

A Management Accounting Framework

By Gary Cokins

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Today's management accounting information, driven by the procedures and cycle of the organization's financial reporting system, is too late, too aggregated, and too distorted to be relevant for managers' planning and control decisions. – H. Thomas Johnson and Robert S. Kaplan, Relevance Lost: The Rise and Fall of Management Accounting (Boston, MA: Harvard Business School Press, 1987), p.1]

"We do not know a truth without knowing its cause." – Aristotle, Nicomachean Ethics, Book I, chapter 1 [4-back]

Increasingly, organizations need to understand their costs and what drives those costs. Yet many are confused about costs, especially in light of the many competing cost measurement methodologies, such as the theory of constraints (TOC), activity-based costing (ABC), standard costing, throughput accounting, and target costing. Another source of confusion arises from the custom research published by various professional groups.

As a result, managers and employees are often confused: They are confronted with too many "solutions." The answer may not be selecting the "correct" choice but, instead, a *blend*. Various costing methods do not necessarily compete; they can be reconciled and combined, because they all measure the consumption of economic resources.

Who speaks for the managers in an organization that so many consultants and academics presumably serve? Managers do not want confusion. Instead, they want solid support and factual data to help them make better decisions. They also want to know, for certain types of decisions, what assumptions they should make about the inclusion or exclusion of specific costs, and whether certain costs can be presumed to behave as variable or fixed relative to changes in other factors.

There is thus a need for an overarching framework to measure costs. An understandable framework is not rocket science. It can be constructed and articulated. This article presents such a framework. Is it perfect? Probably not. But it is an overarching view that has helped nonfinancial managers feel more comfortable about their understanding of accounting.

Measuring and Using Cost Data

The focus here is on managerial accounting, not financial accounting. Financial accounting addresses external reporting, such as compliance reporting for banks, for owners, for publicly owned companies, and for government regulators. Financial reporting is compulsory: it accounting is governed by rules established by standard-setting bodies and regulatory agencies.

In most nations, financial accounting follows generally accepted accounting principles (GAAP). Some people jokingly refer to this as the "GAAP trap," because an organization that focuses on these numbers may become distracted from more relevant numbers or more appropriate ways to calculate costs and profit margins. GAAP means

something to accountants, but to others it sounds like a U.S. blue-jeans retailer or a space between your teeth.

Managerial accounting, by contrast, is used *internally* by managers and employee teams for decision-making. If you violate financial accounting rules, you may go to jail. You don't risk going to jail if you have poor managerial accounting, but you do risk making bad decisions. And the margin for error is becoming slimmer as the pressure grows for better organizational performance.

At the highest level of managerial accounting there are two broad elements: measuring the costs and using the cost data. Exhibit 1 displays an overarching framework for managerial accounting with a "tree, branch, and leaf" structure. In this framework, each branch can be further separated into the key components shown below:

- Cost Measurement includes the following:
 - Collecting cost data; and
 - Assigning the source expenses in a way that is meaningful for the organization.
- Cost Uses – As the introductory material in many managerial accounting textbooks often states, there are three broad purposes for using cost data:
 - Operational control;
 - Assessment and evaluation; and
 - Predictive planning.

[Put "Exhibit 1. A Management Accounting Framework" about here]

By further separating these five elements of cost measurement and uses into their individual parts, we can understand the landscape of managerial accounting. We can also review some of the terminology and highlight key issues.

Using this overarching view, we can discuss how managerial accounting involves the integration of information systems with an ultimate application for assessing performance (organizational execution) and for forecasting costs (strategic and operational planning that supports profit margin management and resource management).

The five elements in Exhibit 1 can be "bordered" (as shown in Exhibit 2) for closer examination.

Each of the bordered elements is discussed below.

[Put "Exhibit 2. A Management Accounting Framework–Bordered" about here]

Cost Measurement: Collecting Cost Data

Measuring and managing costs begins with collecting cost data (see Exhibit 3). Sources for the data can be financial (i.e., strategic) or operational (i.e., shorter-term tactical costs). Collection of financial data is an exercise dating back to the days of trading and counting with rocks and gold coins, and to recording transactions on papyrus. It needs minimal discussion. These expenses were initially cash equivalents directly tied to cash payments for employee wages or to suppliers and contractors.

[Put "Exhibit 3. Cost Measurement: Collecting Cost Data" about here]

Accrual accounting was eventually developed to match the timing of revenues and contracts with when their expenses benefited the revenues. Under accrual accounting, cash payments that precede or follow sales and contract events are shifted into assets or liabilities as cash-equivalents. General-ledger bookkeeping handles these mechanics; it dates back to 1492, when the Italian monk Lucas Pacioli first documented double-entry bookkeeping.

Operational data, however, is nonfinancial: This information is measurable in the form of units such as minutes, pounds, gallons, number of events, or “eaches.” These are units of inputs or outputs that are consumed in making and delivering a product or service. Operational data is combined with financial data to produce cost data.

In our 21st-century information era, systems integration and technology are used to convert operational data so that it can be interpreted and used in decision-making.

