2006, pg.s 29 – 34.

[6] Id., Witherite and Kim (2006), pg. 29.

[7] Id., Witherite and Kim (2006), pg. 30.

1. ABC enables comparison of the profitability across products.
2. ABC facilitates more accurate evaluation of organizational performance.
3. ABC enables more accurate estimation, allocation and tracking of costs.
4. ABC enables recovery of internal services provided by organizational resource centers.
5. ABC facilitates determination of cost accountability by identifying cost drivers.
6. ABC allows organizations to more accurately assess competitiveness of products and services.

Organizations are naturally interested in gaining a better understanding of the cost associated with the activities performed in organizational resource centers and the resources dedicated to performing these activities. For one reason, there may be duplication of activities within a corporation's organizational structure. An accurate allocation and understanding of activity costs enables management to identify and eliminate wasteful or duplicate services.

Implementing an ABC Control System

Preparation and Planning

Before implementing an ABC cost control system the following should be carefully assessed.[8]

1. The Identity and characteristics of significant indirect costs of engaged resource centers.
2. The complexity of the goods or services that are offered.
3. Any recurring losses that are occurring on high-volume products, which may indicate that too large a proportion of overhead and indirect costs are being allocated to production units.
4. Any recurring profits that are occurring on low-volume products which may indicate that too small a proportion of overhead and indirect costs are being allocated to production units.
5. Any documented disagreements by managers over cost allocations.
6. The age of the cost control system.

With respect to the characteristics of indirect costs, in some services companies as much as half of the organization's expenses are classified as indirect expenses.[9] Typical indirect functions include:

- Information Technology (IT) Support Centers – responsible for providing hardware and software and application development services to the organization.
- Corporate Support Centers – responsible for providing common services such as finance, human resources, contracting and legal support.
- General Support Services such as check processing, training, advertising and web site maintenance.

Implementation

Careful consideration must be given to designing an ABC system to ensure it meets the needs of the organization. Four steps are said to complete the design and implementation of an ABC control system:[10]

[8] Id., Witherite and Kim (2006), pg. 30, 4th paragraph.
[9] Id., Witherite and Kim (2006), pg. 30, 5th paragraph.

1. Identify and classify the activities related to the organizations products or services. Identify all areas of the value chain and define points of contact for each area. Interview each contact and identify all activities that are performed to produce the organization's products or services. Document the activities in an activity dictionary. Classify volumetric reach of each activity as either applicable at the unit level, batch or group level, product level, or facility level. Use the activity classifications to create accurate descriptions of how the organization achieves its work which, in turn, can be used to trace the cost of resources and activities required to produce the goods or services.
2. Estimate the costs of each identified activity. Estimate the labor, material, equipment and facility costs associated with each specific activity. Conduct personnel interviews and ask employees to identify the amount of time they spend on each activity in an average week. Determine the physical equipment and resources employees use when supporting the activity. Collect financial data from the accounting department to determine labor rates and equipment costs. Sum up all the costs to determine the total cost of each activity.
3. Calculate a cost driver for each activity. Use the total cost of each activity and the activity description to compute "cost-driver rates" for assigning activity costs to products and services. A cost-driver rate is said to be, "the estimated cost of resource consumption per unit of the cost driver for each activity."[11] Compute the cost driver by dividing the total activity costs (from step 2) by the total volume (or reach) for all uses of the activity (from step 1). This step essentially amounts to prorating the cost of the activity to all products that use it based on the amount it is used or relied on.
4. Assign activity costs to the organizations products and services. Assigning the activity costs based on the cost-driver rates (from step 3) to products and services requires intimate understanding of a company's organizational structure, relationships between departments, and processes. Determine the number of units of consumption for each activity that are used per unit of product. Assign costs of each activity to products by multiplying its cost-driver rate by the number of units of consumption allocated to each product.

