STEP 1

Current State

QUALITATIVE ANALYSIS OF THE COMPANY'S CURRENT STATE

To understand the current state of a company, management must look at both its qualitative and quantitative attributes. Historically, management has focused on the quantitative side of the analysis, because the information is verifiable from the company's historical accounting information, which is centered primarily on financial statement numbers and cost accounting numbers. But the qualitative analysis of the company generally provides more insight about the company and its future prospects. This step will focus on some of the common frameworks used to analyze a company, its industry, and its position in the marketplace. Without an understanding of the industry, it is impossible to develop an effective strategy for the company, determine the company's critical success factors, or develop a meaningful performance measurement system designed to create value.

It is a common belief that management should develop its strategies around the company's mission statement. Recently, in a conversation with friends, a statement was made that "a company does not own its mission, rather, the marketplace gives it to you." The conversation continued and the concept was amplified with "a company's mission is to do what it does best better."

Although we often think we set our mission, the marketplace really sets it for us and ultimately determines our success or failure depending on how we respond to the marketplace and its many influences. As management, our responsibility is to read the marketplace, sort of like tea leaves, to determine the company's mission and how we can do what we are doing better than any other company. To accomplish this task management needs to have a complete understanding of the marketplace or industry it operates in.

ANALYZING THE INDUSTRY

There are several frameworks that are often used for looking at the company, the marketplace, and the industry. We will talk about two such frameworks: The Porter Model and the McKinsey & Company's 7-S Model.

The Porter Model

One of the first really structured analyses was presented in a *Harvard Business Review* article by Michael Porter in 1979[1] and expanded on in the early 1980s in his book *Competitive Strategy: Techniques for Analyzing Industries and Competitors.*[2] Porter, a Harvard Business School professor, developed an analytical approach known as The Porter Model by which to analyze and assess company risk associated with industry structure.[3]

Porter divides industry structure into five forces:

1. Rivalry between current incumbents.
2. Threat of new entrants.
3. Bargaining power of customers.
4. Bargaining power of suppliers.
5. The threat of substitute products.[4]

This model, used thoughtfully in a company analysis, can provide valuable information regarding the relative risk to the future market position, growth, and profitability of the subject company.

The following is a simplistic example of the Five Forces analysis of the Porter Model as applied to Ales' Distributing, a beer manufacturer:

Rivalry between current incumbents—The industry is segmented by distributorships affiliated with one or more of the three major domestic manufacturers. As a result, competition between distributorships within a given region or sales territory is intense.

Threat of new entrants—Since all distributorships operate under agreements with one or more of the three dominant domestic manufacturers and are assigned defined sales territories, the threat of new entrants into the marketplace is minimal.

Bargaining power of customers—Due to the intensely competitive nature of the business, customers tend to possess significant bargaining power. Cus-

tomers in the on-premise segment of the market require high service levels and on-site displays (bar signage, etc.). Off-premise customers also require high service levels, including assistance in product placement and point-of-sale displays to obtain higher product turn, in exchange for greater shelf space.

Bargaining power of suppliers—Distribution agreements with all manufacturers are extremely restrictive. The manufacturer sets product pricing, and distributor inventories are determined by the manufacturer's need to move product, given its short shelf life.

Threat of substitute products—The increased acceptance of premium import products from foreign beer manufacturers poses a potential threat to future unit sales of domestic distributors.

The McKinsey & Company's 7-S Model

A second model for analyzing industry conduct and its impact on a given company is the McKinsey & Company's 7-S framework,[5] which analyzes competitors using seven categories:

1. Strategy
2. Structure
3. Systems
4. Skills
5. Staff
6. Style
7. Superordinate goals[6]

The following is a brief example analyzing Acme Corporation's (a furniture distributor) ability to remain flexible and to adapt to changes in the seven categories:

Strategy—In response to the competitive nature of the industry and profit pressure exerted by the manufacturer by the transferring of certain expenses to distributors, Acme is looking seriously into acquiring neighboring distributorships (wholesaler consolidation), a strategy encouraged by the manufacturer.

Structure—As a sales-focused company, Acme has decentralized the sales process, training its drivers as well as its on-premise and off-premise sales staff to create unique value to the customer by consulting with the customer on product placement, point-of-sale strategy, and inventory management.

Systems—Acme possesses sophisticated sales training systems, including its involvement as a beta test site for the manufacturer's nationwide interactive satellite sales network, making it one of the more technologically advanced distributorships in the wholesaler network.

Skills—Acme possesses the most experienced sales and warehousing staff of any distributor within a 75-mile radius, giving the company an enormous competitive advantage.

Staff—Acme personnel exhibit great pride in their product, to the point of identifying closely with the manufacturer and its national advertising presence, with a deep conviction that they market the finest product in the industry.

Style—Top management exudes teamwork in everything it does, a feeling that pervades the entire organization, resulting in a remarkably cohesive and satisfied workforce.

Superordinate goals—Acme operates on the fundamental principal that is best expressed in its president's motto: "Ensuring our customer's success will ensure our success." The company, therefore, looks beyond the sales mentality to focus on providing value to the customer, which sets it apart from its competitors.

Macroenvironmental Analysis

Further removed from the subject company than industry forces, but still affecting it significantly, are five macroenvironmental sources of risk:

1. Technological risk
2. Sociocultural risk
3. Demographic risk
4. Political risk
5. Global risk[7]

While the company has little or no influence on these risk factors, an assessment of them can be critical in determining the company's (and industry's) future profitability. Shifts in one or more of these risk factors can (and often do) have a material effect on an industry or a company's future fortunes. Therefore, it is prudent for management to perform a thorough analysis of such factors and to, at least once a year, update the analysis.

Analysis of the five macroenvironmental risk factors on the fictional Ale's Distributing reveals:

Technological risk—The company is recognized as a cutting-edge distributor by its competition and its supplier. It has harnessed new technology to track all

delivery vehicles at all times, to maximize route organization, and to ensure productivity.

Sociocultural risk—Consumer trends toward premium import products pose a potential risk to the company's product as they gain a stronger foothold in the domestic market.

Demographic risk—The company's territory is composed of three mature counties that possess an aging population with little future growth prospects. Since the company's product is preferred by younger consumers, this is a threat to the company's ability to maintain its past earnings stream.

Political risk—The alcohol industry watched the federal legal action against the tobacco industry with interest, and fears of future regulation or judicial action exist.

Global risk—The three major domestic manufacturers are fighting to make inroads into the global marketplace, with European counterparts looking to the U.S. marketplace to claim market share from existing competitors.

A more expansive example of industry and macroenvironmental analysis was provided by Warren Miller of Beckmill Research (*www.beckmill.com*) (see Exhibit 1.1). This illustration, from the fourth quarter of 2003, was used in a discussion group on strategic planning and covers both the microenvironmental level and the industry level of analysis.

ANALYZING THE COMPANY

The key to analyzing the company's current state is to understand the company itself and how it relates to the industry and the macroenvironment it operates in. To understand the company, management needs to understand many factors about the company including: its business strategy, its development stage, its intangible assets, and its critical success factors (CSF) and the key performance indicators (KPI) related to those CSFs.

Every privately owned company goes through various stages of development to reach maturity. As management must change, the company goes through various stages to react to the environment it operates in. The chart in Exhibit 1.2 shows the three stages of development: infancy, adolescence, and maturity, along with the typical characteristics of the company related to finance, management, operations, marketing, sales, and the owner's personal needs in each stage.

Exhibit 1.1 ***Airline Industry Analysis***

Macroenvironmental Analysis for the Airline Industry

1. **Economic—**The recession has buffeted this industry more than most. It is highly cyclical. The effect of downturns is exacerbated by a cost structure that is heavily fixed (see Rivalry). Plummeting interest rates (which reduce the cost of getting new planes) aren't much use when capacity is shrinking, not growing.
2. **Technological—**The Internet has enabled customers (and carriers) to bypass the traditional distribution channel (travel agents, *not* airports). Comparison shopping is now fast and easy through such on-line resources as Expedia, Orbitz (owned by the major airlines themselves), and Travelocity. Proprietary reservation systems (e.g., Sabre), while still useful, are not the big-stick competitive weapons that they used to be because the travel agencies that use them are not the players in this industry that they used to be. In 2002, airlines eliminated most agents' commissions.

   Moreover, advances in satellite communications have enabled newer competitors to change the "passenger experience" by having, as JetBlue does, individual TV monitors for each traveler. In a society that puts enormous value on individual rights, having one's choice of TV channels on a flight is attractive.

   Technology has also made corporate jets more affordable through less expensive design and production methods. Finally, improvements in teleconferencing technology have reduced the need for "face time" between business travelers and those they used to visit.
3. **Sociocultural—**9/11 brought a rebirth of what some have called "traditional values" (family and good friends, especially) in our society. Any industry that makes it tougher to access those values is going to be under a lot of pressure. It's no accident, for instance, that many people who used to think nothing of getting on a plane for a 200- or 300-mile trip now drive or, here on the East Coast, take Amtrak's Acela. The Acela and even driving on take-your-life-in-your-hands I-95 are less stressful than flying. Having a family member on the trip makes tolerable many conditions that aren't when traveling solo.
4. **Demographic—**The demography of the industry has certainly changed. Whereas Southwest used to be almost the sole nontraditional carrier, JetBlue and Airtran (formerly ValuJet) have joined the fray and are building market share. By the end of 2004, JetBlue will have the biggest share in the New York City market. As Wal-Mart did to discount retailing and Dell did to personal-computer assembly, new players in the airline industry bring different views of that industry and how it should work (see Rivalry).
5. **International—**International events have affected the industry. The war in Iraq, unpredictable government policy in Russia (the world's second-largest oil producer after Saudi Arabia), the threat of terrorism in several oil-producing countries, and a surging economy in China have combined to keep fuel prices at all-time highs. Financially weak carriers (United, Delta, Northwest, and to a lesser extent, American) cannot hedge their fuel purchases; cash-flush carriers (e.g., JetBlue) can and do.

   Moreover, security threats from international terrorist organizations created the birth of both the Transportation Security Administration (see below) and the Department of Homeland Security. Those inside the industry will tell you that neither has helped the traditional carriers. Recent horror stories from prominent politicians reinforce the widespread belief that airline security has gone overboard. Both Sen. Edward Kennedy and Rep. John Lewis have reported that they have been kept off commercial flights because there are suspected terrorists with the names "Edward Kennedy" and "John Lewis." Rep. Lewis solved his problem by adding his middle initial, R. Of course, if he can do that, so, presumably, can terrorists.
6. **Political—**The combination of legislative attention (due to federal loans and grants) and new regulatory requirements (principally from the Transportation Security Administration) has

Exhibit 1.1 *(Continued)*

been especially hard on the large carriers (United, American, and Delta) and, to a lesser extent, the smaller ones (Continental, Northwest, and America West). The bankruptcy filing of United, rumored bankruptcy filings for Delta and US Air (now that Southwest has invaded its Philadelphia hub), and an absence of any public sympathy for the plight of the large carriers have made political help for the industry politically perilous.

Industry Analysis of the Airline Industry

1. **Threat of new entrants—**Barriers to entry which used to be effective deterrents (e.g., switching costs [frequent flyer miles], differentiation [upgrade coupons, access to airline clubs in certain terminals, etc.], capital requirements [when the industry is in the dumper, the price of new aircraft comes down, too, because the market for, say, 767s, 777s, and A320s is limited], *cost advantages independent of scale* [proprietary reservation systems and anticompetitive municipal contracts giving airlines, in effect, ownership of gates at many airports], and *access to distribution channels* [travel agents, an especially lousy business to be in these days unless it's "incentive travel"]) have much less impact these days. Scale economies certainly don't matter when capacity is drastically contracting.

   And if the prohibition against foreign competition between U.S. cities is ever lifted, it will get even uglier.
2. **Rivalry—**The cost structure of the industry is dominated by fixed costs (depreciation, insurance, maintenance). That structure makes for lots of pricing flexibility. But it also means that when demand drops off, margin pressure is extreme, as we have seen since 9/11. The business models of the major carriers have also created "exit barriers" that have exacerbated margin pressure. In the words of one observer, "They won't leave, and they won't change."
3. **Bargaining power of customers —** The passenger angst that has been so much in evidence in the last 24 months really began in the spring of 2000, when the tech sector collapsed. But 9/11 and the recession really brought it home. Most corporations resolutely refuse to pay the $2,000+ fares that used to be routine for walk-ups. Larger firms have "gone direct" to the carriers and insisted on being charged by the mile (with a guarantee of meeting certain travel thresholds, of course).

   Also remember that airline travel is a perishable service from the carriers' point of view. Unlike the house that is not bought today, but can be bought tomorrow, the airline seat that is not sold today can never be sold. So, airline seats are a lot like produce in a grocery store in that they have limited lives and are subject to "spoilage" (hotel rooms are another example). An example: 45 days ago, I priced a go-there-Monday/return-on-Tuesday ticket from BWI to DFW; I didn't find a price under $1,400. Three days ago, I bought the same ticket for $198 (on American).

   Rivalry is also exacerbated by an absurd level of complexity and inefficiency in the systems of the traditional carriers. Unlike Southwest, which flies one kind of plane (Boeing 737s), American, Delta, United, and the rest of the big trunk lines have a multitude of plane models. Many were chosen for specific routes, which makes them difficult to deploy. The complexity increases maintenance, training and inventory costs.

   Then there's the 'us vs. them' [labor vs. management] culture at most of the big carriers. That was highlighted when Don Carty was fired as CEO at American after publicly denouncing rank-and-file employees' reluctance to take voluntary pay cuts, while, at the same time, setting up sweetheart retention contracts for senior executives. Many observe senior executives. Many observers think that retention of experienced airline executives is part of the industry's problem, not part of its solution.

(continues)

Exhibit 1.1 ***(Continued)***

The inefficiency and high cost of the industry's hub-and-spoke system of moving passengers to their destinations really pinch when demand is down, and new players who disavow hubs enter and decide to fly point-to-point. The frequent-flyer miles which used to promote brand loyalty are now far less valued than a pleasant flying experience (JetBlue), on-time flights (Southwest), and lower cost (AirTran).

As if that were not enough, there is the mind-numbing complexity of ticket pricing, driven as it is at most big carriers by "yield." On any given domestic flight, there can be as many as 50 different fares, all sitting within a few rows of one another in coach.

Then there is the surly treatment that too many passengers have experienced from airlines that they have flown hundreds of thousands of miles on. One traveler put it this way: "To be hired as an airline pilot, you have to prove you *cannot* tell time. And to be hired as any other airline employee, you have to fail a minimum of five (5) lie-detector tests!"

4. **Bargaining power of suppliers—**This is a good-news/bad-news story for the industry. On the one hand, a weak industry strengthens the hand of incumbents in their dealings with key supplier groups (aircraft manufacturers, labor and fuel providers are three of the most important); but that strength can also be exerted by would-be entrants. In addition, the insurance industry, which used to have to roll over for the airline industry, no longer has to, given the $30 billion bath it took on 9/11 (Warren Buffett's Berkshire Hathaway alone got hit for $3 billion. in cash).
5. **The threat of substitute services—**Substitutes are not the services of head-to-head competitors. They are services that use a different technology to address the same need of the buyer. So, for instance, Amtrak, auto travel, and teleconferencing are increasingly troublesome substitutes for air travel. The existence of substitutes creates pricing ceilings for the service being substituted against. For instance, my wife and I have put a pencil to it: Assuming that everything on a scheduled flight works perfectly, it takes us exactly 15 minutes longer to drive from our home in the Shenandoah Valley of Virginia to Midtown Manhattan than it does to hop a cramped puddle-jumper in Charlottesville, hope to goodness LaGuardia Airport isn't clogged as it so often is, and then endure the white-knuckle cab ride into Midtown by the most indirect route possible. Who needs it?

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Company's Corporate Strategy

In addition to understanding the company's stage of development, management must understand the company's business strategy. Michael Porter outlined three generic strategies[8] that all businesses must choose from to develop their business strategy. If they do not select one of the strategies, and focus on it over the long term, they will not be effective and will find themselves in the ineffective state he refers to as being "stuck in the middle." The three strategies are:

- Overall cost leadership, (also called Cost Efficiencies *or* Organizational Effectiveness*)*.
- Differentiation from competitors, (also called Product Innovation).

- Focus on a particular buyer group, segment of the product line, or geographic area, (also called Customer Intimacy).[9]

Each of these strategies requires the existence of certain characteristics related to common skills and resources and common organizational requirements. The basic concept is that the resulting strategic position will provide the company with above-average returns in the industry despite having strong competitors. We believe these three strategies are most appropriate for middle-market businesses and thus are core strategies used in Strategic Benchmarking for Value.

Overall Cost Leadership

Pursuing overall cost leadership, or *Cost Efficiencies,* as a strategy requires that management pursue a course of action that:

- Aggressively constructs facilities that are of a scale to have maximum efficiency.
- Focuses on cost reductions gained through experience.
- Includes tight control on costs and overhead.
- Eliminates marginal customer accounts.
- Minimizes costs in areas like service, sales teams, advertising, and research and development.[10]

Even though these companies aggressively work to reduce all costs, they cannot allow their management actions to negatively affect quality, customer service, or new product development.

The Cost Efficiencies strategy's commonly required skills and resources include:

- Continual capital investments and access to capital to fund the investments.
- An engineering team with skills in process engineering.
- High level of labor supervision.
- Designing products for manufacturing simplicity and ease.
- Use of a low-cost distribution system or network.[11]

In addition, the strategy requires the development of many organizational characteristics including:

- The ability to maintain tight cost controls.
- An information infrastructure capable of providing frequent, detailed cost control reports.

