

# **Performance Dashboards and Analysis for Value Creation**

JACK ALEXANDER



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*To my family:*

*My parents, Marian and Jack Alexander  
My wife Suzanne, and our sons Rob and Tom  
My sisters, Karen and Carol, and their families  
My mother-in law, Kay*



# Contents

|  |            |
|--|------------|
| <b>List of Dashboards</b>  | <b>ix</b>  |
| <b>Preface</b>   | <b>xi</b>  |
| <b>About the Author</b>  | <b>xiv</b> |
| <b>Acknowledgments</b>   | <b>xv</b>  |
| <b>CHAPTER 1</b>   |            |
| <b>The Management Challenge: Integrating Performance, Finance, and Value</b> | <b>1</b>   |
| <b>PART ONE</b>  |            |
| <b>Creating Context and Covering the Basics</b>                              |            |
| <b>CHAPTER 2</b>   |            |
| <b>Fundamentals of Finance</b>   | <b>9</b>   |
| <b>CHAPTER 3</b>   |            |
| <b>Key Valuation Concepts</b>  | <b>41</b>  |
| <b>CHAPTER 4</b>   |            |
| <b>The Business Model and Financial Projections</b>                          | <b>59</b>  |
| <b>PART TWO</b>  |            |
| <b>Linking Performance and Value</b>   |            |
| <b>CHAPTER 5</b>   |            |
| <b>Drivers of Shareholder Value and the Value Performance Framework</b>      | <b>77</b>  |

|   |            |
|---|------------|
| <b>CHAPTER 6</b>                            |            |
| Revenue Growth and Pricing Strength         | <b>93</b>  |
| <b>CHAPTER 7</b>                            |            |
| Operating Effectiveness                     | <b>119</b> |
| <b>CHAPTER 8</b>                            |            |
| Capital Effectiveness: Working Capital      | <b>145</b> |
| <b>CHAPTER 9</b>                            |            |
| Capital Effectiveness: Long-Term Assets     | <b>175</b> |
| <b>CHAPTER 10</b>                           |            |
| Cost of Capital and the Intangibles         | <b>193</b> |
| <br><b>PART THREE</b>                       |            |
| <hr/>                                       |            |
| Driving Performance and Value               |            |
| <b>CHAPTER 11</b>                           |            |
| Building a Performance Management Framework | <b>209</b> |
| <b>CHAPTER 12</b>                           |            |
| The Economics of Mergers and Acquisitions   | <b>233</b> |
| <b>CHAPTER 13</b>                           |            |
| Benchmark Takeaways and Summary             | <b>261</b> |
| <b>Glossary</b>                             | <b>275</b> |
| <b>About the CD-ROM</b>                     | <b>281</b> |
| <b>Index of Performance Measures</b>        | <b>285</b> |
| <b>Subject Index</b>                        | <b>289</b> |

# List of Dashboards

Benchmarking, 90  
Cost of Capital, 205  
Gross Margin and Pricing Strength, 116  
Key Performance Trends, 267–269  
Long-Term Capital, 192  
Mergers and Acquisitions Process, 259  
New Product Development, 143  
Operational Effectiveness, 142  
Quarterly Corporate, 87, 223  
Revenue Growth and Innovation, 111  
Revenue Process and Accounts Receivable, 160  
Ski Resort, 231  
Specialty Retail: Lawn and Garden, 230  
Specific Acquisition, 259  
Supply Chain Management and Inventory, 170  
Weekly Corporate, 88



# Preface

## **WHY THIS BOOK?**

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There has been substantial progress in a number of business disciplines over the past 15 years, including measuring business and financial performance and managing shareholder value. However, in my experience as a CFO, educator, and consultant, it became clear to me that these subjects were not fully integrated in many organizations or in the minds of many students and managers. Most managers and employees want to do the right things but often do not understand how their role relates to the success of the company, including building long-term value. Over a long period of time, I found that students, managers, and employees responded very positively to progressive attempts at linking performance and value through improved analytical models, performance measures, and “dashboards.” In addition to these tools, positive results were achieved by creating various wiring diagrams to provide context and visual integration of value drivers, financial performance, and operating processes and activities. Success with these tools and models led to the development of the Value Performance Framework (VPF). The objectives of the VPF and this book are to strengthen the links among operating performance, financial measures, and shareholder value and to provide tools to enable managers to improve the effectiveness of performance management in their organizations to build long-term sustainable value for shareholders.