Many ABC systems have been designed to capture only the costs that appear on Profit and Loss (P&L) statements. As with any overhead expense, the cost of capital employed to produce revenues must be captured and allocated to products and services. Managers must therefore focus on cost and capital, which suggests integration of EVA principles. Upgrading a typical ABC system to include the cost of capital, however, may still not be enough. Managers also need to understand the impact on revenues, volumes, customer satisfaction, market position and numerous other factors.[12] Fortunately, cost information can be supplemented with other performance indicators captured in a Balanced Scorecard to ensure value is maximized.

[10] Id., Witherite and Kim (2006), pg. 31, 6th paragraph.
[11] Id., Witherite and Kim (2006), pg. 33, 4th paragraph.
[12] Id., Shinder and McDowell (1999), pg. 2, 3rd paragraph.

The Balanced Scorecard

The Balanced Scorecard addresses the need to track performance measures other than financial ones to provide a broader view of business operations. Indicators such as process efficiency, safety, or customer satisfaction can be emphasized and tailored to an organizations data collection needs. Management uses Balanced Scorecards to translate their strategy into objectives that can be measured by linking top-level vision statements to progressively more detailed statements of:

- Strategy
- Objectives
- Critical success factors
- Individual measures.

Description

The scorecard is a collection of data designed to help management understand an organizations performance. The tracked metrics help managers balance their focus between current and future performance. Leading variables are future performance indicators, and lagging variables are historic results[13] that tell managers how successful they have been. Some variables, such as on-time deliveries, exhibit both a lagging characteristic (i.e., a measure of operational performance) and a leading indicator (i.e., customer satisfaction). Balanced Scorecards typically have four major categories including:

- Financial performance
- Customers
- Internal processes
- Learning and growth.[14]

Two to five measures of data to be tracked are identified for each category. Measures are focused on specific objectives. A measure of market share, for example, would support a business objective to increase market share. A measure of cost per unit would support the objective to reduce operating costs. Price and margin are good measures for indicating financial performance to support objectives related to competitiveness and profitability. Other sample measures include: product training, sales effectiveness, Return on Assets Employed (ROAE), customer loyalty, repeat sales, expanded sales, on-time deliveries, short cycle times, and process quality. The value of the scorecard rests in its flexibility. Any objective can be pursued. Also, once an organization's objectives are defined, any measures can be identified to support the objectives.

Benefits

The benefits that result from implementing the Balanced Scorecard framework include:

[13] Id., Shinder and McDowell (1999), pg. 2, 6th paragraph.
[14] Id., Kaplan and Norton (1996), pg.s 56 through 64.

- Scorecards allow alignment and validation of vision statements. They describe the organization's vision and raise awareness of them. If the vision statement is wrong, the fact that it is executed well becomes irrelevant.[15]
- Scorecards create awareness of the objectives and measures that are identified in each scorecard category.[16]
- The scorecard creates "a shared understanding by creating a holistic model of the strategy that allows all employees to see how they can contribute to organizational success.[17]"
- The scorecard focuses change efforts and increases the efficiency of investments when the right lead indicators are identified and are used to drive investments and initiatives to desired long-term outcomes.[18]
- The scorecard permits organized learning (at the executive level) of cause-and-effect relationships among objectives and measures explicitly so businesses can test their strategy in real-time and adapt as they learn.[19]

Implementation

To implement the Balanced Scorecard approach, select up to four major categories (also referred to as perspectives) of monitoring, such as financial performance, customers, internal processes, and learning and growth. Construct a table for each category and include columns with the following headers:

- Objectives
- Measures
- Targets
- Initiatives.

Identify several objectives to support each scorecard category, and list them in their respective tables. Identify two to five measures of data to be tracked for each category and list them in the table across from the appropriate objectives which they are intended to support. For each measure listed, identify and record in their respective columns the target values and any initiatives undertaken to achieve the target values. The scorecards support the concept that "we manage what we measure,"[20] and have the obvious benefit of raising awareness of all the measures that are identified and listed in the scorecards.