Exhibit 1.2 ***Business Stages of Development Matrix***

Finance	Management	Operations	Marketing/Sales	Owner's Personal
Infancy				
Plan and establish:	***Plan and establish:***	***Plan and establish:***	***Plan and establish:***	***Plan and establish:***
Accurate and timely:	Basic goal setting	Production systems	Marketing plan	Personal tax preparation
Bank reconciliation	Vision-mission development	Delivery systems	Client/customer segmentation analysis	Personal tax planning
Financial statements	Core values development	Workflow mapping	Identify/target ideal customer	Personal financial planning
A/R and A/P	Plan organization structure	Facilities planning	Establish contact database	
Financial literacy training	Hiring/recruiting team	Technology	Customer service/sales	
Define breakeven	Motivate/educate team	Space	Training	
Define income sources	Basic OSHA and HR requirements/ compliance	Technology installation	Systems development	
Technology training	Compensation planning	Disaster planning	Sales protocol	
Accounting systems	Strategic planning		Host beneficiary	
Other				
Tax planning				
Tax preparation				
Adolescence				
Develop and document:	***Develop and document:***	***Develop and document:***	***Develop and document:***	***Develop and document:***
Basic flash reporting system	HR systems	Quality Control Systems	Pricing analysis	Wills, trusts, etc.
Business performance reviews	Job descriptions	Inventory Control Systems	Feedback systems	Personal financial planning
Budgeting—forecasting	Procedures manual	Vendor Relationship Review	Customer advisory Boards	Estate planning
Ratio analysis	Performance reviews	Technology review—	Surveys	Retirement planning
	Employee benefit and compensation		Onsite feedback program	Investment planning

- Banking/financing
- Shorten accounting cycle
- Trend analysis
- Industry comparisons
- Cash flow analysis
- Accounting systems review
- Accounting personnel recruiting and training

- planning and analysis
- Bonus/incentive programs
- Team building activities
- Performance standards development
- Training—Education
- Management team
  - Development and training programs
- Develop company I.Q. programs

- upgrade
- Basic CPI monitoring
  - Quality
  - Productivity
  - Utilization
  - Capacity

- Marketing review-ROI
- Basic KPI monitoring
  - Conversion rates
  - Cost of acquisition
  - Attrition rate
  - Lifetime value of a Customer
  - Average Sale/frequency
  - Product mix analysis

Formalized Performance Measurement Systems Installation

Maturity

Enhancements:
- Advanced financial Modeling
  - Economic value added
  - Balanced scorecard review
- Portfolio management
- Succession strategy
- Activity-based costing
- Capital expansion Analysis
- Advanced financial management training
- Tracking the life cycle

Enhancements:
- Board of directors meeting facilities
- Retreat facilitation
- Equity and profit sharing plans
- ESOP planning/execution
- Activity-based management
- Open book management
- Preparing the business for sale
  - Business valuation
  - Transition

Enhancements:
- Reduce product/service cycle time
- Expansion planning
- Facilities investment planning
- Resource allocation
  - Reviews
  - Equipment
  - Human resources
- Facilities enhancement
- Feasibility studies

Enhancements:
- New product development
- Back-end—ancillary product
- Strategies

Enhancements:
- Personal tax planning
- Personal financial planning
- Estate planning
- Gift planning
- Succession planning
- Retirement planning
- Wills, trusts, etc.
- Portfolio management

- A highly structured organization and defined responsibilities.
- Compensation incentives based on meeting quantitative goals.[12]

Differentiation from Competitors

Differentiation from competitors, or *Product Innovation*, as a strategy requires management to create something that is perceived industry wide as being unique. This strategy allows premium pricing over the competition due to the brand loyalty of the customers. Generally, this strategy precludes the company from obtaining a high market share and is often associated with the concept of exclusivity. Products tend to be more costly due to the product design requirements, the additional research and development required, the high-quality materials used, or the level of customer service provided.

Uniqueness related to Product Innovation can be created via many approaches such as:

- Developing a design or brand image.
- Technology leadership.
- Product features provided.
- Level of or type of customer service provided.
- A strong dealer network.[13]

Highly successful product innovators generally differentiate themselves by using more than one approach. The differentiation strategy's commonly required skills and resources include:

- Possessing high-quality marketing skills.
- Strong product-engineering capabilities.
- A creative flair.
- A highly competent basic research team.
- A reputation for technological or quality leadership.
- Known tradition in the industry or a unique combination of skills drawn from related industries.
- A high level of cooperation from the channel of distribution.[14]

In addition, the strategy requires the development of many organizational characteristics including:

- Incentives based on subjective measures instead of definitive quantitative goals.

- A high level of cooperation and coordination between the research and development, product development, and marketing departments.
- Facilities and amenities capable of attracting scientist, engineers, creative individuals, or a highly skilled labor force.[15]

Focus on a Particular Buyer Group

Focus on a particular buyer group, segment of the product line or geographic area, or *Customer Intimacy*, as a strategy is based on being able to serve its highly focused target group more effectively or efficiently than its competitors. The competitors are assumed to be marketing to a more diverse market, geographic market, or with a broader product line.

Companies with this strategy have a low-cost position or a high degree of differentiation with its strategic target market or both. Differentiation for these companies will come from being better at meeting the needs of the target market or from a low-cost position related to the target market (although they may not be the low-cost provider for the industry as a whole).

A focus strategy for Customer Intimacy will require a combination of the same skills, resources, and organizational characteristics that are required for the Product Innovation strategy. Each of these strategies often need very different styles of leadership and usually evolve into their own unique corporate cultures. In addition, each of these strategies requires the use of different performance measures. Being a cost-efficient provider would necessitate a focus on performance measures related to manufacturing, while a strategy based on Product Innovation would focus on performance measures related to customer satisfaction and perceptions.

Strategy Risks

Understanding the appropriate use of each strategy requires having knowledge of the risks that are associated with each strategy. Risks related to a Cost Efficiencies strategy include:

- Technological advances making the prior capital investments obsolete.
- Lower-cost learning curve by newcomers to the industry and their ability to invest in state-of-the-art facilities without concern for write-offs of existing facilities and equipment.
- The extreme focus on cost, blinding management from spotting the need for product or marketing changes.
- Cost increases resulting from inflation eating away at strategy's cost advantages and not being able to offset the competitor's premium pricing due to their differentiation strategy.[16]

The risks associated with the strategy of Product Innovation include:

- The cost differential between the low-cost providers and the differentiated innovators becomes greater than the firm's ability to maintain its brand loyalty. Customers, at some point, are willing to sacrifice image, features, or service to benefit from large cost savings.
- Buyers' needs change, and they are no longer attracted to the company because of its differentiating characteristics.
- Imitation by competitors narrows or eliminates the perceived differentiation. This is especially true as industries mature and can be seen today in several industries, such as the software industry, furniture industry, automobile industry, and so forth.[17]

The strategy, based on a focus on a particular buyer group, segment of the product line, or geographic area through Customer Intimacy, has a different set of risks. These risks include:

- The cost advantages of serving an extremely focused target market become less than the cost savings of the low-cost provider serving a broad market.
- The differences in the products or services, desired by the target market and those desired by the marketplace, as a whole narrows or is eliminated.
- Competitors identify a submarket within the company's target market and effectively out-focus the company.[18]

Although all companies follow one of the three generic strategies, unless they find themselves "stuck in the middle," the strategies are developed uniquely by each company based on their marketplace and resources.

Company's Intangible Assets

Even if a company understands its strategy, it must gain an understanding of its intangible assets if it is to use them effectively. Companies often fail to capitalize on the opportunities offered by their intangible assets because they have never identified all the intangible assets they own. We have identified over 90 types of intellectual properties and intangible assets. An illustrative list has been included as Exhibit 1.3 in order to assist companies in the process of identifying their intellectual properties and intangible assets.

Intellectual capital is the value generator of the now and the future and should be an important consideration in each company's strategy plan. To sustain growth, companies have to:

Exhibit 1.3 ***List of Intellectual Property***

These are identifiable and transferable, have a determinate life, and may not be subject to the day-to-day work efforts of the owner.

- Airport gates and slots
- Bank customers, including deposits, loans, trusts, and credit cards
- Blueprints
- Book libraries
- Brand names
- Broadcast licenses
- Buy-sell agreements
- Certificates of need
- Chemical formulas
- Computer software
- Computerized databases
- Contracts
- Cooperative agreements
- Copyrights
- Credit information files
- Customer contracts
- Customer and client lists
- Customer relationships
- Designs and drawings
- Development rights
- Distribution networks
- Distribution rights
- Drilling rights
- Easements
- Employment contracts
- Engineering drawings
- Environmental rights
- FCC licenses
- Favorable financing
- Favorable leases
- Film libraries
- Food flavorings and recipes
- Franchise agreements
- Historical documents
- HMO enrollment lists
- Insurance expirations
- Insurance in force
- Joint ventures
- Know-how
- Laboratory notebooks
- Landing rights
- Leasehold interests
- Literary works
- Loan portfolios
- Location value
- Management contracts
- Manual databases
- Manuscripts
- Medical charts and records
- Mineral rights
- Musical compositions
- Natural resources
- Newspaper morgue files
- Noncompete covenants
- Options, warrants, grants, rights
- Patent applications
- Patents (both product and process)
- Patterns
- Permits
- Prescription drug files
- Prizes and awards
- Procedural manuals
- Production backlogs
- Product designs
- Property use rights
- Proposals outstanding
- Proprietary computer software
- Proprietary processes
- Proprietary products
- Proprietary technology
- Publications
- Retail shelf space
- Royalty agreements
- Schematics and diagrams
- Securities portfolios
- Security interests
- Shareholder agreements
- Solicitation rights
- Stock and bond instruments
- Subscription lists
- Supplier contracts
- Technical and specialty libraries
- Technical documentation
- Technology sharing agreements
- Title plants
- Trade secrets
- Trained and assembled workforce
- Trademarks and trade names
- Training manuals
- Use rights (air, water, and land)

Source: Michael Mard and Joseph Agiato, Jr., *Consulting Services Practice Aid 99-2: Valuing Intellectual Property and Calculating Infringement Damages* (New York: AICPA, 1999), p. 1.15. Reprinted with permission.

- Identify the intellectual capital available to them.
- Measure the value of the intellectual capital components.
- Structure the means of delivery and potential leverage with other potential intellectual capital within the company.
- Manage the cash flow and the distribution channels of the intellectual capital.
- Protect the intellectual capital by converting it to intellectual property.
- Manage the intellectual property registrations on a worldwide basis.
- License intellectual property to and from third parties.
- Ensure compliance with all agreements.

Intellectual property is a subset of intangible assets—patents, copyrights, trademarks, and identifiable know-how. Again, we are simplifying by listing the major ones. Others are trade design, trade dress, and trade secrets.

Intangible assets are long-lived assets used in the production of goods and services that, unlike fixed or tangible assets, lack physical properties. Intangible assets represent certain long-lived legal rights or competitive advantages developed or acquired by a business enterprise. Intangible assets differ considerably in their characteristics and useful lives and are classified by the following characteristics:

- **Identifiably—**Patents, copyrights, franchises, trademarks, and other similar intangible assets that can be specifically identified with reasonably descriptive names.
- **Manner of acquisition—**Intangible assets that may be purchased or developed internally.
- **Determinate or indeterminate life—**Many intangible assets that have a determinate life established by law or by contract or economic behavior.
- **Transferability—**The right to a patent, copyright, or franchise that can be identified separately and bought or sold.

For strategic planning purposes, the intangible assets must be readily identifiable and capable of being separated from the other assets employed in the business. An intangible asset can be defined by referring to practical considerations such as whether it is supported by a contract, or by referring to whether it can be economically measured objectively with a determinate life. Intangible assets that exist but cannot be specifically identified are included in goodwill and not part of the planning process as they result from the overall strategic activities of the company.

For an identifiable intangible asset to exist from a valuation or economic perspective, it should possess certain attributes. These attributes are also necessary

from a planning perspective. Some of the more common attributes include the following:

- It should be subject to specific identification and a recognizable description.
- It should be subject to the right of private ownership, and this private ownership must be legally transferable.
- There should be some tangible evidence or manifestation of the existence of the intangible asset (e.g., a contract, a license, a registration document, a computer diskette, a set of procedural documentation, a listing of customers, recorded on a set of financial statements, etc.).
- It should have been created or have come into existence at an identifiable time (or time period) or as the result of an identifiable event.
- It should be subject to being destroyed or to a termination of existence at an identifiable time (or time period) or as the result of an identifiable event.

In other words, there should be a specific bundle of rights (legal and otherwise) associated with the existence of any intangible asset.

To find out more about intangible and intellectual assets and reporting for them in financial statements see *Valuation for Financial Reporting: Intangible Assets, Goodwill, and Impairment Analysis, SFAS 141 and 142*, coauthored by Michael Mard, Jim Hitchner, and Steven D. Hyden, et. al., of the Financial Valuation Group.

For an identifiable intangible asset to have a quantifiable value from an economic analysis or appraisal perspective, it should possess certain additional attributes. These attributes are also necessary from a planning perspective. Some of the more common additional attributes include the following:

- The intangible asset should generate some measurable amount of economic benefit to its owner; this economic benefit could be in the form of an income increment or of a cost savings; this economic benefit is sometimes measured by comparison to the amount of income otherwise available to the intangible asset owner (e.g., the business) if the subject intangible asset did not exist.
- This economic benefit may be measured in a number of ways, such as net income, net operating income, or net cash flow.
- The intangible asset should be able to enhance the value of the other assets with which it is associated; the other assets may encompass all other assets of the business, including: tangible personal property, tangible real estate, or other intangible assets.

Some of the more common categories of intangible assets most commonly valued are as follows (see Exhibit 1.3 for a more detailed list):

- **Patents—**Product or process.
- **Brands—**Consumer goods' brands, trademarks, corporate names.
- **Publishing Rights—**Magazines, books, mastheads, film and music rights.
- **Intellectual Property—**Patents, copyrights, technology, know-how.
- **Licenses—**Television and radio, franchises, distribution rights.
- **Computer Software—**Developed in-house.

Intangible assets are often of little value independently but have significant value when used in bundles. The easiest example is a technology like the cell phone. The cell phone is based on a multitude of patents and will not work without all of them. Most of them have no value without the others. This is often referred to as a technical bundle of intangible assets. See Exhibit 1.4 for an illustrative list of the intangible assets typically included in marketing bundles, IT bundles, and technical bundles.

Economic phenomena that do not meet these specific attribute tests typically do not qualify as identifiable intangible assets. Some economic phenomena are merely descriptive in nature. They may describe conditions that contribute to the existence of—and value of—identifiable intangible assets. But these phenomena do not possess the requisite elements to distinguish themselves as intangible assets.

Exhibit 1.4 ***Intangible Assets Included in Bundles***

Marketing Bundle	IT Bundle	Technical Bundle
• Primary trademark	• Enterprise solutions	• Key patents
• Corporate name and logo	• Custom applications	• Trade secrets
• Marketing umbrella	• Data warehouses	• Formulae
• Sub-brand names	• Master licenses	• Packaging technology and sources
• Core brand	• Source code	• Shapes and sizes
• Worldwide trademark registration	• Databases	• Process technology
• Copyrights	• Data mining	• Design technology
• Secondary trademarks	• Domain names/URLs	• Proprietary test results
• Packaging design and copyrights	• e-Commerce sites	• Plant and production design
• Trade dress	• Third-party software tools	• Product specifications
• Characters	• Credit/payment systems	• Operating platforms

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For a typical business, descriptive economic phenomena that do not qualify as identifiable intangible assets for accounting purposes may include:

- High market share
- High profitability
- General positive reputation
- Monopoly position
- Market potential

However, while these descriptive conditions do not qualify as identifiable intangible assets themselves, they may indicate the existence of identifiable intangible assets that do have substantial economic value. They are most often referred to collectively as goodwill.

Although these intangible assets do not meet the criteria for classification as identifiable and measurable intangible assets for financial-reporting purposes, they are often used as performance measures related to various performance areas.

Value Chains

Another method that can be used to analyze a company is the value chain. The value chain attempts to break the company into its many component parts (or performance areas) that are necessary for the company to operate. Typically the company is broken down into primary activities and supporting activities. With the value chain laid out, decisions can be made as to which corporate activities should be focused upon for improvement or are the key strategic activities of the company.

Many individuals and companies have developed value chain models. We have taken the models developed by Michael Porter and McKinsey & Company and combined them into one generic model. Supporting activities in our generic model include: infrastructure, technology, and human resources. Primary activities include: manufacturing, distribution, marketing, and service.

Exhibit 1.5 shows the generic value chain and its activity (performance area) descriptions. For example, under primary activities, manufacturing includes procurement activities and assembly activities. The supporting activities infrastructure area includes: planning, finance, management information systems, and legal services.

A value chain for a computer peripheral manufacturing company that designs, markets, and distributes its products, but outsources all the manufacturing activities, is presented in Exhibit 1.6. As can be seen, the various activities shown help one to understand the company and its complexity. From the value chain, you can

Exhibit 1.5 ***The Generic Value Chain Developed by Combining the Porter and McKinsey Generic Value Chains***

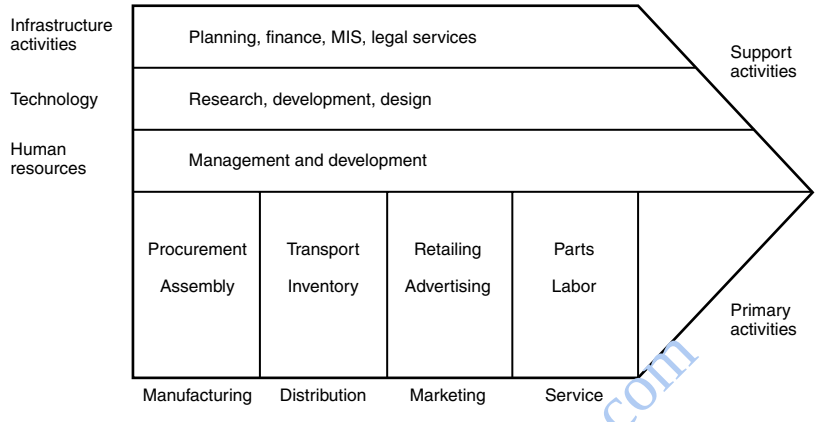
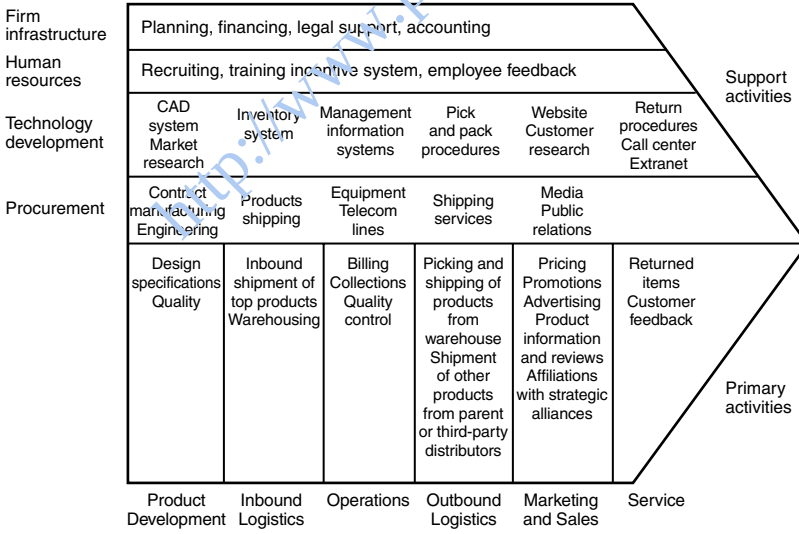


Exhibit 1.6 ***Sample Computer Company Value Chain***



isolate the various performance areas of the company and focus discussions on each area and how it interacts with and helps or hurts related areas.