Cost Measurement: Assigning Costs

The assignment of costs depends on the managerial use of the data, which usually depends on pressing management problems. There is complexity in the assumptions and factors related to the use of cost data. Exhibit 4 shows methods for assigning costs and some of the assumptions used for assigning costs or considered when making decisions.

[Put “Exhibit 4. Cost Measurement: Assigning Costs” about here]

Assignment Methods

Non-period costing means the time period for which the costs are accumulated are unique to a *specific* product, service line, item of equipment, channel, customer, or cost object. An example is product life-cycle costing. The start and stop points (i.e., birth and retirement) for *each* product are as unique as a person’s DNA or fingerprints. The cost object, not the processes and their capacities, are the focus and matter the most. The accounting and economics professions have not developed mainstream and accepted methods for these life-cycle costs, although some societies of engineering professionals have defined various methods (e.g., parametric cost modeling). Along with life-cycle costing, an increasingly popular method of business planning is *target costing*.

Period costing means the time period for which costs are accumulated. These are fixed time intervals that are *linked* to a calendar (e.g., a week, a month, or a year). All the products, service lines, and customer costs are reported, regardless of whether they had intraperiod start or stops. With period costing, the time frame matters the most. The focus is on the spending for process, not the products and customers using the spending. Life-cycle costs of a cost object are not usually important, except for job-order costing.

As Exhibit 4 shows, there are many methods to assign costs. What the methods generally have in common is that they start with the “source expenses” that were captured from the transaction-based systems, such as payroll and purchasing systems. These expenses are initially recorded into general-ledger or fund-accounting systems.

Increasingly, organizations have experienced confusion about the choice of their cost-assignment method. Every organization, whether consciously or subconsciously, uses a cost-assignment method and system. But is it the best method for them? And how can they know?

Each cost-assignment method traces the consumption of “source” expenses (i.e., cash outlays) to a destination (i.e., cost objects) that are of management interest. But each assignment method differs in the selected cost object or because of the assumptions used about how to assign the costs of expenditures. Ideally, all expenditures are directly associated with their cost object; in practice, however, some costs must be arbitrarily allocated or absorbed, which can produce misleading results. Most of these cost-assignment methods reassign the costs to group them, again to accommodate some management interest. Assumptions also apply for these cost reassignments.

Ultimately all expenses can be accounted for as costs. The accountants and cost engineers know they must accomplish that: The financial books must balance. But have they properly assigned their expenses as costs, given the conditions and according to the business problem, need, or interest for management?

Concepts, Assumptions, and Issues

The left branch of Exhibit 4 lists a variety of categories and factors involved in assigning expenses as costs. It is not an exhaustive list, but it is representative. These

items are both uniquely configured for the cost-assignment method and governed by management's need or interest. The list reveals that costing and economics are intertwined. The items in this list are the heart and soul of cost accounting. They are key to how accounting data supports managerial decision-making. In sum, the specific assumptions for each of these depend on the decision to be made with the cost data.

Cost Uses

There are three broad uses for cost data:

1. Control;
2. Assessment and evaluation; and
3. Predictive planning.

Each use is discussed below.

Cost Uses: Control

Controlling expenses has historically been a popular use of cost data, particularly for mature organizations. The frequent reporting of expenses and costs provides a form of near-term feedback to which managers can react. Managers' reactions to the data depend on their expectations, their "gut feel" intuition, or the formal budget or planned targets.

There is a growing belief that the emphasis in collecting and assigning cost data should shift away from control (see Exhibit 5) and toward the other two uses of cost data—namely, assessment (learning) and predictive planning. The reasoning for this shift is that it is usually too late and "after the fact" to control a process using historical data about expenses and costs.

[Put "Exhibit 5. Cost Uses: Control" about here]

There is also recognition and concern that the repeated exercise of planning and re-planning—with the resulting variance analyses—creates a full-time job for cost accountants, who act as "the accounting police." It is as if each successful update of a quarterly plan has as its goal to make unfavorable variances disappear. The focus caused by all of this financial estimation almost becomes managing the plan rather than managing performance.

Knowing a lot about the past is often less important than having a reasonable estimate about the future. The more successful organizations understand their true, not their planned, profit contribution margins. These organizations determine and deploy future levels of resources (i.e., capacity costs) in anticipation of their demand level.

The logic for control is based on a "management by exception" approach intended to aid in focusing. A shortcoming surfaces if the planned targets or standards (from which the variances are measured) are themselves suspicious measures. If they are, then people are misfocused.

The *financial spending control* branch separates into the following:

1. Developing budgets and planned levels of costs; and
2. Measuring variances of actual (and subsequently assigned) costs against those budgeted targets.

There are a variety of issues related to determining budgeted and planned targets (e.g. ideal, theoretical, average, or standard cost) but, in the end, there has historically been an interest in knowing how an organization performs relative to its spending plan.