## **USING THIS BOOK**

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This book presents three major topics:

1. Creating Context and Covering the Basics
2. Linking Performance and Value
3. Driving Performance and Value

Chapter 1, The Management Challenge: Integrating Performance, Finance, and Value, frames the challenges facing managers in building effective

tive performance management systems and provides an introduction to the Value Performance Framework.

Part One, Creating Context and Covering the Basics, provides a foundation for the concepts utilized in the VPF, including basic finance concepts and valuation principles. It contains the following chapters:

*Chapter 2.* Fundamentals of Finance

*Chapter 3.* Key Valuation Concepts

*Chapter 4.* The Business Model and Financial Projections

Part Two, Linking Performance and Value, presents key elements of the VPF. Each of the value drivers is linked to critical business activities and processes. Key performance measures, analytical models, dashboards, and tools for improving each value driver are explored. Chapters include:

*Chapter 5.* Drivers of Shareholder Value and the Value Performance Framework

*Chapter 6.* Revenue Growth and Pricing Strength

*Chapter 7.* Operating Effectiveness

*Chapter 8.* Capital Effectiveness: Working Capital

*Chapter 9.* Capital Effectiveness: Long-Term Assets

*Chapter 10.* Cost of Capital and the Intangibles

Part Three, Driving Performance and Value, describes how managers can use these tools to build shareholder value. Topics include effective implementation of a performance management framework, including integrating with other management practices; using these tools to improve the effectiveness of mergers and acquisitions; and finally a review of best practices and performance results based on the author's research into the performance of more than 125 companies. Part Three includes the following chapters:

*Chapter 11.* Building a Performance Management Framework

*Chapter 12.* The Economics of Mergers and Acquisitions

*Chapter 13.* Benchmark Takeaways and Summary

A glossary of commonly used financial, value, and performance measurement terms is included in the back of the book.



## ABOUT THE CD-ROM

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A number of illustrative performance dashboards and Excel models used in the book are included in the accompanying CD-ROM. These items are identified in the book with a CD-ROM logo, shown in the margin here. The dashboards and spreadsheets are intended as working examples and starting points for the reader's use. An important theme of this book is to underscore the importance of selecting the appropriate measures and dashboards. It is very important to carefully select the measures that are most appropriate for each circumstance. Accordingly, most of the dashboards and models will have to be tailored to fit the specific needs of the user.



The spreadsheets contain the data used in the examples provided in the book. In all cases, the input fields are highlighted in blue. Readers can save these files under a different name and use them to begin developing dashboards and analysis for their specific needs. Using the models on the CD-ROM requires Microsoft Excel software and an intermediate skill level in the use of that software. Additional information on the use of the CD-ROM can be found in the About the CD-ROM section on page 281.

## QUESTIONS FOR CONSIDERATION

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Each chapter ends with a set of questions for consideration. These are intended to encourage readers to apply some of the concepts and tools to the company they work for or to a business with which they are familiar. Accordingly, there are no “solutions” to these questions. In many cases, the reader is encouraged to utilize the analytical models and sample dashboards included on the CD-ROM.

JACK ALEXANDER

*Southborough, Massachusetts  
June 2006*

## About the Author

**J**ack Alexander is the founder and president of Value Advisory Group, JLLC, a consulting and executive development firm with a focus on business performance management and shareholder value. Prior to establishing the consulting practice, he held a number of senior operating and financial positions in industry. Mr. Alexander served in several financial and operational management positions including corporate controller and chief financial officer at EG&G Inc., a global \$2.5 billion technology and services company. He also served as senior vice president and chief financial officer for Mercury Computer Systems.

Mr. Alexander's prior experience includes positions at General Refractories Company and in the Philadelphia office of Coopers & Lybrand, now part of PricewaterhouseCoopers. He is a certified public accountant and a member of the Financial Executives Institute and the American Institute of Certified Public Accountants. He has an MBA from Rider University and a BS in Business Management from Indiana University of Pennsylvania.