As the company refines its strategy and develops performance measures, the value chain will help define the performance areas that should be monitored as part of the performance measurement system, which in turn will help to increase the company's strategic effectiveness.

SWOT Analysis

One of the simplest but perhaps most effective methods for executives to use in analyzing their company is to perform a SWOT analysis of the company. SWOT analysis gets its name from the four concepts it attempts to analyze—the company's *s*trengths, *w*eaknesses, *o*pportunities, and *t*hreats. Using this simple framework will focus your activities into areas where you are strong and where the greatest opportunities lie, while requiring you to address your weaknesses and the new threats from your competitors or from technological advances.

There are many benefits to using a SWOT analysis in analyzing a company. The Malaspina University College website lists the following benefits and concerns about the use of SWOT analysis. Benefits include:

- A framework for identifying and analyzing strengths, weaknesses, opportunities, and threats.
- An impetus to analyze a situation and develop suitable strategies and tactics.
- A basis for assessing core capabilities and competences.
- The evidence for, and cultural key to, change.
- A stimulus to participation in a group experience.[19]

Hill and Westbrook argue that SWOT analysis is an overview approach that is unsuited to today's diverse and unstable markets.[20] They also suggest that it can be ineffective as a means of analysis because of:

- The generation of long lists.
- The use of description, rather than analysis.
- A failure to prioritize.[21]

It is interesting that the concerns listed are not really about the method itself but how individuals can misuse the analysis process or not complete a thorough analy-

sis. Although we agree with the concerns in most companies, especially small ones, a consistent use of the SWOT analysis by management should lead to a more complete analysis of the company than the systems they are currently employing.

As can be seen in Exhibit 1.7, the SWOT analysis box also addresses internal and external forces. Strengths and weaknesses are both concerned with the internal analysis of the company, while the opportunities and threats are concerned with the external forces affecting the company.

As management develops its list of strengths, weaknesses, opportunities, and threats, they need to remember that for every positive attribute of the company there is a negative attribute. In contrast, every negative attribute has a positive attribute for the company. For example, if a company has the strength of having no competition it also has the threat of new competitors entering the marketplace. Another example relates to technology. If the competitors have established technology (your company's weakness) then the company has the opportunity to develop a better technological mousetrap.

Factors that can be considered when performing the SWOT analysis include:

- Quality and depth of management.
- Size of the company.
- Geographic and product line diversification.

Exhibit 1.7 *SWOT Analysis*

"SWOT" Analysis

Strengths (internal)**:**	**Weaknesses** (internal)**:**
• What do you do better than the competitors? • What intellectual property do you own?	• What do the competitors do better than you do? • What do you need to compete more effectively?
Opportunities (external)**:**	**Threats** (external)**:**
• What changes are occurring in the industry or in customer demands that you can take advantage of? • What weaknesses of your competitors can you take advantage of?	• What changes are occurring in the industry or in consumer demand that your competitors can take advantage of better than you can? • What are your competitors doing to attract your customers?

- Market position and penetration.
- Supplier and customer dependence.
- Product technology.
- Intellectual properties owned.
- Financial resources.
- Customer demographics.

When attempting to analyze each of these areas, management should ask itself questions similar to the ones below. As the executives brainstorm in each of the areas, they will expand the list to fit their circumstances and drill down to the level of detail needed to accomplish a complete analysis. Examples of questions for each area include:

- Strengths (the company's core competencies and resources):
  - What does the company do well?
  - How strong is the company in the market or what is its market position or share?
  - Does the company have a clear communicable vision or direction?
  - Does the company have a positive corporate culture that makes for a work environment that will attract the employees desired?
  - What are the company's definable resources (tangible and intangible)?
- Weaknesses (the company's liabilities in the competitive marketplace):
  - What systems could be improved at the company?
  - What does the company do poorly?
  - Does the company have the financial resources to purchase needed equipment, technology, or facilities?
  - Does the company have the financial resources to withstand a downturn or unforeseen negative circumstances?
  - Can the company support its growth rate?
- Opportunities (with the company's customers and in the marketplace):
  - What changes are taking place in the market that open up opportunities? Is the company positioned to take advantage of the opportunities?
  - Is the company entering new markets?
  - Can the company upgrade its technology to lower costs?
  - Can the company expand its geographic coverage?

  - Can the company improve its use of the Internet for marketing or customer relations?
- Threats (what your competitors are doing and other potential challenges):
  - What obstacles do you face?
  - What are your competitors doing?
  - Are regulatory requirements or customer demands forcing a change in your products or services?
  - Is technology threatening your market position?
  - Is there pressure on your profit margins?

Using a SWOT analysis will allow management to articulate the strengths, weakness, opportunities and threats to the company. With this type of analysis, management can develop plans to create a better market position than its competitors and to gain market share.

Performance Areas, Performance Indicators, and Activity Measures

As can be seen from the Value Chain Analysis, every company has many performance areas. Performance areas are logical areas of focus based on how the business is organized and operates. Each business will divide the company into formal or informal performance areas, depending on the management style of the company and the practical resources available to them. As the business grows, the performance areas are divided because the corresponding growth in employees generally provides for a segregation of responsibilities and activities.

Performance areas typically include:

- Shipping
- Advertising and public relations
- Customer service
- Manufacturing
- Purchasing
- Research and development
- Warehousing
- Information technology (the computer department)

- Finance department
- Other

Each of the recognized performance areas can be monitored by performance indicators. Performance indicators are defined as measures that provide feedback to a team or managers about how the employee, team, or company is performing in reference to the established standards for performance in a particular performance area.

The established standards are referred to as benchmarks. In order for benchmarks to be meaningful, they should have certain characteristics:

- Point of reference from which measurements can be made.
- Serves as a standard against which performance can be measured or judged.
- Can be internally or externally based.
- Must be consistent—not subject to external factors causing variations.
- Reasonably achievable given the company's allocation and apportionment of resources.
- Capable of being maintained over a long period of time (not a sprint, but a marathon).

Examples of performance measures tied to performance areas are:

Performance Area	*Example Performance Indicator*
Customer Service	Number of customer contacts
Manufacturing	Amount of rework
Human Resources	Employee turnover

Drilling down into the performance area, we find each performance indicator is affected by one or more activity measures. Activity measures are defined as specific procedures or processes in a performance area. These measures are input items for a specific performance indicator and must be able to be consistently measured. To be an effective measure the activity must be definable, documented, and have a performance standard established. One of the greatest problems for small businesses is the lack of internal systems to capture the data necessary to measure an activity and to compare it to a set performance standard. The performance indicator Employee turnover is controlled primarily by employee satisfaction. Employee's satisfaction is affected by activity measures like the percentage of employee suggestions acted upon or the amount of training they are receiving to improve their skill levels.

Examples of performance indicators and related activity measures can be seen in the following table:

Performance Indicator	*Related Activity Measure*
Number of customer contacts	Actual number of calls initiated
	Actual number of connections made
Amount of rework	Percentage of raw materials inspected
	Error rate per shift
Employee turnover	Tardiness and absentee rate
	Employee suggestions acted on

When analyzing a company's performance measures, management must look at the performance measures from a variety of perspectives. Newton's law states that for every action there is an equal and opposite reaction. The law of performance measurement is that for every perspective there is an equally important and opposite perspective. The key to success lies in balancing the perspectives, seeing the business from several views. Management must look at every measure from the various viewpoints such as:

Short-term versus long-term—During hard economic times a company might be tempted to focus on short-term profitability and cash flow–producing measures. In the early 1990s many companies felt the sting of that perspective when they cut their marketing and sales efforts and, as a result, lost significant market share. The tradeoff of a short- versus long-term perspective ended up costing many companies significantly more to regain lost market share than the short-term savings they realized.

Internal versus external (customer)—A tradeoff between an internal and an external, customer-focused perspective was created with the advent of voice-mail technology. There is no question that implementing a voice-mail system made sense from a cost standpoint. However, many companies received negative feedback from customers because of that choice. Companies, in the habit of measuring and responding to customer feedback, quickly made adjustments to their system; continually tweaking the system to find the right balance between company and customer needs. Those companies who were simply focused on cost savings did not feel the negative impact of that choice until it was too late.

Global versus local—In addition to measuring progress toward a company's "big-picture" plan, a large company, such as Wal-Mart, must also pay attention to how its image plays out in the local communities that its workforce and cus-

tomers come from. For example, Wal-Mart has been known to pull a controversial item from its stores to appease public opinion. Much of Wal-Mart's success stems from maintaining the ideal balance between being a huge, global conglomerate and the local, friendly next-door neighbor.

Inputs versus outputs—Using a nonbusiness example—In the past, many nonprofits and government agencies were evaluated on how they managed their funds. Today, they are held to a higher standard; they must also measure and report on the impact that those funds had on their constituents. We see this standard really taking hold in public schools. More and more, schools are funded and teachers compensated, not just on how many hours they work or students they teach but on the actual success rates of their pupils.

Like schools, foundations and philanthropists who have always demanded accountability about the use of contributed funds have raised the bar and now expect some measurable, tangible evidence of successful outcomes. In the case of nonprofits, having a performance measurement system in place helps to maintain the charter the entity was created under and prevents a random change of direction that often happens with an ever-rotating board of directors, each with his or her own agenda.

Lagging versus leading—Leading indicators are financial and nonfinancial indicators that imply some affect on the company in the future. For example, if customer complaints are on the rise, this most likely implies that if the company does not fix the cause of the complaints customers will look for and move to another supplier of the product or service. Lagging indicators are indicators that show how we have performed in the past but offer no direct insight into performance in the future. Bankers are especially sensitive to the need for a balanced perspective in this area. They know that past performance is no promise of future outcomes. As a result, banks often require, in their loan covenants, that a company submit a regular flash report that includes leading indicators such as: work in progress, backlog, standing orders, returns and refunds, customer complaints, defective shipments, and so forth.

Value-added versus non-value-added—In an attempt to minimize waste, many organizations are making distinctions about activities that add value to the company versus those that do not. For example, investing in new equipment may add value; investing in new equipment due to lack of proper maintenance does not.

Soft versus hard—Just as we need hard measures like a productivity percentage, we also need a corresponding soft measure like employee morale to mon-

itor the effects of an increased demand on productivity. Soft measures can be harder to quantify, but in the overall scheme of things can be even more meaningful than hard measures. For example, customer attrition is a hard, very quantifiable measure. Customer satisfaction is considered a soft measure; however, with the right measurement system it is easy to determine some of the leading causes of dissatisfaction (i.e., late delivery, product quality, damage on arrival, etc.) that ultimately lead to customer attrition. A good balance of both soft and hard measures provides deeper insights into the ramifications of company policy.

Financial versus nonfinancial—This distinction is so basic to performance measurement that it seems silly to even mention it here. However, as basic as it is, it is surprising how many companies rely solely on financial measurements.

Here are some examples of nonfinancial measures and how important they can be to company success:

Quality of output as a balance to quantity of output—It is possible to have a high mark in quantity of output and be lulled into a false sense of security. Only when quantity is measured against quality are the numbers valid.

Customer satisfaction within a context of issue relevance—For example: a company may score high in an area that has very little relevance to customer needs. For instance, the color of the packaging may seem important and may even get good reviews from customers, but within the overall context of a hierarchy of needs, the customer may put more weight on other factors that ultimately have a greater impact on the relationship. The weighting of measures plays a critical role in the performance measurement process.

Total costs associated with employee turnover—Including hiring costs, lost productivity, reduction of quality, team morale, and so forth. For companies dealing with a highly competitive hiring environment, this information will have a huge impact on compensation planning. Companies who understand this have found creative ways to channel monies previously spent on employee turnover issues into far more productive rewards for employees, while at the same time, serving the overall goals of the company.

Employee training—Not just dollars spent, but overall effectiveness of training. Coincidentally, there is a direct correlation between training effectiveness, productivity, and team morale. Team morale has a significant effect on customer satisfaction. By studying the dominoes-like structure of activities in an organization, it is easy to see how important nonfinancial measures can be when it comes to predicting future outcomes.

R&D productivity—Average development cycle times, attempts versus failures, average investment per new product, marketplace acceptance, and so forth. Monitoring these numbers has lead many companies to "buy" rather than develop new technology given the true cost of development.

Nonfinancial performance measures can often be extremely important in managing various aspects of the company. Let us use a large transportation company for the handicapped as an example. The company has 200 vans and limos adapted for the handicapped. A key nonfinancial measurement for this company would be "miles per gallon per vehicle per driver." The measurement would be a leading indicator for several items:

- **Maintenance needed on the vehicle—**Low miles per gallon is often a good indicator of poor engine performance (a performance issue), implying that vehicle maintenance may be required.
- **Increased risks—**In addition, it could also be a people issue. The company found that a driver with lower mileage in the same vehicle than other drivers generally had poor driving habits. There was a high probability that the driver was a "fast-and-slow," "start-and-stop" type of driver who increased the company's risk related to:
  - Accidents
  - Tickets
  - Client complaints

The owner of the company discovered his insurance premiums were increasing significantly and that by improving the driving habits of the drivers or replacing drivers he could reduce insurance costs, accident repairs, and more importantly customer complaints. An added bonus was that he could use part of the cost reductions to establish a bonus pool to reward the good drivers who met or exceeded the performance standards.

The key to all these various perspective distinctions is to make sure that the measures you select for your company provide a balanced view. As we said earlier, performance measures tell us if we are on track to achieve our goals. They also tell us if our goals are the right goals to have. What may have seemed like a worthy goal on the surface may in fact create a multitude of other problems. In others words, the cure can be worse than the cold. The term "growing broke" describes a common scenario in smaller businesses that are losing money. The company sets a goal to increase sales, but without properly analyzing the source of the losses, the company can end up compounding previous losses.

From the many performance indicators possible within every company, management must determine the key performance indicators for their company. These key indicators are related to the company's critical success factors, which are discussed later in the chapter.

What Is a Performance Measurement System?

A performance measurement system is a mechanism for capturing and reporting performance indicators. The system is most effective when implemented on a real-time basis. Performance measurement systems vary from a low-tech columnar pad or electronic spreadsheet to very high-tech computerized systems with dashboards and fancy graphing capabilities. The value is not in the low- or high-tech systems used, but in picking the right performance indicators to monitor and improve performance.

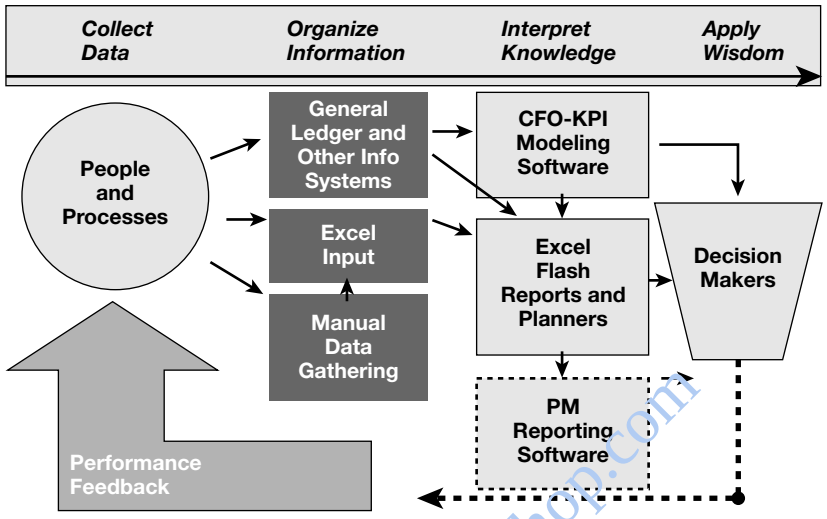
There are two primary benefits of a performance measurement system:

1. To improve the availability and quality of information for decision makers, and
2. To stimulate desired behavior by providing performance feedback (preferably in real time) on activities that are most critical to company success.

The model in Exhibit 1.8 provides a big picture view of the system. A performance measurement system has four evolutionary stages. In the first stage, people and processes are generating data to be collected. The data is fed into and organized by various information systems such as a general ledger, point-of-sale system, manufacturing resource planning (MRP) system, customer relationship management (CRM) system, time and billing system, and so on. Once the information is organized, it's interpreted using various analyses and modeling tools. At this stage, we are looking to glean specific knowledge about how the people and systems are performing. Finally, that knowledge is paired with new strategies for improvement, which are then applied to the business. Many companies stop there, only using the information to influence the decision-making process. Although there is value in that, the real value of a performance measurement system lies in providing real-time feedback to those involved in the activities that generated the data in the first place.

Here is an interesting angle on this whole approach: Often the very act of providing feedback stimulates better performance without management's input. Does this mean that the employees themselves can apply their own wisdom to the work environment? Absolutely! In fact, one of the greatest benefits of a performance measurement system is how employees respond to feedback by taking ownership of their actions rather than always waiting to be led by management.

Exhibit 1.8 ***Performance Feedback System***



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Successful Performance Measurement Systems

Successful performance measurement systems have common characteristics. These characteristics serve as a checklist in designing and implementing a performance measurement system.

- **Linked to primary goals and strategies—**The measurement process can become burdensome and irrelevant if we measure everything. When you measure everything, nothing is important. Goals and strategies serve as a filter to cull out the most meaningful measures.
- **Clearly defined—**One of the most common reasons for poor performance is poorly articulated expectations. Performance expectations must be made explicit. Employees must fully embrace the expectations to buy into and support a measurement process. This tenet often leads to the development and documentation of policies and procedures. Often, this activity alone improves performance once employees understand what is expected of them.
- **Understandable—**The language used to describe a particular measure must survive the authors of the measurement system. Any terminology that does not transcend all levels of personnel is subject to suspicion and feigned ignorance. "How can I be held accountable to something I don't understand?"