The more popular orientation for financial control is organizational according to the responsibility of people and teams, which is usually hierarchical. As organizations flatten, "de-layer," and adopt cross-functional, process-based thinking, this view encounters serious complications. New orientations of responsibility are developing that are process-oriented. This view requires innovation, because individual employees frequently participate in two or more processes that are often managed by different individuals. Consequently, new questions surface regarding the authority to influence

individuals. Matrix management is frequently tried as an alternative organizational structure to a hierarchical structure.

An important observation is an increasing cynicism about traditional budgeting methods. Activity-based cost management (ABC/M) data provides innovative alternatives. However, the traditional general-ledger responsibility cost center format is a barrier to process-based thinking because of its structural deficiency. ABC/M introduces a fresh way to think about standard cost accounting.

The operational control branch for control moves beyond the mere control of expenses. Spending is not the sole indicator of control. Examples include productivity and utilization measures. These may use data that relies on cost information in the form of ratios or rates, but these operational measures are specific to a process. Operational control data is frequently used for trend analysis (across time periods) or for comparative and benchmarking analysis (across multiple organizational units).

Cost Uses: Assessment and Evaluation

The second purpose for using cost data is to assess what is happening and to evaluate why. The emphasis is on gaining insights and learning how to better achieve the organization's goals. There is less emphasis on restricting or modifying behavior, or to applying "accounting police" tactics in order to punish spending violators and those who report "unfavorable" cost variances.

This purpose for using cost data, as displayed in Exhibit 6, divides into two branches. One branch reports data to assist those who are responsible (and ultimately held accountable) for performance. The second branch illuminates the impact of complexity, including the diversity of the output produced and also the diversity of the organization's customers. Collectively, all of this data is used for performance measurement; it is combined with nonfinancial data to provide weighted scorecard (dashboard) reporting.

[Put "Exhibit 6. Cost Uses: Assessment and Evaluation" about here]

The *Responsibility and Accountability* branch further forks into financial and operational assessment branches. The *financial accountability* uses of cost data are the traditional enterprise-wide measures related to performance, particularly as viewed by the owners and investors. There is increasing interest in measures of wealth creation. As examples, value-based management and shareholder value-adding (SVA) are becoming popular terms.

The *operational accountability* uses of cost data for learning are intended to help organizations better understand the driving influences that cause costs to occur. Additional uses of this data are to identify where there is waste or misalignment of work effort with the organization's strategy, and to identify how well processes and practices are performing relative to benchmarks. One example of benchmarking costs involves measuring levels of quality. In the quality management discipline's cost-of-quality (COQ), activity costs are classified across an accepted continuum (i.e., error-free, prevention-related, appraisal-related, internal failure-related, external failure-related). The goal is to reduce the non-error-free costs.

The *Segmented Profit Contribution* branch is the traditional area of cost-volume-profit analysis. The new spin, however, is to further analyze profit contribution by additionally recognizing the impact of diversity and variation (beyond products and service lines) caused by supply-chain options (e.g., freight type, route type, order type, channel, and customers' cost-to-serve). Recent advances in software technology allow for multidimensional combinations (e.g., by geographic region or by salesperson) to better understand the source of the sales mix of costs with revenues, which intersect to net the profits.

This branch is where ABC/M began being applied. Much of the ABC/M data has then been applied in the *Responsibility and Accountability* branches.

Reporting these financial metrics (along with nonfinancial measures such as customer satisfaction) helps management communicate existing (and changing) strategy in order to achieve better alignment and execution. Some of the measures also provide leading indicators (e.g., customer service levels) that will subsequently and predictably result in the lagging indicators (e.g., operating profit). The branch of assessment and evaluation are directed toward the managers' navigational dashboard—i.e., weighted scoreboard performance measures.

Cost Uses: Predictive Planning

Predictive planning is increasingly becoming of great interest for using cost data. This branch (see Exhibit 7) involves what-if analysis, trade-off analysis, outsourcing decisions, investment decisions, and more fundamentally determining the costs associated with a customer quote to estimate the profit margin if a particular price quote is accepted. This fifth and last branch of the Managerial Accounting Framework is best described as cost forecasting. Some might even argue that this does not even qualify as cost accounting.

[Put “Exhibit 7. Cost Uses: Predictive Planning” about here]

As mentioned, the other two uses of cost accounting are, in effect, “cost autopsies”—there can be no debate that the spending occurred. It did. But this third use is about estimating the spending on future resource expenses, not just activity costs. Predictive planning, which uses historical cost data as its foundation, is becoming a mission-critical capability required by all managers, not simply accountants and financial analysts.

The prevailing thinking is that an organization should first manage its customer demand and then plan for its level of supply of resources to match that demand. Another way of stating this is to say that an organization should aim to *maximize* its creation of shareholder wealth (e.g., SVA) through profit-rich sales growth while *minimizing* the unused capacity of its resources. Predictive planning has branches for managing the supply of available capacity and managing demand. The leaves of these branches cover the traditional cost-volume-profit analysis and cost-benefit analysis. With advances in information processing technology, managers and employee teams will be equipped with more powerful tools and data that are better structured. More powerful and administrative-intensive tools will be needed based on the nature of the decision requiring the cost forecast.

Managing Demand

Demand can be impacted via two branches:

1. Rationalizing product or service-line offerings; and
2. Influencing demand via pricing and non-price related services.