Mr. Alexander is also an adjunct professor at Babson College, where he has taught corporate finance and advanced finance electives covering valuation, strategic investments, and mergers and acquisitions in both the MBA and undergraduate programs.

# Acknowledgments

**A**s a user and participant in the evolution of performance measures and other tools to build shareholder value, I am appreciative of the good work of others, including Aswath Damodaran and Tom Copeland on the subjects of valuation and shareholder value management.

I have been blessed to have exposure to a number of businesses, work with and for great people, and observe and participate in business from several different perspectives. The experience gained as a division finance and general manager, CFO, educator, and consultant has all contributed to the development of the tools incorporated in the Value Performance Framework and this book. I was first introduced to performance measures in the mid-1980s, primarily related to manufacturing and inventory management. Over time, the scope, depth, and use of performance measures has greatly expanded, as has the need to integrate these with financial results and value.

Prior to embarking on my teaching and consulting track, most of my professional career was with a terrific company, EG&G, Inc. The company had a large and diverse portfolio of businesses that provided ample opportunity for learning, as did the period of radical transformation during the 1990s. I had the pleasure of working with and learning from a number of terrific people at the division, group, and corporate level.

The time spent teaching at Babson College has been both rewarding and enlightening. I have learned a lot by teaching, especially how people learn and process information. I also received encouragement and feedback from students and colleagues on the tools incorporated in this book. The team at Mercury Computer Systems was very receptive to and supportive of many of the tools in the Framework. I also learned a great deal from my time at Coopers & Lybrand in Philadelphia. The exposure to a wide range of client companies, process orientation, accounting and reporting, and great people provided a solid foundation for future growth.

I also benefited greatly by knowing and working with a number of external business partners over the years, including bankers, consultants, and public accountants. Working with many directors, analysts, and investors over the years also contributed to my understanding of business, finance, and value.

A number of friends and colleagues were helpful in providing encouragement and feedback on this project, including Warren Davis, Phil Francois, Dan Heaney, John Howard, Paul Crivello, Earl Kivett, Mike Vance, and especially Gary Olin. Special thanks to Bob Becker, Will Weddleton, Diane Basile, and Gary Olin for reviewing and commenting on the manuscript. Thanks to the team at John Wiley & Sons for their patience, guidance, and assistance with this first-time author, especially Emilie Herman, Bill Falloon, Laura Walsh, and Mary Daniello.

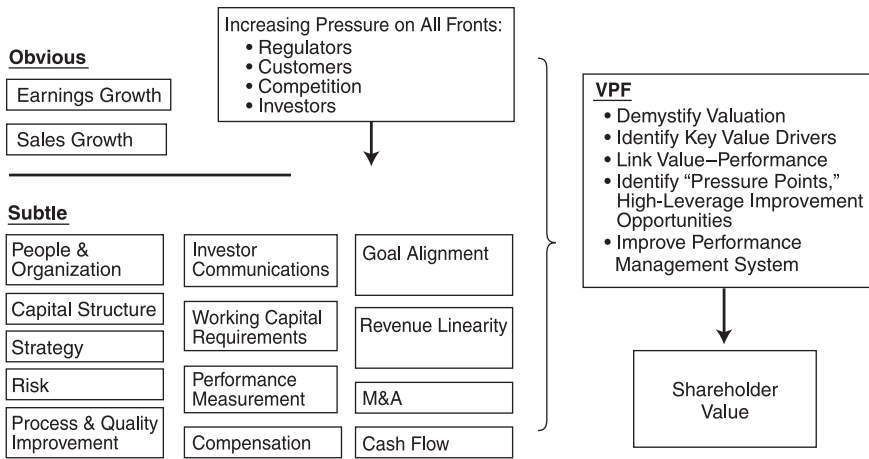
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# The Management Challenge: Integrating Performance, Finance, and Value

**O**ne of the primary objectives of corporate managers and directors is to create value for the company's shareholders. Much has been said and written on this subject over the past 15 years. Yet many managers and most employees still have difficulty in fully understanding the drivers of shareholder value and how their activities relate to these drivers. The objective of this book, and the Value Performance Framework (VPF), is to assist managers and employees in developing a comprehensive understanding of valuation and creating a direct link between shareholder value and critical business processes.