Business strategies can be implemented by linking objectives. A strategy, which essentially becomes a set of hypotheses about cause-and-effect relationships, can be expressed by a sequence of *if-then* statements.[21] As an example, consider the link established in Table 1,[22] which includes a chain of causes and effects that links the improved product training initiative and the higher ROAE values objective.

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[15] Kaplan, Robert S. and David P. Norton (1996), Linking the Balanced Scorecard to Strategy, California Management Review, Vol. 39, No. 1, Fall 1996, pg. 77, 4th paragraph.
[16] Id., Shinder and McDowell (1999), pg. 3, 2nd paragraph.
[17] Id., Kaplan and Norton (1996), pg. 77, 4th paragraph.
[18] Id., Kaplan and Norton (1996), pg. 77, 4th paragraph.
[19] Id., Kaplan and Norton (1996), pg. 77, 4th paragraph.
[20] Id., Shinder and McDowell (1999), pg. 3, 2nd paragraph.
[21] Id., Kaplan and Norton (1996), pg. 65, 2nd paragraph.

Table 1. Decomposing a Business Strategy Using *"if-then"* Statements

Affected Category	Type	*if-then* Statement
Finance	Objective	If an operating unit's Return on Assets Employed (ROAE) is increased, then the company ROAE and overall performance improves.
Customer	Objective	If customer loyalty is increased, then sales revenues will increase and the ROAE will improve.
Customer	Measure	If the on-time delivery of products to customer is increased, then customer satisfaction will improve.
Internal	Measure	If the quality of organizational processes increases, then the on-time delivery of products to customers increases.
Internal	Target	If the cycle time of the process to produce a product is reduced, then the on-time delivery of products to customers will increase.
Learning & Growth	Initiative	If employee production process skills are increased, then the production process time will be reduced.
Learning & Growth	Initiative	If employee training in the production process increases, then employee production skills will improve.

The best Balanced Scorecards are much more than "collections of critical indicators or key success factors," but are said to include multiple sets of a "linked series of objectives and measures that are both consistent and mutually reinforcing."[23] The table illustrates how a top-level financial objective like ROAE, can be decomposed into a causal chain of *if-then* statements that incorporate objectives, measures, targets and initiatives, involving all four scorecard categories. Decomposing multiple objectives and measures into causal chains will facilitate identification of the best metrics to use to fill in the four scorecards. Decomposition is facilitated by asking pointed questions. For example, the 3rd row of Table 1 addresses the on-time delivery measure. Decomposing it might involve asking "what internal processes must the company excel at to achieve an exceptional on-time delivery record?" The answer to that question may include improving the quality of organizational processes, and reducing the cycle time of production processes, which are indicated in rows 4 and 5, respectively. Production cycle times can be decomposed further by asking how the organization can improve production cycle times? The answer may involve improving employee skills through training, which are indicated in rows 6 and 7.

A properly constructed scorecard is said to tell the story of a business unit's strategy. "The measurement system should make the relationships (hypotheses) among objectives (and measures) in the various perspectives (categories) explicit so that they can be managed and validated."[24] (Clarifications added). Scorecards use both generic measures and drivers of performance. Typical generic measures include profitability, market share, customer satisfaction, customer retention, and employee skills.[25] Performance drivers are the metrics that tend to be unique for a particular business

[22] Based on an analysis of chain of causes-and-effects discussed by Kaplan and Norton (1996), pg. 65, 4th paragraph.
[23] Id., Kaplan and Norton (1996), pg. 64, 4th paragraph.
[24] Id., Kaplan and Norton (1996), pg. 65, 3rd paragraph.
[25] Id., Kaplan and Norton (1996), pg. 66, 2nd paragraph.

unit. A good Balanced Scorecard should integrate a mix of core generic measures to monitor outcomes, and performance drivers (such as cycle times and defect rates). Incorporating outcome measures without performance drivers will not plan or communicate to management how the desired outcomes are to be achieved. Incorporating performance drivers without the outcome measures may enable the organization to achieve short-term operational improvements, but the collected performance data will fail to reveal the improvements. A good Balanced Scorecard should therefore have a mixture of core outcome measures and the performance drivers that force the desired outcomes.[26]

The Balanced Scorecard can be an excellent tool and help managers track multiple factors that influence performance. It is said to lack, however, a "single focus for accountability."[27] Management needs one overriding performance measure to summarize the interaction between other metrics and for determining success. Integrating the EVA metric would tell shareholders whether management has balanced the scorecard correctly. Creating economic value is the desired outcome of a successful business strategy, and that is captured by the EVA metric.