- **Easily measured—**In some cases the costs associated with monitoring a particular measure may outweigh the benefits. Although there may be a number that would be valuable to monitor, the cost of developing a system to capture the performance data may far exceed the potential savings or improvement associated with that activity. Companies make tradeoffs like this everyday. In his book *Extraordinary Guarantees*,[22] Christopher Hart cites the example of how credit card companies have found that the cost of reviewing the credit performance of every customer is far more expensive than the cost of bad debt. This is the reason that our mailboxes are full of instant credit options.
- **Few in number—**Keep it simple. Although there may be dozens of measures across an entire organization, when it comes to flash reports and short-term scoreboards, less is more. We want to avoid a situation where the act of supporting the performance measurement system takes preeminence over the activities being measured.
- **Reported regularly—**How soon they forget. It is a bit of a cliché but very true in performance measurement. Once you begin the feedback process, employees will come to expect a regular report. Irregularities in reporting frequency may cause people to question how important and committed the company is to a performance measurement program.
- **Consistent follow-through—**An owner of a small lighting store began posting her average sale on a daily basis. Within days, the average sale began to rise. Within a month, the average sale went from $63 to $84 dollars. She continued this for a few months and then went on vacation. While she was away, the average sale was not being monitored. When she returned three weeks later her average sale had dropped dramatically. Moral of the story: employees will care about the measures only as much as you do. Only a persistent focus will produce lasting results. To finish the story, she began to monitor and post her average sale again and within a week, it came close to the benchmark previously established.
- **Openly shared—**In the past, performance information was a closely held secret among managers. To have an effective performance measurement process employees need to have access to the information. To avoid suspicion managers should avoid "massaging" and selectively sharing the data. Employees want the whole truth and nothing but the truth. Once again, if we want them to act like owners, we have to treat them accordingly.
- **Predictive in nature—**The right set of measurements should serve as an indicator of future outcomes. For example, the owner of an insurance brokerage company noticed an increase in call volume. Her receptionist was swamped. She took that as a sign that her new advertising campaign was working, and she

should continue that expenditure. However, before making that decision, she dug deeper and found that although the advertising was generating more calls, the prospects were not as qualified as in previous campaigns. As it turned out, call volume was not as good a predictor as it had been in the past. She modified the prospect intake process to include a question regarding prospects' current insurance policy. Positive responses to this single question turned out to be a more reliable predictive indicator of future sales.

- **Developed by everyone—**It is all about buy-in. The more you can involve the team in the development of measures that relate to their role in the company the more likely they will be to support and trust the process. Many companies have made the mistake of "handing down" a prescribed set of measures and expecting the team to accept them. When we can step back and trust the process, more often than not, the team will devise the same set of measures as the managers would, but because they coauthored the measures, there is a greater commitment to the measurement system and their personal performance.
- **Team or unit based—**Measuring performance on an individual level is important, but if it is the only type of measure used it tends to create a "me first" culture. Whereas when we measure behavior on a collective basis we are much more likely to see team-oriented behavior.
- **Tested against behavioral outcomes—**A furniture manufacturer ran into problems when he put so much emphasis on getting product "out the door" that there was a significant increase in defective product back "in the door." In this case, a productivity measure was out of balance without a corresponding quality measure.
- **Assessed and modified regularly—**A wise man once said, "The only constant in life *and business* is change." The goals and strategies of a company will change over time. Performance measures will shift to reflect those changes. Performance measures help us overcome weaknesses and exploit opportunities. As we improve in a given area the emphasis of measurement will transfer to other areas.
- **Linked to compensation—**This is where the "rubber meets the road" in a performance measurement system. As the saying goes, "That which gets measured gets done. That which gets *rewarded* gets done again." Linking compensation to performance can yield the traction needed to really get the program up and running.

Benefits of Scorecard Performance Measurement System

According to the study on scorecard performance measurement systems sponsored by the American Institute of Certified Public Accountants (AICPA) the

biggest benefit to the companies implementing performance measurement systems is "communicating strategy throughout the organization and alignment of employee behavior with organizational goals."[23]

There is a close relationship between the comprehensiveness of the performance measurement system and the benefits achieved. The more the system utilizes performance all the way down to the individual level, the greater the benefits realized by the company. If the performance measurements are linked to compensation and rewards then even greater benefits will be realized.

Companies that get the most benefit from the scorecard type performance systems generally have the following key characteristics:

- Have developed the performance system to focus on the key points of the company's corporate strategy.
- Have a comprehensive system focused on the company as a whole and not a particular area of the company.
- Have compensation and reward systems that are tied to the individual and group performance.
- Are accepted by and used by the employees.

The most important of these characteristics is the linkage of the performance system to the corporate strategy of the company.

Critical Success Factors

Every business has critical success factors that will increase revenue, reduce costs, or increase efficiencies. Management can define or discover the critical success factors of the company for every performance area in the company.

In our readings, we found a definition of critical success factors (CSFs) that we believe will provide insight for those trying to understand CSFs:

> Critical success factors are the limited number of areas in which satisfactory results will ensure successful competitive performance for the individual, department, or organization. Critical success factors are the few key areas where "things must go right" for the business to flourish and for the manager's goals to be attained.[24]

To add some illustrative examples of CSFs, Dr. Sheila Kessler (*www.competitiveedge.com*) has developed a list of CFSs for customers in a variety of industries. See Exhibit 1.9 for the CSFs for 16 different industries.

The airline industry is one that all of us can associate with, because most of us fly occasionally or frequently. The customers of the airline industry, based on Dr. Kessler's research, find the following factors (CSFs) important to their choice of an airline and the continued use of that airline:

- Baggage system
- Reservation system
- On-time arrivals
- Friendly service
- Good problem solving
- Competitive pricing
- Available flights
- Frequent flyer program
- Quality of meals
- Safety[25]

All of us would agree that if an airline provided us with all of the above 10 factors we would use that airline.

Identifying "those things that must go right" is one of the primary responsibilities of management. Depending on the strategy the company has chosen, the CSFs will vary even within the same market. Based on our experience, we believe that CSFs have the following characteristics that management can consider when developing their own:

- Has a material impact on the bottom line and strategic effectiveness.
- Directly affects successful competitive performance of company.
- Usually less than 10 factors in any one company.[26]
- Most likely affects customer satisfaction, directly or indirectly.
- Must be related to the company's strategy.

We agree that there are probably less than 10 critical success factors for any business. This is especially true of the small company. Even if there were more than 10 CSFs in small to midsized businesses (SMBs), these companies would not have the management depth to focus on more than a few CSFs at any one time. Management of SMBs may need to occasionally change their primary focus of the performance measurement system, which would allow a rotating emphasis year by year between major themes.

Exhibit 1.9 ***Critical Success Factors to Customers***

Based on over 200 wallet-share projects. Note segments may vary within each industry.

Auto manufactures (low end)
Reliability and reputation
Safety
Appearance
Roominess and comfort
Feel of driving
Features
Price
Availability
Depreciation
Insurance costs
Warranty

Customized manufacturing
Good needs assessment
Good design/prototype review
On-time delivery
Reliability of product
Ease-of-use
Problem solving
Warranty policy
Invoice accuracy and ease

Restaurants
Clean
Competitively priced
Accurate service
Timely service
Friendly service
Menu selection
Facility (light, table, size)
Ambiance (décor)
Location
Food presentation
Theme

Distribution
Availability
Just-in-time delivery
Accuracy of order
Damage free delivery
Change communication
Special order handling
Competitive pricing
Real-time monitoring
Invoice accuracy and ease
Appearance
Helpful delivery
Good EDI system

Engineering and Construction
Reputation and financial stability
Close-out process
Delivers on time
Consistency of delivery
Real time monitoring
Good change order process
Competitively priced (units)
Rework percent
Report accuracy and timing
Best practice communication
Electronic compatibility

Hotels (business traveler)
Location
Competitive pricing
Room size
Comfort-bed, lighting, a/c
Cleanliness
Consistency (for chain)
Speed of check-in/out
Friendly service
Accuracy of systems
Maintenance
Ambiance
Good reservation system

Airlines
Baggage system
Reservation system
On-time arrivals
Friendly service
Good problem solving
Competitively priced
Available flights
Frequent flyer program
Quality of meals
Safety

Banks (for businesses)
Fees
Privacy
Ease of loans and flexibility
Location

Banks (for individuals)
Competitive fees and rates
Accuracy
Friendly, helpful staff
Location
Little or no waiting
ATM/electronic adequacy

Computers (business)
Competitively priced/features
Speed and storage
Executive training
Reliability
Technical support ease
Ease-of-changes to system
Warranty
Salability

Cellular
Quality of coverage
Price
Reliability
Promotions
Invoicing (no surprises)
Ease-of-use
Size of unit

VCRs
Ease of installation
Ease of use
Competitively priced
Return policies
Reliability
Reputation
Warranty policy
Product training

Electricity (business)
Predictable invoice
Dedicated service rep
Consistency of power
Least # of outages
Outage recovery
Good problem solving
Competitive pricing
Consultative sales

Car insurance
Price
Claim handling
Word-of-mouth
Coverage exclusions
Agency service
Top-of-mind
Sales ease

Pulp and paper chemicals
Assurance and availability
Consultative sales
Competitive pricing
Location
On-site service
Consistency of product
Quality of product

Groceries (67% impulse)
Safety
Availability
Taste
Competitive pricing
Appeal (ads and packaging)
Promotions (coupons, sales)
Ease-of-purchase (check-out)
Nutrition
Specific hunger or thirst

Medical supplies (business)
Safety and reliability
Productivity enhancement
Ease-of-ordering/invoicing
Competitive pricing
Availability
Product training

Key Performance Indicators

Every critical success factor has various performance indicators that affect it. Since management can only manage a limited number of items, it is important to select the most important performance indicators for that CSF, and these are called key performance indicators (KPIs).

KPIs have unique characteristics that management must consider when selecting them:

- Relate to a specific procedure or process.
- Are an input item for a specific performance indicator.
- Must have consistency of measurement.
- Must be able to be impacted by persons responsible for them.

The art of selecting KPIs requires that management understand how the CSFs and their KPIs are significant components of the company's corporate strategy. If the KPIs or benchmarks do not support the strategy, management will not be as effective as possible in advancing the company's market position, ROE, or cash flow and its resulting value.

Conclusion

To be able to competently assess the company's current state, management must complete a qualitative and quantitative analysis of the company. The full implications of the quantitative analysis cannot be derived from the numbers without an understanding of the company's qualitative factors.

Qualitative analysis of the company's current state requires that management:

- Use an analysis framework such as Porter's Five Forces or McKinsey's 7-S to analyze the industry and macroenvironmental influences.
- Articulate the company's corporate strategy and the related skills and resources required to carry out the strategy and define the risks associated with the particular strategy chosen.
- Develop a complete list of all the company's intangible assets and intellectual properties that can be used to advance the company's corporate strategy.
- Perform a SWOT analysis highlighting the company's strengths, weaknesses, opportunities, and threats.
- List the company's current critical success factors and the related key performance indicators. Benchmarks currently utilized for the KPIs should be documented.

- Assess the company's ability to capture the data required to compute and analyze the KPIs.

As management moves through the SBfV Process, managers will discover that it is designed to assist in assessing the company's current state and to begin the long-term process of moving from the current state to the desired future state. The advantage of the SBfV Model is that it takes the company on a gradual process of advancement instead of attempting to implement a comprehensive, costly system immediately.

QUANTITATIVE ANALYSIS OF THE COMPANY'S CURRENT STATE

A review of the company's current state would not be complete without a review of the company's performance measures. The level of review depends on the quality and depth of the management information systems employed within the company. In some companies, a wealth of information is available and in other companies, much of the information, especially for the nonfinancial performance measures, will need to be developed over time.

Performance Measures

Performance measures should be considered in terms of the analytical information they provide. Each of the performance measures provides management with information about one or more of the company's resources or capabilities, which are often thought of as the attributes of the company.

In order to understand the company and the operating and strategy implications of the performance measures (the key value of the analytical process), the company's resources need to be organized into a consistent framework. A company's resources are often grouped into four categories, which have been described by Jay Barney as:

Financial capital—All the different money resources that firms can use to conceive and implement strategies**—**capital from entrepreneurs, equity holders, bondholders, and banks' financial capital. Retained earnings are also an important type of financial capital.

Physical capital—The physical technology used in a firm, a firm's plant and equipment, its geographic location, and its access to raw materials. Specific ex-

amples of physical capital are a firm's computer hardware and software technology, robots used in manufacturing, and automated warehouses used to control inventory costs. Geographic location, as a type of physical capital, is an important resource.

Human capital—The training, experience, judgment, intelligence, relationships, and insight of individual managers and workers in a firm.

Organizational capital—An attribute of collections of individuals. Organizational capital includes a firm's formal reporting structure (what Penrose called the administrative framework); its formal and informal planning, controlling, and coordinating systems; and its culture and reputation; as well as informal relations among groups within a firm and between a firm and those in its environment.[27]

We believe, for management purposes, that the company's resources should be consistently grouped into six categories. While the additional categories of customer capital and systems capital could easily be folded into Barney's four categories, we believe that adding two categories would increase management's emphasis on these categories.

Therefore, the SBfV Model views the company's performance measures to be related to its:

- Financial capital
- Physical capital
- Human capital
- Organizational capital
- Customer capital
- Systems capital

The company's performance measures must be analyzed in order to monitor its ongoing progress from year to year, to compare its performance to industry comparative benchmarks and to be used in the strategic planning process.

Comparisons of the company's performance from year to year allow management to identify areas where the company has improved and areas of decline that may cause serious problems in the near term or over time. Comparison to industry ratios allows management to identify areas that give the company a competitive advantage or areas that can be improved when competitors have demonstrated where superior results can be achieved. Investors look at a company's internal improvements and analytical results that are superior to those achieved by competitors as being value-enhancing characteristics of a company.

Performance measures are generally based on data from:

- The company's financial and operational data.
- Industry financial and operational data.
- Surveys related to:
  - Customers
  - Suppliers
  - Lenders
  - Competitors
  - Stockholders
  - Employees

From this data it is possible to develop more ratios than can be managed or that will provide useful insight into the company. It has been estimated that there are over 3,000 potential performance measures. Individuals responsible for managing particular areas of performance normally cannot manage more than 6 to 8 performance measures. Many consultants recommend that the maximum number of managed performance measures be four.

Management must use care to develop meaningful ratios that will be used as the basis for management decisions without burying themselves in excess details. The higher the level of management the more summary analysis should be utilized. Management can ask lower levels of management for additional details and insight into the causes of the identified changes or deficiencies.

SBfV provides a systematic approach to analyzing the company's performance measures, which will provide insight into the company's usage of its resources and monitor whether the company is creating value for the stockholders.

Company Resources

Company resources are monitored by specific performance measures or by multiple performance measures. It should be noted that many performance measures (specifically when combined with others) could be used to monitor more than one of the company's resources.

Each industry and company may have competitive resources that are different than those of other industries or companies. This section is not a comprehensive presentation of all available performance measures but rather provides examples of some of the more common performance measures used in many, if not most, industries.

Financial capital—This is related to a company's capital structure and its use of funds from investors and vendors. Resources related to a company's financial capital include, the company's:

- Borrowing capacity
- Ability to raise capital
- Retention of prior earnings
- Sustainable growth rate

Human capital—Is related to the company's employees, the assets that walk out the door each night or at the end of each shift. These measures focus on the employees' capabilities to perform their responsibilities and to work together as a coordinated team. Resources related to a company's human capital include the employees':

- Education
- Training
- Knowledge
- Commitment
- Leadership ability
- Trust
- Integrity
- Experience

Physical capital—This is related to all the tangible resources owned or leased by the company. These measures are focused on the company's utilization and management of the tangible assets. Resources related to the company's physical capital include the company's:

- Productive capacity
- Capital expenditures
- Maintenance quality
- Flexibility and mixed use of fixed assets
- Technological commitment
- Location, location, location (access to suppliers, customers, and human capital)

Organizational capital—This is related to the company's group attributes, such as its culture, creativity, public image, and organizational structure. Resources related to the company's organizational capital include its:

- Employee loyalty
- Employee teamwork
- Reputation

- Product innovation
- Speed and quality of decision making

Customer capital—This is related to the company's relationship to its customers and the acceptance of its products by its customers and potential customers. Resources related to the company's customer capital include:

- Customer services
- Customer loyalty
- Market penetration
- Information access

Systems capital—This is related to the effectiveness of the company's identifiable operating systems. Resources related to the company's system capital include the company's:

- Computer systems and information systems
- Customer relationship management systems
- Communication systems
- Shop floor systems
- Inventory control systems
- Sales and marketing systems
- Accounting systems
- Project management systems

A company's ability to gather timely and sufficient decision-making information internally and externally exists today because of the advances made in the use of technology within the modern business. The only limitation is management's own failure to expand the company's data collection and analysis systems to fit the needs of the company's management team.

One caution: with the proliferation of PCs with independent spreadsheets and databases, all resources must be synchronized and verified to be useful in performance measurement.

Internally generated information can be captured in many instances in real time. For external information, prior to the Internet, an individual might have to wait for the hard copy version of the results of certain survey information with which to make his subject company comparisons. During the 1990s, the Internet dramatically enhanced our ability to obtain and disseminate information dramatically. Information that was once privately owned or perhaps available only to experts is now widely accessible, almost instantaneously. The availability and accessibility of all of this data provides the analyst with an expanded tool set to utilize to achieve deeper insights into the strengths, weaknesses, opportunities, and threats of a given company or industry.

Financial Statement Data

The most recognized and commonly used performance measures are based on the company's financial statements. Financial statements are the summaries of the recorded historical events and transactions of the company. In order to have financial statements that can be compared with similar companies within the industry, the financial statements may need to be modified for economic or normalizing adjustments in terms of their format.

One of the objectives of financial statement analysis is to ensure that the historical financial statements that can provide the basis for any forward-looking estimates or decision making reliably reflect the true operating performance of the enterprise. Therefore, the historical accounting financial statements may need to be adjusted (modified) for certain items that in the management's judgment, distort the true economic operating performance of the business.