Rationalizing and repositioning products, service lines, channels, and customers is pure strategy. Assessing what is most and least profitable—and fixing problems in that sales mix—is one matter. But what to push, what to abandon, and what new kinds of offerings or customers is a different matter. Increasing margins by influencing demand involves knowing customer preferences, price elasticity, and the impact of flexing and mixing service levels.

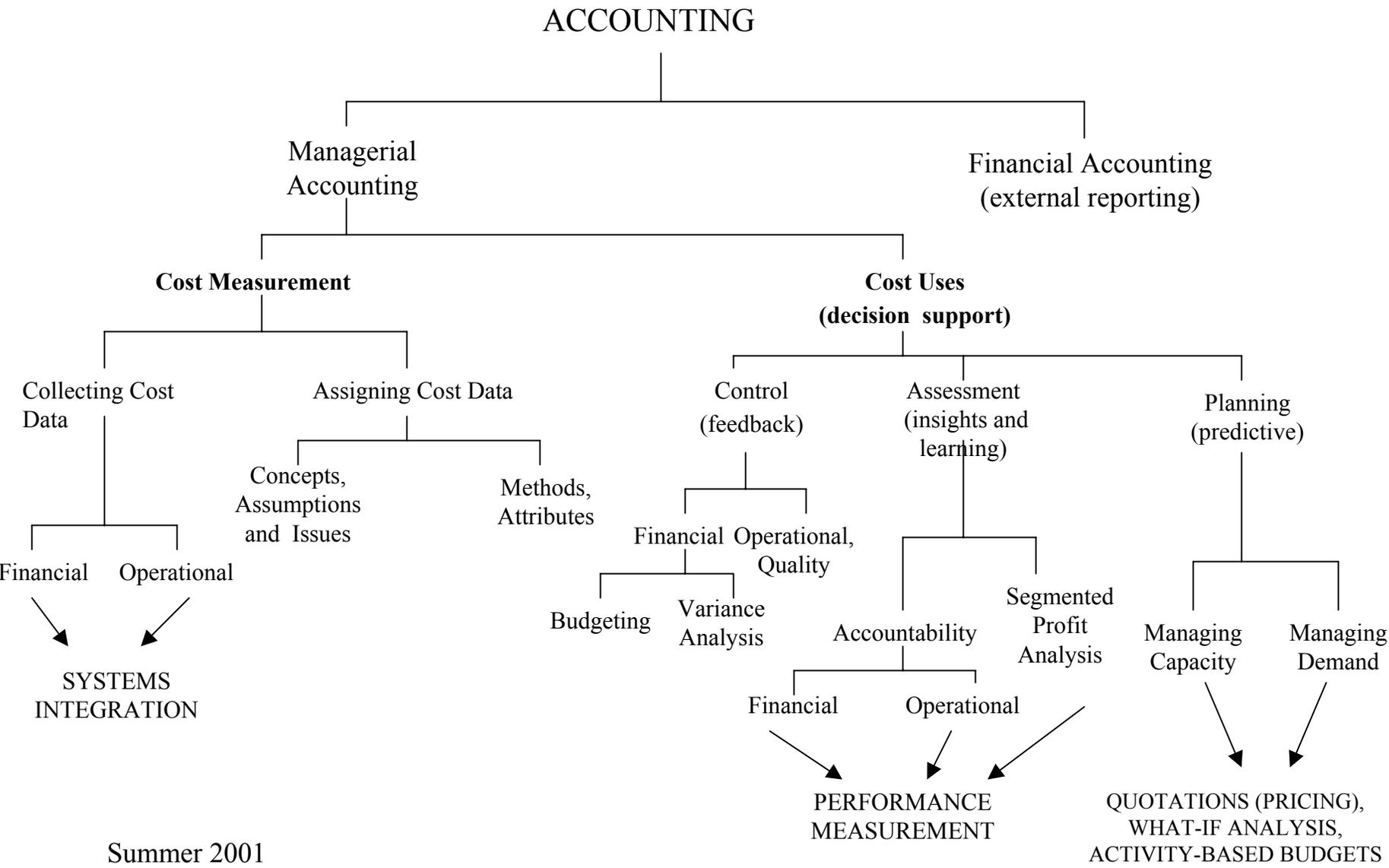
Managing Capacity

Managing profits is about the future, not the past. In the short-term, many costs behave as fixed; the existing capacity cannot be easily adjusted. Further, a portion of the resources behave like “step-fixed” functions on a graph. In other words, resources cannot be added or removed in continuous amounts; they come in “lumps” or quantum (e.g., another machine or another worker). Therefore, having the proper level of future available capacity, including skills and capabilities, is central to earning higher profits. Minimizing unneeded, unused capacity becomes an imperative. Knowing how costs behave prospectively is essential to changing the supply of an organization’s resources in synch with expected demand.