The Economic Value Added (EVA) Metric

Description

EVA is a performance measurement framework proposed by Stern Stewart that can measure increases in a company's value that result from its operations and targeted investment opportunities. Companies compute and report to shareholders a more accurate valuation of profit, termed "economic profit," which incorporates the cost of equity capital. Mixing operating decisions with financial sources can make profit valuations made via traditional accounting measures look very different depending on whether new investments are funded with debt or equity financing. At 3 to 4 percent after taxes, debt financing is more attractive compared to 7 to 12 percent shareholders are demanding for equity investments. The apparent payoff a company earns from investments financed with debt are exaggerated since the cheaper interest costs allow companies to pursue riskier investments with lower rates of return, but still show some anticipated future earnings for their trouble.

Failure to account for the cost of equity is a tremendous shortcoming in current accounting processes. Since any profit on a balance sheet is a good thing, many companies are making management decisions based on how "accounting profit" will appear on a balance sheet, rather than maximizing the value of the company. In an EVA environment, management is required to evaluate potential investment opportunities on their own merits rather than penalizing or subsidizing them according to how each is financed."[28] Implementing an EVA framework, therefore, eliminates the force driving executives to invest in risky, low return opportunities.

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[26] Id., Kaplan and Norton (1996), pg. 66, 3rd paragraph.
[27] Id., Shinder and McDowell (1999), pg. 3, 4th paragraph.
[28] Stewart III, G. Bennett (2002), *Accounting is Broken, Here's How to Fix It: A Radical Manifesto*, EVAluation Periodical, Stern Stewart & Co., Vol. 5, Issue 1, New York, NY, September 2002, pg. 6, 4th paragraph.

Benefits

The benefits of implementing an EVA framework are many and include:

- EVA discourages companies from over-leveraging debt financing on questionable investments by accounting for the cost of capital and defining a target profit margin needed to add economic value to the organization.
- EVA provides a new metric for monitoring organizational performance that facilitates accurate tracking of improvements to a corporation's valuation.
- EVA recovers the cost of capital by incorporating a Weighted Average Cost of Capital (WACC) tailored to each organization.
- EVA compensates for failed accounting practices that overstate earnings financed with low interest loans.
- EVA encourages alignment of shareholder and management interests and encourages economic decision makers to pursue opportunities that add value to the organization.
- EVA-based executive incentive compensation schemes can be defined that hold executives accountable for adding economic value to the organization.
- Using the EVA metric facilitates the tracking of improvements to valuations in core competency areas.
- EVA enables shareholders to accurately assess valuations and invest based on their accepted risk levels.

Computing Economic Value Added (EVA)

Although the cost of equity cannot be computed precisely, current accounting procedures assume it is zero, so any attempt to define and incorporate it into the valuation will be an improvement. In the preferred method companies blend all the costs of capital into a Weighted Average Cost of Capital (WACC). The WACC is the benchmark, independent of how investments are financed, for determining whether a rate of return is adequate to add value to the company. "Economic profit" is defined as a metric measuring all of the operating results subtracted by all of the financing costs:[29]

- Economic Profit (EVA) = Accounting Profit – Cost of All Capital.

  = Net Operating Profit – Cost of All Capital.