Financial statement adjustments are made for a variety of reasons including:

- To develop historical earnings from which to predict future earnings.
- To present historical financial information on a normalized basis, that is, under normal operating conditions.
- To adjust for accounting practices that are a departure from industry or GAAP (Generally Accepted Accounting Principles) standards.
- To facilitate a comparison of a given company to itself, to other companies within the same industry, or to an accepted industry standard.
- To compare the debt and capital structure of the company to that of its competition or peers.
- To compare compensation with industry norms.

An adjustment to historical financial statements should be made if the effect of the adjustment will more accurately present the true operating performance of the enterprise. Therefore, all appropriate adjustments should be made, regardless of whether they reflect positively or negatively on the company. It is important to disclose the key assumptions underlying all adjustments.

To facilitate proper analysis and interpretation of a company's financial statements, these accounting statements should first be adjusted to reflect the economic realities of "normal" operating conditions. The objective of normalizing historical financial statements is to present the data on a basis comparable to that of other companies in the industry, thereby allowing benchmarking of the strength or weakness of the subject company relative to its peers.

Normalization generally involves adjusting for a number of broad categories:

- Unusual items
- Nonrecurring items
- Extraordinary items
- Nonoperating items
- Changes in accounting principles
- Nonconformance with GAAP
- Degree of ownership interest, including whether the interest has control

Unusual items are events or transactions that possess a high degree of abnormality and are of a type clearly unrelated to, or only incidentally related to, the ordinary and typical activities of the entity, taking into account the environment in which the entity operates.

Nonrecurring items are events or transactions that are not reasonably expected to recur in the foreseeable future, taking into account the environment in which the entity operates.

Extraordinary items are events or transactions that are distinguished by their unusual nature and by the infrequency of their occurrence. Thus, for an item to be classified as extraordinary, the item must be *both* an unusual item and a nonrecurring item.

Revenues or expenses that are unusual, nonrecurring, or extraordinary usually are removed from the historical data because they can distort the picture of the ongoing earning power of the business. Caution is advised, however, in that items that might be deemed unusual and infrequent in one industry might not be deemed so in another.

Items representative of the type of adjustments made to historical financial statements for unusual, nonrecurring, and extraordinary items include:

- Strikes and other types of work stoppages (unless common for the industry).
- Litigation expenses or recoveries.
- Uninsured losses due to unforeseen disasters such as fire or flood.
- One-time realization of revenues or expenses due to nonrecurring contracts.
- Gain or loss on the sale of a business unit or business assets.
- Discontinuation of operations.
- Insurance proceeds received on the life of a key person or from a property or casualty claim.

To achieve a clear picture of true operating performance for benchmarking purposes, the analyst may wish to remove nonoperating assets and liabilities and their related earnings or expenses from the subject's historical financial statements.

Common examples of nonoperating items include:

- Excess cash.
- Marketable securities (if in excess of reasonable needs of the business).
- Real estate (if not used in business operations, or, in some situations, if the business could operate in rented facilities).
- Private planes, entertainment, or sports facilities (hunting lodge, transferable season ticket contracts, skyboxes, etc.).
- Antiques, private collections, and so forth.

Management must understand the effect that a change in accounting principles has on a company's financial statements. Some common examples of changes in accounting principles are:

- A change in the method of pricing inventory, such as LIFO (last in, first out) to FIFO (first in, first out) or FIFO to LIFO.
- A change in the method of depreciating previously recorded assets, such as from straight-line method to accelerated method or from accelerated method to straight-line method.
- A change in the method of accounting for long-term construction-type contracts.
- A change in or from the full-cost method of accounting in the extractive industries.

Such changes in accounting principles can result in irregular or inconsistent historic results. In essence, the yardstick becomes expandable or shrinks. For benchmarking purposes, management must do the best job possible in maintaining consistency between the accounting principles used by the companies in the benchmarking data and the accounting principles used by the subject company.

Public companies tend to choose accounting treatments that please shareholders by making earnings appear higher. Most closely held businesses' owners tend to elect an accounting treatment that minimizes earnings, thus minimizing the corporate tax burden. These choices may mean that if the financial statements of a private company have not been audited or reviewed, the accounting practices adopted by management may not comply with GAAP. The analyst may choose to make adjustments to bring them into or closer to GAAP compliance so that the

subject's financial results can be compared to the financial results of its publicly held industry counterparts, if available and applicable. Adjustments may also be made to calculate cash flow. Examples of commonly encountered areas of non-conformance with GAAP are:

- Financial statements prepared on a tax or cash accounting basis.
- Unrecorded revenue in cash businesses.
- Inadequate bad debt reserve (or use of specific write-off method).
- Understated amounts of inventory, failure to write off obsolete or slow-moving inventory, and other inventory accounting issues.
- Unrecorded liabilities such as capital lease obligations, workforce-related costs (wages, sick, and vacation pay, etc.), deferred income taxes.
- Capitalization expense policies for fixed assets and prepaid expenses.
- Fixed asset write-off policies.
- Depreciation methods.
- Accounting for investments in subsidiaries or affiliated entities.
- Timing of revenue expense recognition for contract accounting, installment sales, warranties, subscriptions, and the like.

Finally, adjustments are made to eliminate self-serving biases of a controlling shareholder and put the company on an even keel with the benchmarked companies. Examples of such commonly encountered adjustments are:

- Smoothing of excess or deficient compensation or perquisites.
- Elimination of discretionary expenses and operating inefficiencies.
- Removal of transactions with family or other insiders, such as salary, benefits, and nonmarket (or insider) transactions.
- Implementation of changes in capital structure that could be and perhaps should be implemented, such as incurring reasonable debt when perhaps the family's philosophy has been to avoid debt.

After considering all potential financial statement adjustments and making any appropriate adjustments, your financial statements are ready to use as a basis for the analytical process.

Types of Analytical Analysis

There are two basic types of analysis commonly used to analyze a company's financial and operational performance. They are:

- Common sizing the financial statements.
- Ratio analysis.

Common Sizing

Once financial data has been normalized, analysts commonly employ an analytical methodology to identify operational trends, *common sizing* the financial statements. Common sizing involves expressing each item on the financial statements as a percentage of some base number and is performed on both the normalized balance sheet and the normalized income statement for each period under consideration. On the balance sheet, each item is expressed as a percentage of total assets; on the income statement, each item is expressed as a percentage of sales.

Common-size financial analysis provides insight into the company's historical operating performance, facilitates an assessment of relationships between and among certain accounts, identifies certain trends or unusual items, and can be used to benchmark the operating performance of the subject company by comparing it to its industry or to specific guideline companies.

This analysis is sometimes useful before making normalization adjustments in order to identify other potential adjustments, with a second normalization process then conducted.

A review of historical income statements and common-size income statements illustrate the value of common-size analysis. The historical income statements show the following information for three years ending December 31:

	1st Year	*2nd Year*	*3rd Year*
Net Sales	$128,156,060	$138,267,570	$134,097,420
Cost of Sales	92,261,710	97,934,800	96,185,600
Gross Profit	$ 35,894,350	$ 40,332,370	$ 37,911,820

Without additional analysis, we can conclude:

In year 2, the company made more money (gross profit), than in year 1 because the sales were higher.

The company made less money in year 3 than in year 2 because their sales were lower than in year 2.

We are unable to tell from the raw numbers if there are additional changes taking place in the company that may have positive or negative effects on the company and its long-term future. If we utilize common-size statements for the same financial data, we see the following picture:

	1st Year	*2nd Year*	*3rd Year*
Net Sales	100.0%	100.0%	100.0%
Cost of Sales	71.9%	70.8%	71.7%
Gross Profit	28.1%	29.1%	28.2%

From the common-size statements, we are also able to tell that the gross profit deteriorated from the second year to the third year after increasing between the first year and the second year. Obviously, it becomes clear that the cost of sales should be monitored closely to see if additional declines in gross profit could be expected in the future unless the company modifies its operations.

Traveling further down the income statement it is easy to tell that not all the decline in gross profit is attributable to the declining income. Common-size analysis can help the analyst to quickly spot areas that need to be monitored or fixed before they have significant long-term negative effects on the company's value.

Ratio Analysis

Ratio analysis carries the analysis even deeper into the industry and company operational and financial data. The key to ratio analysis is to establish some type of standard or benchmark with which to compare to the company's ratios. For example, if our operational data shows that the company requires five man-hours to manufacture a widget, what does this tell us is useful from a management perspective? Absolutely nothing. However, when it is compared to:

- The historical time required to manufacture a widget, then we know whether our manufacturing process times are improving, declining or staying the same.
- The competition's time to manufacture a similar widget, then we gain the knowledge of whether or not we are likely to be able to improve our manufacturing time without developing some competitive advantage in our manufacturing technology.

The further our company's ratios are from industry standards, the more we should either seek to improve our ratios (operating or financial efficiency) or to maintain or improve our competitive advantage, which created the above-average ratio result.

Ratio analysis exists in two formats: time series analysis and cross-sectional analysis.

Time series analysis (commonly known as trend analysis) compares the company's ratios over a specific historical time period and identifies trends that might indicate financial performance improvement or deterioration.

Cross-sectional analysis compares a specific company's ratios to other companies' or to industry standards or norms. It is most useful when the companies analyzed are reasonably comparable, that is, business type, revenue size, product mix, degree of diversification, asset size, capital structure, markets served, geographic location, and the use of similar accounting methods. It is important to exercise professional judgment in determining which ratios to select in analyzing a given company. Most finance textbooks calculate activity ratios and rate of return ratios based on average beginning and ending year balances. However, much of the available benchmark data, including those from the Risk Management Association (RMA), report ratios based only on a year-end balance.

Exhibits 1.10 and 1.11 present normalized balance sheets and income statements on a common-sized basis, including a comparison with RMA data, respectively.

Comparative analysis is a valuable tool for highlighting differences between the subject company's historical performance and industry averages, pointing out the relative operating strengths and weaknesses of the subject company as compared to its peers, assessing management effectiveness, and identifying areas where the company is outperforming or under performing the industry. Although, every company seems to believe that they are unique and unable to compare themselves to industry data, they must exercise the discipline to use the best available data wherever possible.

Comparative analysis is performed by comparing the ratios of the subject company to industry ratios taken from commonly accepted sources of comparative financial data.

Widely used sources for comparative financial data include:

- Almanac of Business and Industrial Financial Ratios (*www.prenhall.com*).
- BizMiner (*www.bizminer.com*).
- Financial Ratio Analyst (*www.viahome.com*).
- Financial Studies of the Small Business (*www.fvgfssb.com*).
- IRS Corporate Ratios (*www.wiley.com*).
- IRS Corporate Financial Ratios and IRS-CALC (*www.saibooks.com/fin.html*).
- Risk Management Association (RMA) Annual Statement Studies (*www.rmahg.com*),
- Ratios developed from the financial statements of a group of peer companies (normally from publicly traded company's SEC filings).
- Trade Association surveys of member companies.

The preceding publications vary in the depth and breadth of data provided. However, much of the sample data is extracted from corporate tax filings. RMA

Exhibit 1.10 ***Ale's Distributing Company, Inc.–Comparative Balance Sheets***

	RMA 2001	12/31/01	12/31/00	12/31/99	12/31/98	12/31/97
Assets						
Current Assets						
Cash and Equivalents	11.6%	13.0%	13.5%	14.1%	11.1%	13.6%
Accounts Receivable	10.9%	19.0%	16.4%	13.2%	12.1%	10.0%
Inventory	19.7%	20.7%	19.0%	18.1%	18.6%	13.6%
Other Current Assets	2.7%	0.5%	0.9%	1.6%	1.4%	2.3%
Total Current Assets	44.9%	53.2%	49.8%	47.0%	43.2%	39.5%
Fixed Assets-Net*	23.8%	46.8%	50.2%	53.0%	56.7%	60.5%
Intangibles-Net	20.4%	0.0%	0.0%	0.0%	0.0%	0.0%
Other Noncurrent Assets	10.9%	0.0%	0.0%	0.0%	0.0%	0.0%
Total Assets	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Liabilities and Equity						
Liabilities						
Current Liabilities						
Accounts Payable	10.9%	2.2%	1.6%	2.5%	1.6%	3.0%
Short-Term Notes Payable	7.4%	0.0%	0.0%	0.0%	0.0%	0.0%
Current Maturity LT Debt	4.4%	0.0%	0.0%	0.0%	0.0%	0.0%
Other Current Liabilities	8.4%	6.0%	6.4%	6.5%	7.0%	6.3%
Total Current Liabilities	31.1%	8.2%	7.9%	9.0%	8.6%	9.3%
Long-Term Liabilities	25.8%	28.1%	28.2%	27.6%	27.2%	26.3%
Other Noncurrent Liabilities	3.7%	0.0%	0.0%	0.0%	0.0%	0.0%
Total Liabilities	60.6%	36.3%	36.1%	36.6%	35.8%	35.5%
Total Equity	39.4%	63.7%	63.9%	63.4%	64.2%	64.5%
Total Liabilities and Equity	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Notes: Percentages based on Normalized Historical Balance Sheets.

Subject SIC Code = 5181 (Beer and Ale).

RMA Code = 5181 (Beer and Ale) – $25MM and Over Sales Median Ratios.

*Fixed Assets Adjusted to Fair Market Value.

Source: Reprinted with permission from James R. Hitchner, ed., *Financial Valuation: Applications and Models* (Hoboken, NJ: John Wiley & Sons, 2003), p. 74.

Exhibit 1.11 ***Ale's Distributing Company, Inc.—Comparative Income Statements***

	RMA 2001	12/31/01	12/31/00	12/31/99	12/31/98	12/31/97
Revenues	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Cost of Goods Sold	76.0%	74.4%	74.3%	74.6%	74.4%	73.9%
Gross Profit	24.0%	25.6%	25.7%	25.4%	25.6%	26.1%
Operating Expenses	20.2%	21.9%	22.7%	22.5%	23.1%	21.6%
Operating Profit	3.8%	3.7%	3.0%	2.9%	2.5%	4.5%
Other Income/(Expenses) – Net	–0.5%	–0.1%	–0.1%	0.2%	–0.2%	–0.2%
Pretax Profit	3.3%	3.6%	2.9%	3.1%	2.3%	4.3%

Notes: Percentages based on Normalized Historical Income Statements.

Subject SIC Code = 5181 (Beer & Ale).

RMA Code = 5181 (Beer & Ale) – $25MM and Over Sales Median Ratios.

Source: Reprinted with permission from James R. Hitchner, ed., *Financial Valuation: Applications and Models* (Hoboken, NJ: John Wiley & Sons, 2003), p. 75.

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obtains its data from financial statements provided to member banks by loan customers. *Financial Studies of the Small Business* obtains small-company financial statements from certified public accounting firms nationwide.

Operational data is much more difficult and usually more expensive to obtain. This data is normally obtained from trade associations or commercial data providers, who are often consulting or accounting firms that work extensively in the particular industry.

Operational and Financial Ratios

When considering both operational and financial ratios there are an almost unlimited number of ratios that can be developed. This section will not present a comprehensive list of all available ratios but rather will include examples of the more common ratios. Financial ratios are generally the first ratios mentioned wherever the topic of ratios is discussed.

Financial ratios are generally broken down into four categories:

- **Liquidity ratios—**Which measure a company's ability to meet short-term obligations with short-term assets. These ratios also help identify an excess or shortfall of current assets necessary to meet operating expenses.
- **Activity ratios—**Also known as efficiency ratios, provide an indication as to how efficiently the company is using its assets. More efficient asset utilization indicates strong management and generally results in higher value to equity owners of the business. Additionally, activity ratios describe the relationship between the company's level of operations and the assets needed to sustain the activity.
- **Leverage ratios—**Which are for the most part balance sheet ratios, assist the analyst in determining the solvency of a company. They provide an indication of a company's ability to sustain itself in the face of economic downturns. Leverage ratios also measure the exposure of the creditors relative to the shareholders of a given company. Consequently, they provide valuable insight into the relative risk of the company's stock as an investment.
- **Profitability ratios—**Which measure the ability of a company to generate returns for its shareholders. Profitability ratios also measure financial performance and management strength.

Exhibit 1.12 shows the typical presentation of the financial ratios organized into these four categories with a short explanation about the use or implication of each ratio.

Although this view of financial ratios is appropriate when limiting your analysis to financial issues, we believe it is an inappropriate view when taking a holistic approach to value creation management. Therefore, the SBfV Model uses an approach that looks at both operational and financial ratios as providing the necessary management information when organized as performance measures around the various tangible and intangible capital resources within the company.

Value Creation Measurement

In addition to performance measures, executive management needs to focus on the company's overall value creation. Is the company's strategy creating value? As discussed earlier, value is represented by the formula:

$$\text{Value} = \frac{I}{R-G}$$

I = Income
R = Risk
G = Growth

or

$$\text{Value} = \frac{\text{Free cash flow (FCF)}}{\text{Cost of capital (CofC)} - \text{Growth in FCF}}$$

Therefore, value is created when:

- Free cash flow increases,
- Company risk is reduced, or
- The growth rate of the free cash flow increases.

The *Value Creation System* is just what it sounds like and relates to the company's ability to create value. The SBfV Model focuses on the two primary inputs into the value formula: the company's free cash flow and its return on equity. Growth in the company's free cash flow or increases in its return on equity (preferably both) reflects the effects of all management decisions and strategies when compared to its last benchmarking period and shows that the company is creating value. These two performance measures reflect the company's cumulative usage of all its various capital resources. If the company is effectively using its resources, it is creating value and it will be reflected in the company's free cash flow and return on equity improvements.

Free Cash Flow

Free cash flow is the cash that is available to the company's owners after all the cash for the company's internal needs has been committed. These internal needs include cash for capital expenditures, cash repayment of debt, and funds for expansion of the company's operating assets such as inventories and accounts receivable.

Free cash flow is computed as follows:

Start with:	Net income
Plus:	Depreciation, amortization, and other noncash charges
Less:	Incremental working capital needs
Less:	Incremental capital expenditure needs
Plus:	New debt principal added this period
Less:	Repayment of debt principal
Equals:	Free cash flow

Free cash flow, although often provided to management, may be one of the most illusive concepts for management to understand and to project for the future.

Exhibit 1.12 ***Typical Presentation of Financial Ratios***

Liquidity Ratios

Liquidity is a measure of the quality and adequacy of current assets to meet current obligations as they come due.