The Taxonomy of Accounting

The exhibits described so far resemble the taxonomy that biologists use to understand plant and animal kingdoms. A taxonomy defines the components that make up of a body of knowledge. There is rarely a single way to document knowledge, and there are alternatives to these exhibits. But this framework attempts to put the jigsaw puzzle together that often confuses managers. In summary, when it comes to selecting the best costing system, it is not a choice but a blend.

Exhibit 1. A Management Accounting Framework



Summer 2001

Exhibit 2. A Management Accounting Framework—Bordered

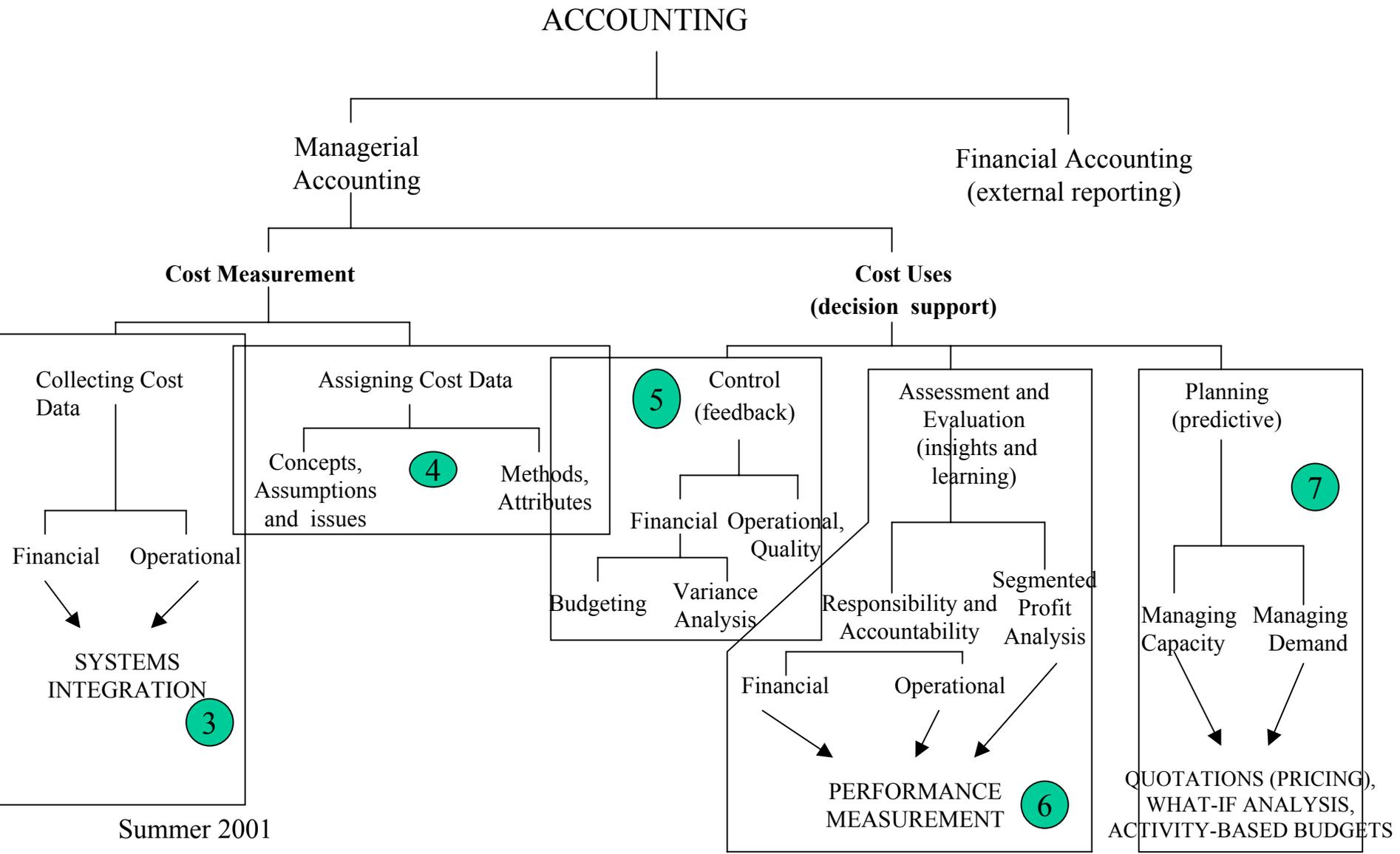


Exhibit 3. Cost Measurement: Collecting Cost Data

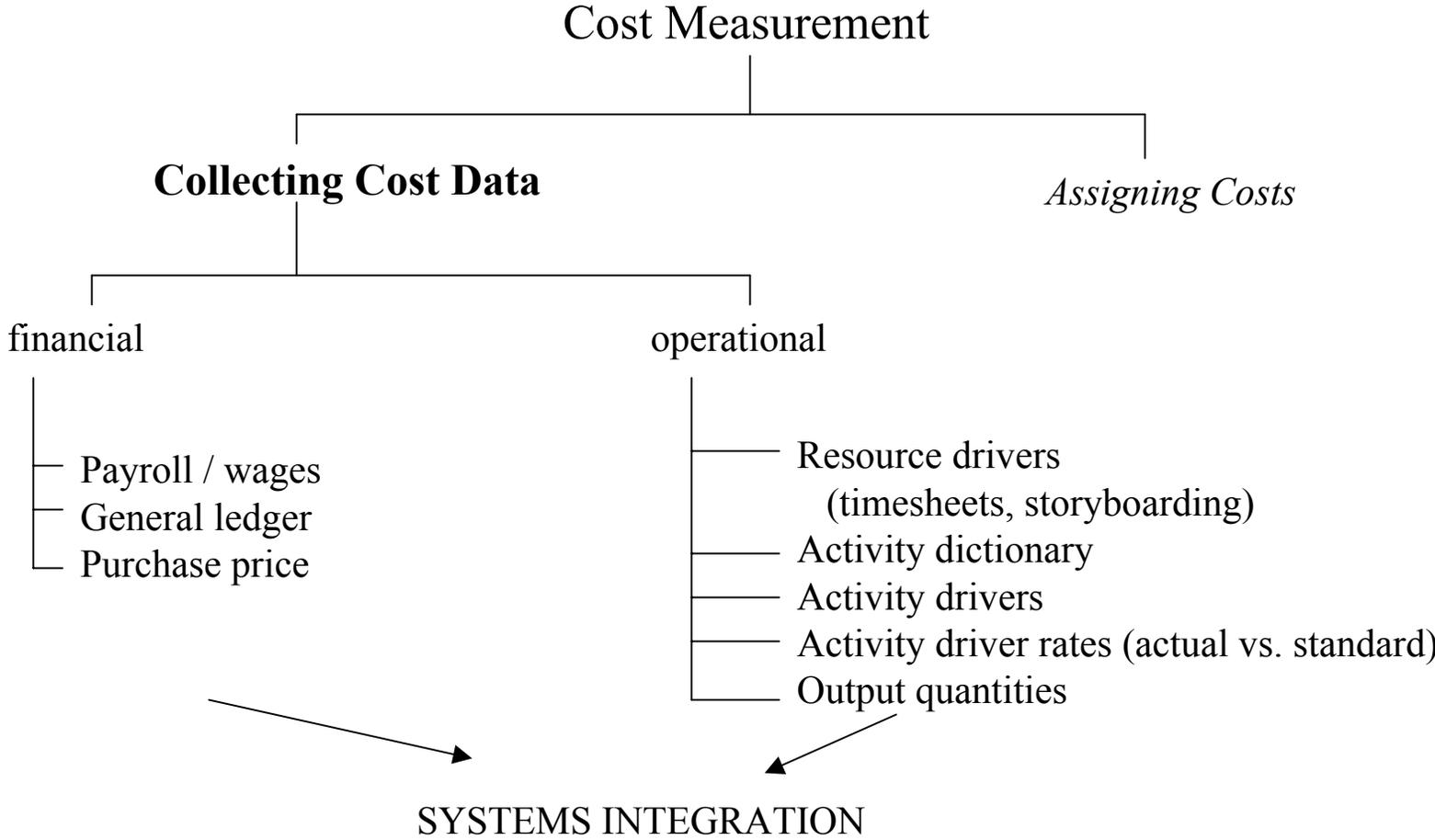
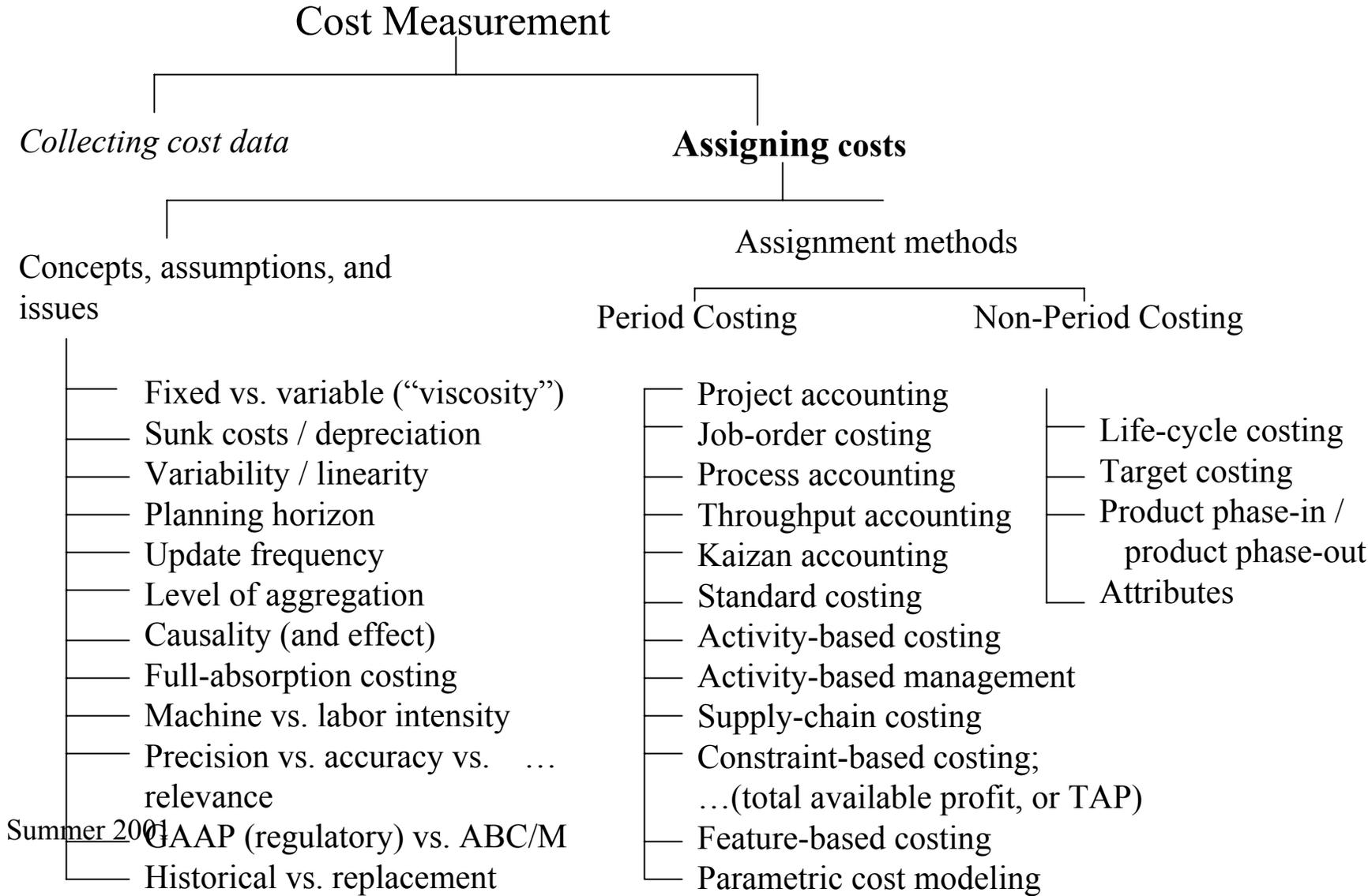