It therefore accounts for the wealth a company has created for its shareholders after the value of their investment has been recovered. The first step in computing "economic profit" is to measure profit before subtracting any financing charges.[30] The result is the Net Operating Profit after Taxes (NOPAT), which measures how productively management has managed capital regardless of how capital was financed. Unlike Net Income, which is the preferred performance metric in traditional accounting, NOPAT is not affected by shifts in capital structure or dynamic interest rates.[31] A NOPAT benchmark can

[29] Id., Stewart III, G. Bennett (2002), pg. 4, 1st paragraph.
[30] Ray, Jeffrey S. (2010), "The EVA Metric," paper presented to SMC University in partial fulfillment for a Doctor's of Science degree, Zurich, Switzerland, October 10th, 2010, pg. 7, 4th paragraph.
[31] Id., Stewart III (2002), pg. 7, 4th paragraph.

be established for each company by multiplying the total amount of capital that a firm engages by the cost (in %) of that capital. An investment that exceeds this threshold creates value since it gives shareholders a higher rate of return than they could get by investing elsewhere.

The second step in computing "economic profit" is to subtract all financing costs as represented by the WACC%.[32].. Each company would have to establish and maintain its preferred capital structure target of some % of equity financing and some % of debt financing.[33] A company, for example, may choose two thirds equity and one third debt as its preferred capital structure. The capital structure values allow the WACC to be computed as follows:

- WACC = (%Wt of Debt x %Cost of Debt) + (%Wt of Equity x %Cost of Equity)

  = (.33 x % Cost of Debt) + (.67 x % Cost of Equity), with assumed capital structure

  = (.33 x 4%) + (.67 x 10%), if samples of 4% debt and 10% equity are used

  = 8.0%, for the sample values indicated.

All company investments, regardless of how they are funded, should then be held to a goal of earning at least the WACC% rate of return. Otherwise, the investment is considered to cause the company to lose value. Armed with the WACC%, the method for measuring economic profit (called "EVA") can be computed:

- Economic Profit (EVA) = NOPAT ($) – (WACC% x Total Capital Invested ($)).

As an example, a firm that employs $100M in capital, and has a WACC equal to 8%, would need a NOPAT of $8M just to break even. Any NOPAT above $8M will start to add value to the company.

To complete the EVA analysis a company's "economic profit" is calculated and compared against the target NOPAT threshold to see if, overall, the company productively managed its capital and turned a profit. The NOPAT threshold value is said to be "a critical corporate performance target that auditors should be required to disclose to shareholders."[34] As just seen, the EVA metric separates operating and financial decisions and encourages managers to pursue opportunities that add value to the company.

Benefit Comparison

A side-by-side comparison of the benefits of the three concepts is indicated in Table 2.

[32] Id., Ray (2010), pg. 7, 5th paragraph.
[33] Id., Stewart III (2002), pg. 7, 6th paragraph.
[34] Id., Stewart III (2002), pg. 8, 4th paragraph.

Table 2. Comparison of Benefits

ABC Benefits	EVA Benefits	Balanced Scorecard Benefits
1. ABC compares a product's wholesale vs. retail profitability by accurately allocating indirect and overhead costs to the products support services.	1. EVA discourages companies from over-leveraging debt financing on low-return investments by accounting for the cost of capital and defining a target profit margin needed to add economic value.	1. Scorecards facilitate decompose-tion of business strategies into a set of defined performance measures.
2. ABC accurately evaluates organizational performance by accurately allocating the cost of demanded services.	2. EVA provides a new metric for monitoring organizational performance.	2. Scorecards create awareness of organizational objectives and measures.
3. ABC accurately estimates and tracks costs to resource centers.	3. EVA provides a new economic metric that facilitates accurate tracking of increases in value.	
4. ABC recovers costs of internally provided services by charging those found to use the services by how much they used them.	4. EVA recovers the cost of capital by incorporating a Weighted Average Cost of Capital (WACC) tailored to each organization.	3. Scorecards focus change efforts and increase the efficiency of investments.
	5. EVA compensates for failed accounting practices that overstate earnings financed with low interest loans.	4. Scorecards supplement account-ing data with customer, internal process and learning and growth data.
5. ABC determines cost account-ability by identifying cost drivers.	6. EVA encourages alignment of shareholder and management interests.	5. Scorecards allow alignment and validation of strategies derived from vision statements.
6. ABC provides decision makers accurate production cost distributions.	7. EVA encourages economic decision makers to pursue opportunities that add value to the organization.	
	8. EVA-based executive incentive compensation schemes can be defined that hold executives accountable for adding economic value to the organization.	6. Scorecards create a shared under-standing of strategy that allows employees to see how to contribute.
7. ABC accurately assesses competitiveness by identifying where competitive cost advantages might be.	9. Using the EVA metric facilitates the tracking of improvements to valuations in core competency areas.	7. Scorecards permit organized learning of cause-and-effect relationships so businesses can test their strategy.
	10. EVA enables shareholders to accurately assess valuations and invest based on their accepted risk levels.	8. Scorecards give managers and shareholders better visibility into how well an organization is performing.