Ratio	*Formula*	*Interpretation*
Current ratio =	$\frac{\text{Total current assets}}{\text{Total current liabilities}}$	Rough indication of a firm's ability to service its current obligations. Higher ratios show stronger liquidity; however, the composition and quality of current assets are critical.
Quick ratio =	$\frac{\text{Cash + Cash equivalents + Net receivables}}{\text{Total current liabilities}}$	A conservative view of creditors' protection, since inventory and prepaid items may not always be liquid. Generally, a ratio less than 1:1 implies dependency on inventory and other current assets to liquidate short-term debt.
Working capital =	Current assets – Current liabilities	Working capital is a direct indicator of the company's ability to grow.

Efficiency Ratios

Measure the ability to manage working capital, fixed capital, and overall return on invested assets.

Ratio	*Formula*	*Interpretation*
Accounts receivable turnover =	$\frac{\text{Credit sales}}{\text{Average accounts receivable}}$	Indicates the number of times it takes receivables to turn into cash per year. Attention should be paid to credit terms, billing procedures, trends, and industry average.
Accounts receivable collection period =	$\frac{\text{360 or 365 days}}{\text{Accounts receivable turnover}}$	Reflects average length of time from sale to cash collection.
Inventory turnover =	$\frac{\text{Cost of goods sold}}{\text{Average inventory}}$	Indicates the number of times the business liquidates its inventory over a period and whether too little or too much inventory is carried.

(continues)

Exhibit 1.12 *(Continued)*

Inventory – days in inventory	= 360 or 365 days / Inventory turnover	Reflects the number of days it takes to sell the inventory. Used in conjunction with accounts receivable collection period to determine operating cycle.
Operating cycle	= Accounts receivable collection period + Days in inventory	Indicates the length of time it takes to convert inventory to cash. If the cycle increases, more permanent working capital is needed.
Accounts payable turnover	= (Cost of goods sold – Beginning inventory + Ending inventory) / Average accounts payable	Indicates the number of turns per period of time it takes for the company to pay its trade payable. Should be compared to credit terms.
Accounts payable – days outstanding	= 360 or 365 days / Accounts payable turnover	Same as above, but expressed in number of days rather than the number of turns.

Ratio	*Formula*	*Interpretation*
Assets turnover	= Net sales / Total assets	Indicates the turnover rate of total assets to achieve net sales. When viewed historically, this ratio indicates the effectiveness of generating sales from asset expansion.
Net sales to working capital turnover	= Net sales / Working capital	An indication of the amount of working capital required to support sales. An increasing ratio may indicate insufficient working capital to support sales growth.
Inventory to working capital	= Inventory / Working capital	Indicates the percentage of working capital supporting inventory. A high percentage indicates operating problems.

Exhibit 1.12 *(Continued)*

Current assets turnover =	$\frac{\text{Sales – Expenses}}{\text{Current assets}}$	Indicates the number of times current assets must turn over to cover expenditures. Measures control of current assets.
Inventory to current liabilities =	$\frac{\text{Inventory}}{\text{Current liabilities}}$	Shows the degree to which the company relies on inventory to meet its current obligations.

Profitability Ratios

Profitability ratios measure the operating performance of the business relative to sales, assets, and invested capital.

Ratio	*Formula*	*Interpretation*
Gross profit percentage =	$\frac{\text{Gross profit}}{\text{Net sales}}$	Reflects control over cost of sales and pricing policies. The ratio must be viewed in relation to the client's past performance and the industry average.
Operating profit percentages =	$\frac{\text{Operating profit}}{\text{Net sales}}$	Indicates the company's ability to control operating expenses. The ratio should be viewed in relation to increased sales and changes in gross profit.
Profit before taxes percentage =	$\frac{\text{Profit before taxes}}{\text{Net sales}}$	Provides a more consistent basis for comparisons. It is also used in the calculation of other ratios.
Net income after taxes percentage =	$\frac{\text{Net income after taxes}}{\text{Net sales}}$	Reflects the tax impact on profitability and represents the profit per dollar of sales.
Return on equity =	$\frac{\text{Profit before taxes}}{\text{Tangible net worth}}$	Measures the return to equity owners and represents their measure of profitability. When compared to the return on assets, this ratio indicates degree of financial leverage.

(continues)

Exhibit 1.12 *(Continued)*

Return on assets =	$\frac{\text{Net income after taxes}}{\text{Total assets}}$	Reflects the earning power and effective use of all the resources of the company.

Leverage Ratios

Highly leveraged firms are more vulnerable to business downturns (financial risk) than businesses with less invested capital in the form of debt. Leverage ratios help measure this vulnerability.

Ratio	*Formula*	*Interpretation*
Net fixed assets to tangible net worth =	$\frac{\text{Net fixed assets}}{\text{Tangible net worth}}$	Indicates the proportion of net worth that is committed to fixed assets and is not available for operating funds. A low percentage would indicate a favorable liquid position.
Debt to equity =	$\frac{\text{Total debt}}{\text{Tangible net worth}}$	Indicates the proportion of debt to total equity that is current in maturity. A high ratio may indicate the need to restructure debt.
Current debt to equity =	$\frac{\text{Current liabilities}}{\text{Tangible net worth}}$	Indicates the proportion of debt to total equity that is current in maturity. A high ratio may indicate the need to restructure debt.
Long-term debt to equity =	$\frac{\text{Long-term debt}}{\text{Tangible net worth}}$	Measures the relationship of long-term debt to equity.

Coverage Ratios

Coverage ratios measure a firm's ability to service debt.

Ratio	*Formula*	*Interpretation*
Times interest earned =	$\frac{\text{Profit before taxes + Interest}}{\text{Interest}}$	Shows how well the company is able to cover interest from earnings. Measures the level of earnings decline to meet interest payments.
Operating fund to current portion of long-term debt =	$\frac{\text{Net income after taxes + noncash expenses}}{\text{Current portion of long-term debt}}$	Shows the ability of the company to meet its current payments.

Exhibit 1.12 ***(Continued)***

Other Ratios

Many ratios compare certain expenses to sales and vary depending upon the industry. Each industry also has certain ratios that measure profitability and productivity. Here are some examples:

Ratio	*Formula*	*Interpretation*
% Depreciation and Amortization to sales	= Noncash expenses / Net sales	Shows the percentage of noncash expenses. Should be compared to cash outflows for capital expenditures.
% Officers/owners salaries to sales	= Owners' compensation / Net sales	Shows the percentage of discretionary salaries paid to owner/managers.

Ratio	*Formula*	*Interpretation*
Net sales per employee	= Net sales / Number of employees	Shows the general efficiency of the work force to generate sales.
Net sales per unit sold	= Net sales / Units sold	An indication of average sales price, per unit, particular to the industry.

Source: Adapted from Financial Ratio Table developed by Darrell V. Arne, CPA, ASA, Arne & Co., Albuquerque, New Mexico. Email: *darne@arne-co.com*, website: *www.arne-co.com*.

This is because one of the most difficult aspects of accounting is to understand the relationship between the income statement, the balance sheet, and the cash flow of the business. This is difficult for accountants and even more difficult for the typical business manager. As CPAs working with clients, the standard question we faced when presenting clients with their financial statements was "If I made so much money, how come I have no cash in the bank?"

In the late fifties Lou Mobley became the founding director of the IBM Executive School. He soon discovered that teaching an understanding of the relationship between cash flow and the typical financial statements was one of the major issues he would face in training new managers. Luckily for us, Mr. Mobley went to work on the problem and over the next couple of years developed what has become known as the Mobley Matrix.[28]

He discovered that our normal financial statement presentations are fragmented and that the connections between the various statements are not apparent. Once he had defined the connections.

He developed a one-page columnar matrix showing the beginning balance sheet, the income statement, the cash flow statement, and the ending balance sheet. This index has been called various names since that time, but we still refer to it as the Mobley Matrix.

Mobley's Matrix and its importance can be illustrated by the example of the Sample Widget Manufacturing Company. Exhibit 1.13 shows the balance sheets for the beginning and ending of the calendar year.

Exhibit 1.13 ***Widget Balance Sheets***

Sample Widget Manufacturing Company
Balance Sheets for the Periods
($000s)

	(Beginning of Year) January 1	(End of Year) December 31
Assets		
Cash and cash equivalents	$ 25,000	$ 3,000
Accounts receivable	35,000	60,000
Inventory	75,000	105,000
Other operating assets	10,000	0
Notes receivable	0	0
Current assets	145,000	168,000
Gross fixed assets	100,000	120,000
Less accumulated depreciation	(30,000)	(40,000)
Net fixed assets	70,000	80,000
Other investments	30,000	28,000
Total assets	$245,000	$276,000
Liability and equity		
Accounts payable	$ 20,000	$ 32,000
Taxes payable	5,000	3,000
Other liabilities	0	0
Current liabilities	25,000	35,000
Long-term debt	15,000	20,000
Total liabilities	40,000	55,000
Common stock	100,000	100,000
Retained earnings	105,000	121,000
Total equity	205,000	221,000
Total liabilities and equity	$245,000	$276,000

Looking at the beginning and ending balance sheets does very little to help us understand the company's cash flow.

From the balance sheets we can tell:

- Cash decreased by $22,000 and to a very low amount, which implies that the company will run out of cash if it has another year like the past one.
- Accounts receivable increased significantly, but without additional information we cannot tell if sales increased or if management is having trouble with collecting the money owed to the company by its customers.
- Inventory increased, but no indications are given as to why it would increase and what the effects on cash flow would be.
- The company purchased additional equipment that may have had an effect on cash.
- The company purchased more equipment than it depreciated as an expense.
- The company owes significantly more to its creditors than it did in the previous year.
- The company borrowed money but it does not show up in the bank account; there is no sign as to where it went.

The balance sheets provide no indication as to why the company made money but still has no cash in the bank to show for it.

Exhibit 1.14 shows the income statement of the company for the same year. Very quickly, we can see that the company made money for the year, but again the statement does not help us understand why the company has less cash at the end of the year than at the beginning of the year. From the income statement we can tell:

- The company had significant sales and gross profit margins.
- The company had a positive profit before and after taxes.
- The company had very little borrowing throughout the year and ended up with only minor interest expenses and slightly more debt than at the beginning of the year.

Just like the balance sheets, the income statement (which represents the flow between the balance sheets) provides the reader with very little information about why the company has so little cash at the end of the year. Management still cannot answer the basic question "If I made so much money, how come I don't have any money in the bank?"

Exhibit 1.15 shows the cash flow statement for the company for the year.

Exhibit 1.14 ***Widget Income Statement***

Sample Widget Manufacturing Company
Income Statement for the Year

Sales	$ 500,000
Cost of goods sold	310,000
Gross profit	190,000
Depreciation	10,000
Goodwill amortization	2,000
Marketing and selling expense	25,000
General and administrative expense	130,000
Operating Income	23,000
Interest and other expense	1,000
Profit before taxes	22,000
Income taxes	6,000
Net profit	$ 16,000

With this statement the user can tell how much cash the company collected and where it was used, but it still does not show the relationship between the various accounts on the balance sheets. It still takes a lot of interpretation to tell how the company moved from the beginning of the year balance sheet and the end of the year balance sheet and to understand why the company's cash account may have declined.

Using the Mobley Matrix in Exhibit 1.16 the financial statement user can quickly see the relationships between the various balance sheet accounts and why the cash account has changed for the better or for the worse.

With the Matrix you can account for almost every change that occurs between the beginning and ending balance sheets by adding or subtracting the appropriate numbers from the cash flow statement or the income statement to the beginning balance sheet number. Looking at the Mobley Matrix, the user quickly learns that the various accounts in the cash flow and other statements have been rearranged to have the accounts correspond to the continuity equation relationships between accounts from the left to the right. The first step in the process is to understand the various accounts in each of the statements that relate to each other.

The second step is to understand that the signs (addition or subtraction) will be different on the accounts depending on if you are adding them up vertically or hor-

Exhibit 1.15 ***Widget Cash Flow Statement***

Sample Widget Manufacturing Company
Statement of Cash Flows
For the Year Ended

Operating Activities	
Collections from customers	$ 475,000
Cash paid to suppliers (inventory paid)	(340,000)
Expenses paid (MSG&A)	(143,000)
Interest and other paid	(1,000)
Prepaid expenses	10,000
Income taxes paid	(8,000)
Cash flow from operating activities (OCF)	(7,000)
Investing Activities	
Fixed asset investment	(20,000)
Other investment	0
Cash flow from investing activities (ICF)	(20,000)
Financing Activities	
Borrow (payback)	5,000
Paid in (paid out)	0
Dividends paid	1,000
Cash flow from financing activities (FCF)	6,000
Increase (decrease) in cash – change in cash	(23,000)
Beginning cash	25,000
Ending cash	$ 2,000

izontally. We have included exhibits that demonstrate the math for each of the financial statements.

Exhibit 1.17 shows the vertical math for the income statement. Exhibit 1.18 shows the vertical math for the cash flow statement, and Exhibit 1.19 shows the horizontal math for the Matrix, which connects each of the financial statements.

As an example, look at the income tax account in the cash flow statement (see Exhibit 1.16). The $6,000 is a subtraction (minus) on the vertical math because it uses cash on the cash flow statement and a subtraction on the horizontal math as it reduces the amount of income taxes due on the ending balance sheet.

In contrast, look at the fixed assets on the cash flow statement. The $20,000 is a subtraction (minus) on the cash flow statement because it reduces the cash available, but an addition (plus) on the horizontal math as it increases the assets on the ending balance sheet.

Exhibit 1.16 ***Mobley Matrix***

Sample Widget Manufacturing Company—Mobley Matrix, for the Year ($000)

Beginning Balance Sheet 12/31/XXXX		**Income Statement**		**Cash Flow Statement**		**Ending Balance Sheet 12/31/XXXX**	
Cash	$ 25			Cash Increase (Decrease)	$(23)	Cash	$ 2
Accounts Receivable	35	Sales	$ 500	Collections	475	Accounts Receivable	60
Inventory	75	Cost of Goods Sold	310	Inventory Paid	340	Inventory	105
Other Operating Assets	10			Prepayments	10	Other Operating Assets	0
Notes Receivable	0			Lend/Receive	0	Notes Receivable	0
Gross Fixed Assets	100			Fixed Asset Investment	20	Gross Fixed Assets	120
Accumulated Depreciation	30	Depreciation Expense	10			Accumulated Depreciation	40
Net Fixed Assets	70					Net Fixed Assets	80
Other Investments	30	Intangible Amortization	2	Other Investment	0	Other Investments	28
Total Assets	$ 245					Total Assets	$ 275
Accounts Payable	$ 20	Marketing, Selling, G&A Exp.	155	Expense Paid	143	Accounts Payable	$ 32
Debt	15			Borrow/Payback	5	Debt	20
Other Operating Liabilities	0	Interest & Other Expense	1	Interest & Other Expense Paid	1	Other Operating Liabilities	0
Income Taxes Due	5	Income Tax Expense	6	Income Taxes Paid	8	Income Taxes Due	3
Nonoperating Liabilities	0	Nonoperating Expense	0	Nonoperating Expense Paid	0	Nonoperating Liabilities	0
Stock	100			Paid-In		Stock	100
Retained Earnings	105	Net Profit	16	Dividend & Other Payouts	1	Retained Earnings	120
Total Liabilities and Equity	$ 245			**Free Cash Flow**	**$(22)**	Total Liabilities and Equity	$ 275

Note: "Prepayments" are a source of funds that are expensed under "Expense Paid".

Exhibit 1.17 ***Mobley Matrix Income Statement Vertical Math***

Mobley Matrix
Income Statement
Vertical Math
Top to Bottom

+	Sales
–	Cost of goods sold
–	Depreciation/amortization
–	Intangible amortization
–	MSG&A expense
–(+)	Interest and other expense (income)
–	Income tax expense
=	Net profit

Exhibit 1.18 ***Mobley Matrix Cash Flow Statement Vertical Math***

Mobley Matrix
Cash Flow Statement
Vertical Math
Bottom to Top

=	Change in cash
+	Collections (OCF)
–	Inventory paid (OCF)
–	Prepayment (OCF)
–	Fixed asset investment (ICF)
–	Other investment (ICF)
–	Expense paid (OCF)
+(–)	Borrow (payback) (FCF)
–	Interest and other paid (OCF)
–	Income tax paid (OCF)
+	Paid in (FCF)
–	Dividends and other (FCF)

OCF	Operating cash flow
ICF	Investing cash flow
FCF	Financing cash flow

Note: In this exhibit, the acronym FCF stands for Financing Cash Flow rather than Free Cash Flow as found elsewhere in this book.

Exhibit 1.19 ***SBfV Mobley Matrix Horizontal Math***

Sample Widget Manufacturing Company
Strategic Benchmarking Scorecard—Mobley Matrix
Horizontal Math (Left to Right)

+	Cash			+	Cash Increase (Decrease)	=	Cash
+	Accounts Receivable	+	Sales	–	Collections	=	Accounts Receivable
+	Inventory	–	Cost of Goods Sold	+	Inventory Paid	=	Inventory
+	Other Operating Assets			+(–)	Prepayments	=	Other Operating Assets
+	Gross Fixed Assets			+	Fixed Asset Investment	=	Gross Fixed Assets
+	Accumulated Depreciation	+	Depreciation Expense			=	Accumulated Depreciation
+	Other Investments	–	Intangible Amortization	+	Other Investment	=	Other Investments
+	Accounts Payable	+	Marketing, Selling, G&A Exp.	–	Expense Paid	=	Accounts Payable
+	Debt			+(–)	Borrow/Payback	=	Debt
+	Other Operating Liabilities	+(–)	Interest and Other Expense (Inc.)	–	Interest and Other Expense Paid	=	Other Operating Liabilities
+	Income Taxes Due	+	Income Tax Expense	–	Income Taxes Paid	=	Income Taxes Due
+	Stock				Paid-in	=	Stock
+	Retained Earnings	+	Net Profit	–	Dividends and Other Payouts	=	Retained Earnings

The Matrix also helps us understand the reason that an account such as accounts receivable has changed and its affect on the cash account. If we look at the horizontal math, we find:

Start with:	Beginning accounts receivable	$ 35
Add:	Sales	500
Less:	Accounts receivable collected	475
Equals:	Ending accounts receivable	$ 60

From this analysis, it is easy to see the company sold more than it collected by $25. The $25 uncollected plus the $35 at the beginning of the period, leaves an ending accounts receivable balance of $60.