Exhibit 4. Cost Measurement: Assigning Costs



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Exhibit 5. Cost Uses: Control

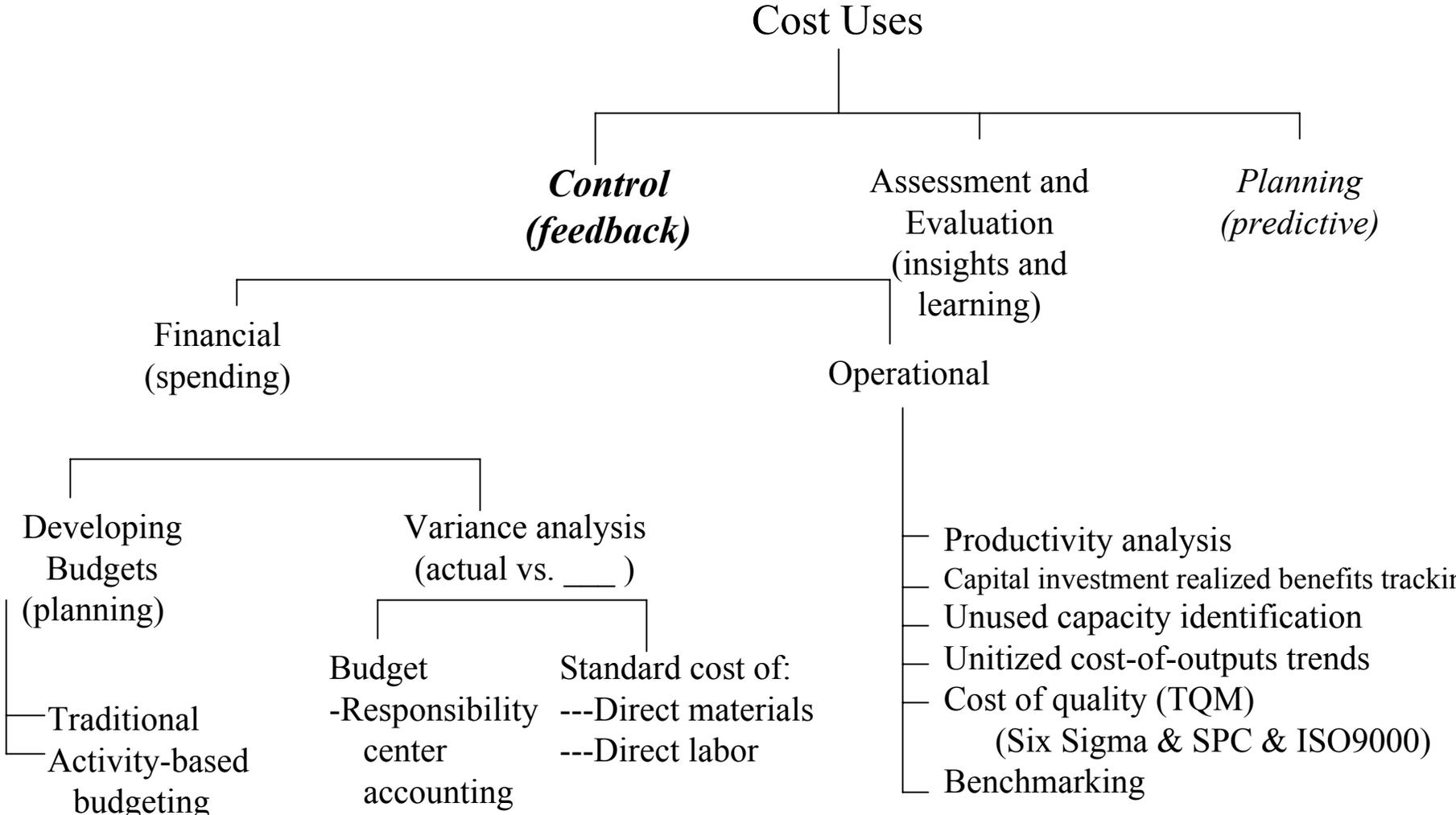