Research summarized in the side-by-side comparison illustrates some synergies may be achieved by combining the three frameworks:

1. Both ABC and EVA help economic decision makers by improving the accuracy of reported costs as compared to traditional accounting practices.
2. Combining ABC and EVA would discourage economic decision makers from pursuing questionable investments by accurately reporting and allocating the indirect and overhead costs of the investment (ABC), and accurately reporting the cost of capital financing (EVA), which facilitates accurate measurement of product margins and profitability.
3. Combining ABC and EVA will facilitate recovery of the cost of capital by incorporating a WACC% tailored to the organizations allocated overhead and indirect costs and, thereby, help to align management and stakeholder interests by ensuring investments add value to the company.
4. Components of EVA (WACC, economic profit, shareholder alignment) are very similar to the objectives often found in the financial category of the Balanced Scorecard (sales, ROAE, earnings, profit margins).[35]
5. The non-financial (Customer, Internal Processes and Growth and Learning) scorecard categories incorporate analysis of broader programmatic measures and force articulation of how to influence EVA driving factors.[36]
6. Using the "authenticity" of the structure of the EVA calculation may add increased credibility to the selection of financial Balanced Scorecard objectives and measures.[37]
7. Applying EVA-oriented measures and targets to Balanced Scorecards allows the validity of assumptions about objectives to be tested as they are applied, rather than waiting for the retrospective financial results of an EVA calculation to be reported.

Conclusions

ABC, the Balanced Scorecard and EVA are useful management tools that can help companies be successful in today's dynamic business environment. ABC improves the accuracy of reported costs and allows management to accurately allocate overhead and indirect costs to production units. EVA calculates relative value generation and allows goal setting to be tied to increases in corporate value. It encourages managers to focus on creating value and provides a link between decisions, performance measures and rewards. The Balanced Scorecard guides the underlying strategic and operational activity that could supplement the EVA approach. Scorecards encourage planning activities during operations to test business strategies in real time, rather than waiting for EVA calculations that look back in time. Combining these tools can help managers understand the impact of their decisions before it is too late to take corrective and preventative actions when problems are encountered.

A review of the benefits each framework provides indicates that all three tools are compatible in that they help managers focus on accurately reporting the generation of shareholder value. ABC ties costs to activities and allows management to better model their processes. EVA is effective at tracking increases

[35] 2GC Active Management (2001), *Combining Balanced Scorecard and EVA*, briefing presented to BetterManagement.com at the Balanced Scorecard Authority web seminar, May, 2001, published at: www.2gc.co.uk/pdf/2GC-Pr-BM_EVA-090317.pdf, slide 17.
[36] Id., 2GC Active Management (2001), slide 17.
[37] Id., 2GC Active Management (2001), slide 17.

in value that result from business operations. The Balanced Scorecard tool guides the management of strategic and operational plans intended to trigger the desired improvement in value generation. Although very powerful, ABC and the EVA framework only measure a company's past performance. The Balanced Scorecard allows integration of performance measurement metrics that will guide path forward operations. Findings indicate these three tools can and should be used simultaneously.