The same analysis can be performed for every account in the Matrix(see Exhibit 1.19 for an explanation and indication of the Mobley Matrix horizontal math). Inventory is another example of the horizontal math:

Start with:	Beginning inventory	$ 75
Less:	Inventory sold (cost of sales)	310
Plus:	Inventory purchased	340
Equals:	Ending inventory	$105

From this analysis, it can be seen that the company purchased $30 more of products for sale than it used for the actual sales for the year. This $30 is the change in the inventory between the beginning and ending financial statements.

The vertical math for the cash flow statement has changed in that you add the numbers from the bottom to the top (see Exhibit 1.18). The cash account is the very first account and adds horizontally to the ending cash account balance. In contrast, all the numbers add up to the top cash account, which reflects the total change in cash experienced during the period by the company.

The only difficulty to be encountered by the individual filling in the Mobley Matrix is hidden changes to the balance sheets. For these, the user of the financial statements will have to look to the financial statement notes to find the answers. The most common adjustment to the balance sheet will be the disposal of property and equipment. When a piece of equipment is sold, the accountant writes off the asset (credits the accounts) and writes off the accumulated depreciation (debits the accumulated depreciation account).

Any gains or losses, from the sale or disposal of the asset, (the difference between the adjustment to the asset account and the accumulated appreciation account), is the gain or loss recorded on the income statement. These entries made directly to the balance sheet must be accounted for in the Mobley Matrix manually by the preparer of the Matrix.

This Matrix clearly illustrates the relationship between the various financial statements and can be used by all executives regardless of their accounting or financial management weaknesses. It can be used to analyze historical results or to monitor the cash flow effects of projected management decisions.

Management should be constantly monitoring the current free cash flow and the projected free cash flow to ensure that the decisions they make do not negatively affect the company's free cash flows. Short-term drops in free cash flow should only be considered when the present value of the future cash flows is increased sufficiently to warrant the temporary, near-term drop in cash flows.

Return on Equity

The second item to monitor to ensure that the company is increasing its value is the return on equity ratio. This ratio is important because it monitors the company's:

- Profitability on sales.
- Effectiveness in the use of its assets (asset turnover).
- Use of leverage or extent of debt financing.

The return on equity (ROE) ratio is computed as:

$$\text{ROE} = \frac{\text{Net income}}{\text{Shareholder's equity}}$$

Clearly, the ratio itself does not directly show the effects of profitability, turnover, and leverage, but if it is broken down into its component parts via the DuPont Formula, the relationship becomes clear.

$$\text{ROE} = \text{Profitability} \times \text{Turnover} \times \text{Leverage}$$

or

$$\text{ROE} = \frac{\text{Net income}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Total assets}} \times \frac{\text{Total assets}}{\text{Equity}}$$

Applying simple algebra, everything cancels out except Net income, which then would be divided by Shareholder's equity, providing our traditional return on equity ratio. The value formula discussed previously uses the company's cost of capital as the denominator.

For public companies, the cost of equity capital is reflected via their stock prices. For private companies, the cost of the equity portion of WACC cannot be computed but must be estimated based on a comparison to the cost of equity of public companies. Because of this difficulty, it is simpler for private companies to use their ROE changes as a proxy for monitoring whether their cost of equity is increasing or decreasing. Although it is necessary to compute an estimate of the company's cost of equity to determine its value, it is not necessary to estimate the cost of equity to determine if the company is increasing its value by decreasing its overall risk or cost of capital.

The SBfV Model uses the ROE as a proxy for monitoring if the company is decreasing or increasing its cost of capital. Because ROE should be managed both historically and on a forecasted basis, good forecasts will help management to understand the effects of their borrowing decisions and the margin for error these decisions allow them. Generally, more borrowing will lower the cost of capital and increase value, that is, use other people's money, but only to a point. Pushing the limits and allowing insufficient margins for debt coverage will increase the company's risk and lower its value. Benchmarking within the SBfV Model will allow management the ability to properly manage its debt levels. Managing the company's free cash flow and ROE will ensure that management's overall decisions are increasing the company's value.

Organizing Performance Measures

Selecting the performance measures that are related to a company's critical success factors is the key to effectively managing a company's value through strategic benchmarking. Step three will focus on the concepts of critical success factors and selecting the key benchmarks for your company.

This section highlights some of the key performance measures that may be important to your company. One aspect of selecting your key performance measures is gaining an understanding of the basic ratios and the information they tell about the company. The metrics illustrated are organized by their various capital grouping and by their subgroupings. Subgroups allow management to organize the selected metrics by the type of information provided. They also allow lower-level management, without training in performance measurement, to understand why certain performance measures have been selected.

Physical Capital

Physical capital relates to the company's tangible assets, its plants, machinery, equipment, and technology infrastructure. How management utilizes its physical assets is reflected in many different ratios. These ratios are primarily operational in nature.

Looking at the physical capital as consisting of various resources of the company, they are divided into various categories:

Productive Capacity

These ratios focus on the production that is achieved using the physical facilities and employee base.

$$\text{Sales per employee} = \frac{\text{Annual revenues}}{\text{Full-time equivalent employees}}$$

The higher sales per employee, the higher the profits are that can be realized per employee. This measure is especially used in the software industry but has application in most any industry especially in the service industries.

$$\text{Sales per square foot} = \frac{\text{Annual revenues}}{\text{Square footage used for production}}$$

The higher the sales per square feet of production facility the more usage the company is receiving from its tangible assets. This will minimize the capital investment required to support each dollar of sales and profits.

Investments in Production Assets

These ratios focus on the amount of capital assets that are being purchased or compared to their economic usage as shown by depreciation.

$$\text{Growth in fixed/capital assets} = \frac{\text{Capital expenditures}}{\text{Depreciation expense}}$$

If a company's capital expenditures are significantly higher than its depreciation expense, the company is requiring large amounts of capital to support its operations and growth. As this gap narrows, the company is requiring less capital. This results in higher free cash flows per sales dollar.

There should be periods in the life of every company where depreciation exceeds its capital expenditures. During these periods, the company will be decreasing the amount of capital needed to support operations.

$$\text{Degree of fixed asset newness} = \frac{\text{Accumulated depreciation}}{\text{Gross fixed assets}}$$

Purchasing too much equipment or too little equipment can seriously affect the company. The ratio or degree of fixed asset newness can help management monitor this potential problem. If a company delays updating equipment, its maintenance cost will rise above industry norms and affect profitability. If it purchases too much equipment, it risks creating a negative cash flow, lowering its free cash flow or its profitability. This type of analysis is particularly useful for companies like heavy equipment operators.

Dedication to Maintenance

$$\text{Maintenance costs} = \frac{\text{Maintenance expenditures}}{\text{Revenues}}$$

This ratio focuses on the amount of revenue dedicated to maintaining the company's physical assets (plant and equipment). It is best used as a benchmark against industry averages. Care should be used, as this ratio should increase with the age of the assets. If it is too high, it may indicate the need to invest in new equipment.

Flexibility of Fixed Assets

$$\text{Flexibility} = \frac{\text{Market value of equipment}}{\text{Book value}}$$

This ratio focuses on the market value of the assets compared to their book value. If the market value is lower than the book value, this implies that the company is experiencing more economic depreciation than it has recorded on its financial records. Competitors could replace the company's assets for less than the company has invested and may experience a lower cost of production on their competing products.

Technological Commitment

$$\text{Computer utilization} = \frac{\text{Number of computers}}{\text{FTE employees}}$$

These ratios focus on the company's investments in technology. If they are below industry benchmarks, the company should seriously consider the potential effect of updating its technology and thereby increasing its productivity. This would be accomplished by integrating this analysis with some of the productivity ratios.

Computer utilization should relate specifically to the industry in which the company is engaged. With the proliferation of computer types, networking, and the Internet, the landscape has certainly changed. We now have to consider whether we have smart terminals or fully functional independent robust portables that may or may not be attached to company networks. Consider the impact of the Internet on the ability to file share, or have machine operating manuals online, or a production department troubleshooting a problem online with the machinery manufacturer half the world away. This ratio is becoming more important for both the service and the production industries and can no longer be limited to the administrative functions within the company. Your question is to determine which computers to include in the equation. Does this include the sophisticated cell phones or PDAs or is it limited to full-function laptops or desktops and above?

Software newness = Average age of software applications

Where software companies' business models are so dependent on upgrades for their revenue streams, each customer is forced to balance the cost of upgrades versus the new functionality. Again, industry comparisons may be your best benchmark.

Computing capacity = Average CPU speed per computer
and/or average RAM per computer

This ratio relates to the processing speed of the company's desktop computers. As a company becomes more dependent on processing-intensive applications (graphics, engineering, etc.) this can become a significant productivity measurement.

Access to Suppliers

Logistic ratios = Weighted average distance (by purchase dollars) from suppliers

Two major changes in the United States make this area more critical than in the past. The first is the design of company production schedules that rely more on "on-time delivery." You can stretch your warehousing dollar by relying on the supplier but increase your risks of downtime when weather interferes with the supplier shipments. The second major change is the cost of shipping. Freeways seem to slow transportation efficiency to the point that truckers are not able to predict precise delivery times or costs as fuel costs fluctuate wildly.

Weighted average distance from suppliers is computed by multiplying the total purchase from a supplier by the distance to the supplier. Distance dollars divided

Exhibit 1.20 ***Weighted Average Distance from Suppliers***

Example A

Miles from Supplier	Total purchases	Distance Dollars
1,000	$ 1,000,000	$ 1,000,000,000
500	1,000,000	500,000,000
100	1,000,000	100,000,000
10	1,000,000	10,000,000
	$ 4,000,000	$ 1,610,000,000
	Weighted Average Distance	403

Example B

Miles from Supplier	Total purchases	Distance Dollars
1,000	$ 500,000	$ 500,000,000
500	750,000	375,000,000
100	1,500,000	150,000,000
10	1,250,000	12,500,000
	$ 4,000,000	$ 1,037,500,000
	Weighted Average Distance	259

by Total purchases equals Weighted average distance from suppliers. This is demonstrated in Exhibit 1.20.

Changing the purchasing strategy by moving your manufacturing facilities can shorten your access to suppliers significantly or:

$$\text{Logistic ratios} = \text{Weighted average (by packaged weight and/or by size) distance from suppliers}$$

If package weight or size is more important, then that should be substituted for the dollars in determining the logistic ratio.

Human Capital

These ratios focus on the quality of the company's workforce.

Education

$$\text{Formal education} = \frac{\text{Total years of education}}{\text{Full-time equivalent (FTE) employees}}$$

This ratio varies widely depending on the industry. Architectural firms could require a substantially higher degree of formal education than a widget manufacturing company. However, no matter what the "Formal education" requirement

might be, most companies must provide personal advancement and training expenditures to not only keep their employees at the top of their game but also motivated and stimulated throughout their careers and employment with the company.

Formal education ratio should divide full-time equivalent employees into total years of education. The company must decide what the industry standard is for this ratio. In the United States in the twenty-first century, most employees will have at least an elementary and middle school education. Most employers consider high school as four years, so you have to decide whether a senior in high school is the baseline for your company or whether your employees will have four years of additional education.

$$\text{Personal advancement} = \frac{\text{Educational reimbursement}}{\text{FTE employees}}$$

Some companies encourage their employees to continue their formal education. This can be done through educational reimbursement programs. Usually the employee is reimbursed for the successful completion of each course and not the awarding of a degree. The amount being reimbursed should be divided by, the number of Full-time equivalent employees in the company, division, or department that is being measured.

Training

$$\text{In-house (internal training)} = \frac{\text{Sum of annual internal training hours}}{\text{FTE employees}}$$

Internal training can be a significant component in employee effectiveness and ability to accept more responsibility. Again, the industry standard is important. Some companies have a formal apprenticeship program that combines training and production, but the industry trade groups should be helpful in determining the standard definition of "training." You can easily segregate new employee on-the-job training from more formal company training programs, but as a minimum you should include any training time that requires the employee to be absent from his or her normal workstation or production area.

$$\text{Outside training} = \frac{\text{Sum of annual external training hours}}{\text{FTE employees}}$$

Outside training is similar to the Internal training ratio and usually refers to classes held outside the company by noncompany instructors.

Employee Commitment

$$\text{Absenteeism} = \frac{\text{Average number of sick days per employee}}{\text{Industry average}}$$

One of the most difficult areas to consistently measure is employee commitment. The absenteeism ratio tends to factor in "industry-wide" health characteristics, such as people who work in mines versus those who work in an aerospace company. Usually within an industry, sick days available will tend to be comparable.

$$\text{Sick leave} = \frac{\text{Sick days taken}}{\text{Sick leave available}}$$

The Sick leave ratio is more company specific rather than industry comparable. Depending on the company's written policy, and whether family care is included, this ratio would be a better indicator of employee commitment. Human resources may have policies that make "sick days" difficult to take. One question: Would you rather have an employee stay home with the flu or show up at the company and share his or her germs?

These employee commitment ratios are better used as trend indicators than specific performance indicators.

Trust

$$\text{Employee theft} = \frac{\text{Annual number of employee thefts}}{\text{FTE employees}}$$

In industries that are more prone to inventory and tool shortages (theft), the cost to the company and customers can be significant. Many companies do not have preplanned strategies nor public policies concerning this area and rely on situation-by-situation judgment. The Annual number of employee thefts should reflect the ones where disciplinary action was taken, not presumed "thefts." If this were an area of concern, perhaps Inventory shrinkage or Missing tools per FTE would be a better ratio.

$$\text{Employee complaints} = \frac{\text{Annual number of complaints to HR}}{\text{FTE employees}}$$

Each company should have a system of collecting and categorizing the number of complaints reported to human resources. Although companies with union rep-

resentation may have a more formal system, any system can be a harbinger of problems that need to be solved before they severely affect customers.

Experience

$$\text{Company experience} = \frac{\text{Total years with company}}{\text{FTE employees}}$$

Human resources should be able to easily determine the total number of years based on their date of hire for each employee. The total years divided by FTE employees, gives us a benchmark of our experience quotient that we can monitor and compare to like companies.

$$\text{Industry experience} = \frac{\text{Total years in industry}}{\text{FTE employees}}$$

A more difficult statistic is "Total years in the industry." Some have maintained that industry experience is crucial to the success of a company; however, there are an equal number of advocates who maintain that "management is management" and a professional manager can transition from industry to industry without significant "startup or industry education on the job training." The debate will rage on with examples of tremendous success by some companies that bring in an outsider to shake things up. On the opposite extreme are colossal failures, where the "knight in shining armor" turned out to be a pile of tin without the mental muscle to win the battle and are relegated to the "executive severance bone yard of failure."

$$\text{Work experience} = \frac{\text{Total years in labor force}}{\text{FTE employees}}$$

Another way of stating this ratio is "Average age of the employee." Although some professions do not really become part of the labor force until years of advanced schooling, internships, and residencies, most do not have those limitations. So, you can divide total ages or Total years in the labor force by FTE employees.

Reputation

$$\text{Survey said} = \text{Overall customer satisfaction rating}$$

The Customer Satisfaction Rating (CSR) is a number that reflects past client satisfaction of the service or products provided by the company. It is calculated by

averaging the overall satisfaction scores (on a scale of 1 to 5 with 1 being very dissatisfied and 5 being very satisfied) from the customer satisfaction surveys. The surveys can either be sent after each shipment or service, or periodically at set intervals. The management of the survey process, should be conducted by, an agent independent of the company. The arm's-length process ensures the integrity of the data and the representations.

An alternative to an open survey sent to all customers by an independent firm, is to have top-level executives survey the best or most frequent customers personally. The average rating of these surveys would then be the measure.

$$\text{Repeat customers} = \frac{\text{Sales to repeat customers}}{\text{Total sales}}$$

The Repeat customers ratio is the total sales for a given period of time divided by the total sales. Depending on the company and product this ratio can be computed in a number of ways.

Total sales in dollars to repeat customers divided by Total sales dollars.

$$\text{Repeat customers} = \frac{\text{Transaction to repeat customers}}{\text{Total number of transactions}}$$

You can also use the Number of invoices or transactions to repeat customers divided by the Total number of invoices or transactions.

$$\text{Repeat customers} = \frac{\text{Number of repeat customers}}{\text{Total number of customers}}$$

Initially you might just want to count the number of customers with multiple orders divided by total customers regardless of sales dollars or frequency of orders.

$$\text{Customer longevity} = \text{Average length of customer life}$$

Capturing the date of the first order and the last order date of the customer will allow you to total the days a customer has been using your company. Adding all the cumulative customer order life cycle and then dividing by the number of customers will give you a way of gauging the customer longevity ratio.

Organizational Capital

Product Innovation

$$\text{Average revenue patent} = \frac{\text{Number of patents}}{\text{Total revenue from patents}}$$

Since innovation and new products and services fuel the future growth of the company, you should calculate the Average revenue per patent. Research and development without ultimately having commercially viable products, is usually the realm of academia or funded by grants. In order to reflect an increasing value driver for the for profit business, the ratio of the Total revenue from patents divided by the Number of patents may be an appropriate measure for product innovation.

$$\text{Average revenue per copyright} = \frac{\text{Total revenue from copyrights}}{\text{Total reports for customers}}$$

For a company that provides the service of creating copyrighted reports, the average revenue per copyright is valuable. Revenues from reports must be segregated and totaled then divided by the total number of reports sold.

$$\text{Research and developments percentages} = \frac{\text{Research and development expenses}}{\text{Total company revenues}}$$

Any company that has a research and development budget should at least know the percentage of total revenues that is being spent on the R&D function. How the company determines what to include as R&D expenses is the subject of great debate, but trade association reports may give guidelines to allow company-by-company or industry-by-industry comparisons. At a minimum, the company should at least develop its own definitions in the absence of outside comparisons.

Process Innovation

$$\text{Employee participation} = \frac{\text{Employees making suggestions}}{\text{FTE employees}}$$

Product or process innovation can come from anyone within the company. Often employees not formally involved in R&D or product design can make the most profound contribution regarding new products, product modifications, and process refinements whether for manufacturing or information flow within the

company. An example would be a facility maintenance person who overhears a production employee complain about how awkward it is to assemble a product. At night, during the break time, the maintenance crew plays around with some rejected parts and finds that with a small cut here and some lubricant there, everything fits easily. Companies need to not only encourage everyone to think and develop a recognition and reward system but also to capture whether the suggestion system is working.