Exhibit 6. Cost Uses: Assessment and Evaluation

Cost Uses

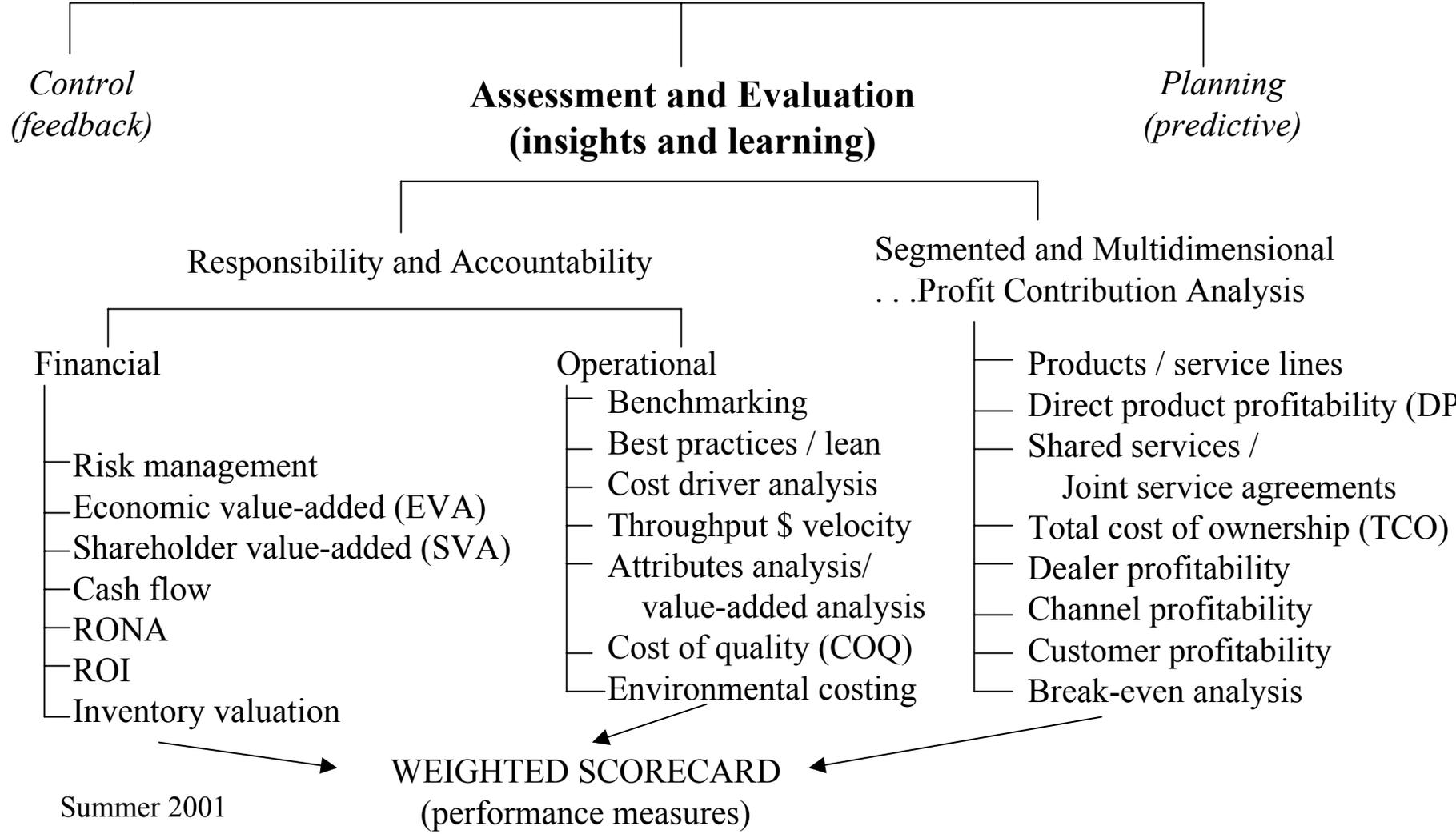


Exhibit 7. Cost Uses: Predictive Planning