To make sure that all suggestions do not come from one source it is good to divide the number of Employees making suggestions by the number of Full-time equivalent employees. To further determine the effectiveness of the suggestion system, management can rate the suggestions (on a scale of 1 to 5 with 1 being a suggestion without much merit and 5 being a true innovation). The total score of the combined Employee suggestions divided by the number of suggestions would give the average merit of the suggestions, or if the total score was divided by the FTE employees the ratio would have a different dimension.

Decision Speed

$$\text{Bureaucracy} = \text{Number of organizational levels}$$

Decisions can often be bogged down by the number of approvals they must receive. Although far from perfect, counting the number of organizational levels will give some insight into the potential for bureaucracy.

Perhaps an even better measure would be the average number of employees per level of organization.

$$\text{Bureaucracy} = \frac{\text{Number of FTE employees}}{\text{Number of organizational levels}}$$

Financial Capital

Financial capital is related to the company's use and management of its financial resources. Each of these analytical ratios or calculations help us understand how the business is using its financial resources and how outsiders, such as lenders or investors, perceive the company's management of these resources.

Liquidity

Liquidity reflects a company's ability to meet short-term obligations with short-term assets. These ratios help identify an excess or shortfall of current assets necessary to meet current operating expenses.

Current Ratio

$$\frac{\text{Current assets}}{\text{Current liabilities}}$$

The current ratio is the most commonly used liquidity ratio. Normally, the current ratio of the subject company is compared to industry averages to gain insight into the company's ability to cover its current obligations with its current asset base.

Quick (Acid-Test) Ratio

$$\frac{\text{Cash + Cash equivalents + Short-term investments + Accounts receivable}}{\text{Current liabilities}}$$

The quick ratio is a more conservative ratio in that it measures the company's ability to meet current obligations with only those assets that can be readily liquidated. As with the current ratio, industry norms generally serve as the base for drawing analytical conclusions.

Accounts Receivable Turnover

$$\frac{\text{Annual sales}}{\text{Average accounts receivable}}$$

Accounts receivable turnover measures the efficiency with which the company manages the collection side of the cash cycle.

Days Outstanding in Accounts Receivables

$$\frac{365}{\text{A/R turnover}}$$

The average number of days outstanding of credit sales measures the effectiveness of the company's credit extension and collection policies.

Inventory Turnover

$$\frac{\text{Cost of goods sold}}{\text{Average inventory}}$$

Inventory turnover measures the efficiency with which the company manages the investment and inventory side of the cash cycle. A higher number of turnovers indicate the company is converting inventory into accounts receivable at a faster

pace, thereby shortening the cash cycle and increasing the cash flow available for shareholder returns.

Efficiency

Efficiency ratios, also known as activity ratios, provide an indication as to how efficiently the company is using its assets. More efficient asset utilization indicates strong management and generally results in higher value to equity owners of the business. Additionally, activity ratios describe the relationship between the company's level of operations and the assets needed to sustain the activity.

Sales to Net Working Capital

$$\frac{\text{Sales}}{\text{Average net working capital}}$$

Sales to net working capital measures the ability of company management to drive sales with minimal net current asset employment. A higher measure indicates efficient management of the company's net working capital without sacrificing sales volume to obtain it.

Total Asset Turnover

$$\frac{\text{Sales}}{\text{Average total assets}}$$

Total asset turnover measures the ability of company management to efficiently utilize the total asset base of the company to drive sales volume.

Fixed Asset Turnover

$$\frac{\text{Sales}}{\text{Average fixed assets}}$$

Sales to fixed assets, measures the ability of company management to generate sales volume from the company's fixed asset base.

Borrowing Capacity

Leverage ratios, which are for the most part balance sheet ratios, assist management in determining the borrowing capacity or solvency of a company. They provide an indication of a company's ability to sustain itself in the face of economic downturns or to borrow funds to support growth and capital projects. Leverage ratios also measure the exposure of the creditors relative to the shareholders of a given company. Consequently, they provide valuable insight into the relative risk of the company's stock as an investment.

Total Debt to Total Assets

$$\frac{\text{Total debt}}{\text{Total assets}}$$

This ratio measures the total amount of assets funded by all sources of debt capital.

Total Equity to Total Assets

$$\frac{\text{Total equity}}{\text{Total assets}}$$

This ratio measures the total amount of assets funded by all sources of equity capital. It can also be computed as one minus the Total debt to Total assets ratio.

Long-term Debt to Equity

$$\frac{\text{Long-term debt}}{\text{Total equity}}$$

This ratio expresses the relationship between long-term, interest-bearing debt and equity. Since interest-bearing debt is a claim on future cash flow that would otherwise be available for distribution to shareholders, this ratio measures the risk that future dividends or distributions will or will not occur.

Total Debt to Equity

$$\frac{\text{Total debt}}{\text{Total equity}}$$

This ratio measures the degree to which the company has balanced the funding of its operations and asset base between debt and equity sources. In attempting to lower the cost of capital, a company generally may increase its debt burden and hence its risk.

Free Cash Flow to Invested Capital

Start with:	*EBITDA*
Less:	*Taxes*
Plus or Minus:	*Changes in working capital*
Less	*Capital expenditures*
Equals:	*Free cash flow to invested capital*

This reflects the cash flow available to all stockholders, lenders, and equity investors. Positive invested capital to free cash flow demonstrates the company's ability to make a debt payment on any debt it may have or may wish to incur.

Credit Rating

A company's credit rating reflects the outside-world view of the company's worthiness to obtain credit from suppliers and lenders. Difficulties with a company's credit history, capital structure, or profitability (and resulting cash flows) can materially diminish a company's ability to obtain credit.

Profitability

Profitability ratios measure the ability of a company to generate returns for its shareholders. Profitability ratios also measure financial performance and management strength.

Gross Profit Margin

$$\frac{\text{Gross profit}}{\text{Net sales}}$$

This ratio measures the ability of the company to generate an acceptable markup on its product in the face of competition. It is most useful when compared to a similarly computed ratio for comparable companies or to an industry standard.

Operating Profit Margin

$$\frac{\text{Operating profit}}{\text{Net sales}}$$

This ratio measures the ability of the company to generate profits to cover and to exceed the cost of operations. It is also most useful when compared to comparable companies or to an industry standard.

Ability to Raise Equity Capital

Since the capital structure of most companies includes both debt capital and equity capital, it is important to measure the return to each of the capital providers.

Return on Equity

$$\frac{\text{Net income}}{\text{Average common stockholder's equity}}$$

This ratio measures the after-tax return on investment to the equity capital providers of the company.

Return on Investment

$$\frac{\text{Net income} + \text{Interest}\,(1 - \text{Tax rate})}{\text{Average (Stockholder's equity} + \text{Long-term debt)}}$$

This ratio measures the return to all capital providers of the company. Interest (net of tax) is added back since it also involves a return to debt capital providers.

Return on Total Assets

$$\frac{\text{Net income} + \text{Interest}\,(1 - \text{Tax rate})}{\text{Average total assets}}$$

This ratio measures the return on the assets employed in the business. In effect, it measures management's performance in the utilization of the company's asset base.

Sustainable Growth Rates

Free Cash Flow and Reinvestment

Growth ratios measure a company's percentage increase or decrease for a particular line item on the financial statements. These ratios can be calculated as a straight annual average or as a compound annual growth rate (CAGR) measuring growth on a compounded basis over a specific time period.

Although it is possible to calculate growth rates on every line item on the financial statements, growth rates typically are calculated on such key financial statement items as sales, gross margin, and operating income, and are calculated through use of the following formulas.

Average Annual Sales Growth

$$\left\{ \frac{\left(\dfrac{\text{Current year sales} - \text{Beginning year sales}}{\text{Beginning year sales}} \right)}{\text{Number of periods analyzed}} \right\} \times 100$$

Compound Annual Sales Growth

$$\left\{\left[\left(\frac{\text{Current year sales}}{\text{Base year sales}}\right)^{\left(\frac{1}{\text{Number of periods analyzed}}\right)}\right]-1\right\}$$

Average and Compound annual sales growth measures for gross margin and operating income are computed in the same manner. When calculating growth rates on financial statements spread over five years, the typical period used by analysts, the analyst should be careful to obtain growth rates over the four growth periods analyzed. In other words, periods = number of years – 1.

System Capital

Management should look at each of their basic systems within the company as a resource of the company. These systems can vary from the accounts payable system, to a manufacturing process to the information technology infrastructure. Often these systems will overlap and be integrated with each other. These systems can be very strategic assets of a company or simply necessary functions to maintain a competitive position with a competitor.

Dell Computers and Wal-Mart are two companies that have used technology to provide themselves with a competitive advantage. They are both known for their use of technology to run their companies. Dell is known for its systems to provide clients information from ordering a computer to its delivery. It has used the information system to be the lowest-cost provider of computers in the world. Wal-Mart is famous for its use of technology to control its inventory. It monitors everything from the supplier to the customer taking the merchandise from the store. In addition, it allows suppliers to access information about products and thereby increase the efficiency of the product fulfillment delivery systems.

Analysis of each of the company's systems needs to be developed to meet the facts and circumstances for each system. This section will use the information technology system as an example of the type of benchmarking that can be performed for each system.

Plan Analysis

Disaster recovery plan = Disaster readiness index

Every company today should have a disaster recovery plan and an index that is monitored to show its preparedness to recover from a disaster. Most small companies will probably find that they are significantly deficient in their plans for re-

covery after a disaster. The cost of preparedness is extremely low compared to the cost of losing the company's entire database of company records. The index is a rebased measure where greater than 1.0 exceeds the planned expectations and less than 1.0 is an indication of deficiency. Each component indexed will be a comparison of actual with planned measures. For example, if your plan calls for two sets of computer back-up tapes stored at two different locations but you only have one, the measure for this component is 0.5.

Project management = Projects meeting planned time and expense criteria

The larger the projects being managed and the number of projects being managed, the more the importance of this measure increases. If a company is missing deadlines on a regular basis, the additional cost of capital expenditures and implementing new strategies or client projects can be a disaster for a company.

Response Time

Work request = Fulfillment cycle time

Work-request fulfillment is often a major problem in many companies. Failure to fulfill work requests in a timely manner can lower productivity and create dissatisfaction on the part of employees. We all have experienced the frustration of not getting changes made in a timely manner.

Service calls = Response time

Service calls not returned to employees dependent on their computers creates significant frustrations on the employees' part and can lead to the loss of sales if the individuals cannot access the correct or updated information or properly communicate with customers or the appropriate individual within the firm.

Call waiting = Response time for help desk or service agent to answer calls

Help desk response time is another form of work request or service calls.

Internet = Availability or Average response time

Today the Internet is an extremely important asset for most companies. If the website is not available, or takes too long to provide the information needed by the user, sales or productivity will be lost. Customers will not wait for a slow system but will move on to another supplier of the service or product.

Satisfaction

Internal customers (employees/departments) = Satisfaction survey

All of us can testify that we are more dependent on our computers than ever before for information, managing our business, or internal or external communication. We also understand the frustrations of dealing with problems concerning the computers we use. It is extremely important that we monitor the users' satisfaction with the systems we provide them.

External customers = Satisfaction survey

Access of external users to our systems is increasing every day. Their satisfaction will often be the key to increasing our sales or improving our relationships with our suppliers. If the company's sales are dependent on its website, the customers' satisfaction level should be a major management focus.

Help desk = Number of calls per month

The number of calls received by system users is a key indicator of customer satisfaction. If they are not trained in using the system or find it hard to use the system, you can be confident that the satisfaction level is low. If calls are increasing, this is a major problem area to be dealt with. This applies to both internal and external users.

Complaints—external system failures or inability to find info = Number of calls per month

The number of complaints from external users relating to system failures, or the inability to find information on the website, is a strong indictor of customer satisfaction level. Increases in the number of calls or the inability to quickly decrease the number of calls to at least average industry levels should notify management that they have a major problem on their hands that overtime will result in a loss of revenue.

Costs

Capital investments = % change in IT capital investments

As companies become increasingly dependent on technology, changes in the level of capital expenditures reflect a company's ability to maintain its techno-

logical edge or failure to implement the new technologies utilized by the competition. With the life of technology assets being so short, significant changes in the level of technology spending will have a greater and quicker impact on the company than changes in the level of spending on long-life assets.

$$\text{Cost per call} = \text{Help desk customer calls/complaints}$$

The cost per call on calls to the help desk or service desk can significantly affect the bottom line of a company. Lowering the cost per call by installing help desk software or by better training of help desk personnel can bring tremendous benefits. Naturally, these benefits are greater the larger number of help desk or service desk personnel the company employs.

$$\text{Infrastructure} = \frac{\text{Number of calls per month}}{\text{Company revenue}}$$

This measure will monitor the load on a company's technology. Systems should be designed for handling a certain number of calls efficiently. As you reach this level and exceed it, you should normally begin to find service problems, increases in the time to handle calls, and decreasing internal and external customer satisfaction.

Customer capital may be the most important capital a company possesses. Anything the company can do to monitor and improve customer-related performance measures will, most likely, result in increased short-term and or long-term revenue.

Customer Capital

Customer Services

$$\text{Availability to customers} = \text{Daily hours available to customers}$$

Availability to customers simply measures the amount of time the company is available to its customers. Management can break this down into additional components, such as office hours, store hours, customer service desk hours, and emergency call hours. Comparing this to the competition's hours will provide additional insight into the company's availability to customers and the potential for lost sales resulting from the competition being available. Sales are lost when the company is not available for the customer's wants, needs, or convenience.

$$\text{Improvements in availability} = \text{Increase in hours available to customers}$$

This measure is related to the previous measure and monitors any changes in the company's availability to the customer.

Effectiveness of customer support = Number of customer calls per month

This measure demonstrates customers' use of the company's support desk and their interest in the company and products. This measure can represent either a positive interest in the product or problems with the product compared to the competition's product. Products designed to require significant personal support are more costly than those that are not. It is also possible for the competition's product to provide a competitive advantage by requiring less support for installation, use, and so forth.

Quality of customer service = Number of customer complaints per month

Unfortunately, the company cannot have all perfect individuals maintaining its customer service or support desks. Therefore, the number of complaints received is an indication that management may need to provide additional training to employees, replace ineffective employees, or add additional employees to cover the incoming customer calls.

Customer Loyalty

Customer life = Average life of customer

The average life of a customer can be of tremendous importance to the company's bottom line. As we all know, it is more costly to obtain a new customer than to support a current customer. Increasing the life of a customer is extremely important to the company. If the average life of a customer is decreasing, then management should expend the effort to investigate the reason. Drops in the life of a customer generally indicate future problems or declines in revenue, cash flow, and return on equity. The causes for a drop in the life of a customer can range from new technology replacing the product, to decline in the product's quality, to problems with the company's sales force.

Sales per customer = Average purchase per customer

Changes in the average dollar purchases of a customer can also indicate an expected future increase or decrease in a company's profits and cash flows. If the company is experiencing a decline in the average dollar amount purchased, it very

well may be reflecting a drop in the customer's loyalty to the company and its products or services.

The average sales per customer should be tracked on a monthly, quarterly, and annual basis. Changes in the level of purchases by a particular customer may be important for large customers, but often the average sales for a group of small customers may be more important than those for any one of them in particular. The small customers can be monitored by geographic region, type of customer, or any other appropriate criteria.

Customer satisfaction = Customer satisfaction survey

Surveys are an important means of monitoring a customer's satisfaction level. Although dissatisfaction may not have resulted in a current loss of sales, it can be an indicator of expected future loss of customers as soon as they encounter a suitable alternative for your product or service. If the customer is unsatisfied, they are most likely looking for a replacement product or provider, or at a minimum, they will be receptive to alternative providers or products.

Market Penetration Customer retention = Customer defection rate

Every company or service provider will lose customers or referral sources. The rate of defection is the performance measure to be monitored. If a company is experiencing an increasing defection rate or if the current rate is higher than the competitors', it will be more difficult for the company to maintain its profit margins or to gain new customers. Customers who leave a company are more likely to tell their friends why they left than those who stay are to tell their friends why they use a company's services or products.

Dollar penetration = Total market share – dollars

Dollar market share demonstrates the portion of the total market controlled by the company. But this measure alone is not enough. High-ticket items in the category will pick up a disproportionate share of the dollar penetration. Although the company has the market penetration based on dollars, a low-priced product with a high unit penetration could begin to move upscale and begin to eat into the company's market share without the company being aware of the true issues.

Customer penetration = Total market share – Customers

Customer share is also a key factor. Every company needs to control as many of the potential customers as possible. The customer base allows the company to

sell additional products or services to each of the customers. If a company does not control the customers, the competition will.

New customers = New customers per month

The only way to increase the company's market share is to be constantly adding new customers at a rate greater than the competition. Without this number, it is impossible to determine the cost to obtain a new customer. Budgeting for marketing expenses and determining the effectiveness of marketing programs is dependent on this number as part of the analysis process.

Customer penetration = Average number of products sold per customer

Customer penetration really relates to the number of products sold to each individual customer. If a company can improve this average per customer, sales will increase without the cost of adding new customers.

Website

The effectiveness of the company's website is highly dependent on the usage of the website by the various users. To determine the site's effectiveness a variety of measures must be considered at a minimum.

Website Information Access

Customer usage = Number of customers/total customers

The most effective measure is to determine the portion of the company's current customers that use the website. This would be dependent on the number of unique users not the number of times a customer used the site. The more the company is able to entice the customer base to use the website, the more it can lower marketing costs and provide focused information to its customers.

Frequency of usage = Internet sessions per active customer

The frequency of usage by the individual customers allows the company to continue the refinement of the analysis of the effectiveness of the website. The more frequently the customers use the website the easier it is for the company to provide personalized service and information to these same customers.

Amount of usage = Length of session per visitor

The length of the average session per user also is an additional refinement of the effectiveness analysis. The more a customer uses the site the more he or she

becomes dependent on the site and the company for information on products or services. Declining usage of the site may indicate that it is time for a major overhaul of the company's website.

$$\text{Ease of completing purchases} = \text{Percentage of online purchases terminated in process}$$

This measure is extremely important to management because it indicates the site's effectiveness in closing the sale. It is estimated that for some companies, up to 65 percent of the customers who start the online sale process never complete the sale. The reasons range from complexity of the process to the fact that the computer terminated the sale for no apparent reason at all.

This number has probably decreased as the design of online stores has continued to evolve and companies have improved the performance of their online commerce capabilities. Management must continue to monitor its performance in this critical area as the number of purchase transactions completed online continues growing at an astonishing pace.

NOTES

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