Managers face many challenges in building shareholder value in today's business environment. They face pressure from all fronts, balancing demands from customers, suppliers, employees, regulators, and investors. In addition, they must integrate a number of available tools to build shareholder value. Many managers focus primarily on sales and earnings growth. However, many other factors will also affect shareholder value; it is a significant challenge to evaluate and incorporate them into a single management framework. Figure 1.1 presents many of these tools and illustrates the objectives of the Value Performance Framework:

- Demystify valuation.
- Identify key value drivers.
- Link value and performance.
- Identify high-leverage improvement opportunities.
- Build a comprehensive performance management system.
- Build long-term shareholder value.



**FIGURE 1.1** Managers Face Many Challenges in Managing Factors That Build Long-Term, Sustainable Shareholder Value. The VPF integrates obvious and subtle tools to build value into a single framework.

Note that we are using the verb *building* shareholder value, rather than *creating* value. It is important to recognize that building sustainable shareholder value is more akin to constructing a complex building than to a divine or mystical creation. It takes substantial effort, time, process, and a great team to lay the foundation for building long-term sustainable value. “Creating” also conjures up the images of the dot-com bubble and the unsustainable value created by accounting gimmickry. We will focus on those factors that lead to *building* and *sustaining* shareholder value.

## WHAT IS SHAREHOLDER VALUE?

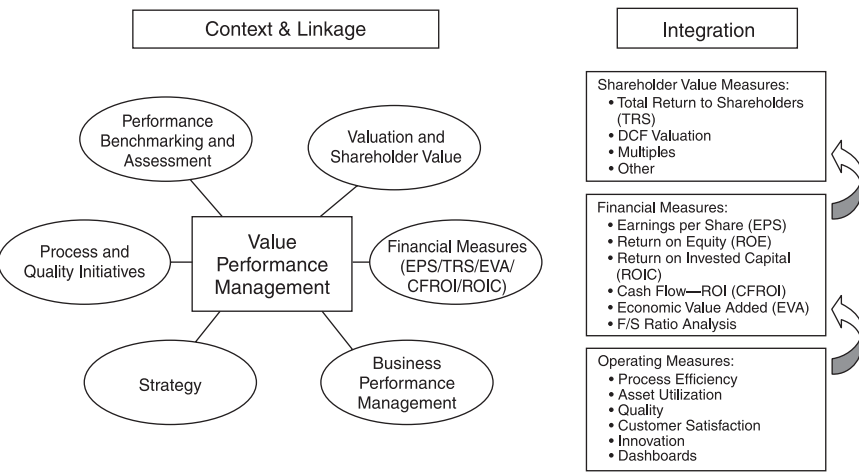
Shareholder value is defined as the market value of the firm’s stock held by shareholders. It is commonly referred to as the market cap (capitalization) of the firm. It is calculated by multiplying the number of shares outstanding times the price of the stock. For example:

$$\begin{array}{rcl}
 & \text{Stock price} & \$25.00 \\
 \times & \text{Number of shares outstanding} & 10 \text{ million} \\
 \hline
 = & \text{Market value} & \$250 \text{ million}
 \end{array}$$

We will discuss the valuation techniques commonly used by investors to establish the stock price and market value of a firm in Chapter 3. For now, we need to simply understand that the market value of both private and publicly held firms will be determined by the expectations of future performance of the firm, primarily future revenues, earnings, and cash flows.

THE MEASUREMENT CHALLENGE

The single greatest challenge in creating an effective measurement system is to ensure that it supports the organization’s objective for creating value by executing a strategic plan. Many attempts at building a performance management framework fail to achieve intended results because the context has not been created and the measures are not integrated with other key management practices and systems. Creating context builds excitement and purpose and takes performance management to a whole new level. In addition, operational, financial, and value measures must be understood, linked, and integrated. (See Figure 1.2.)



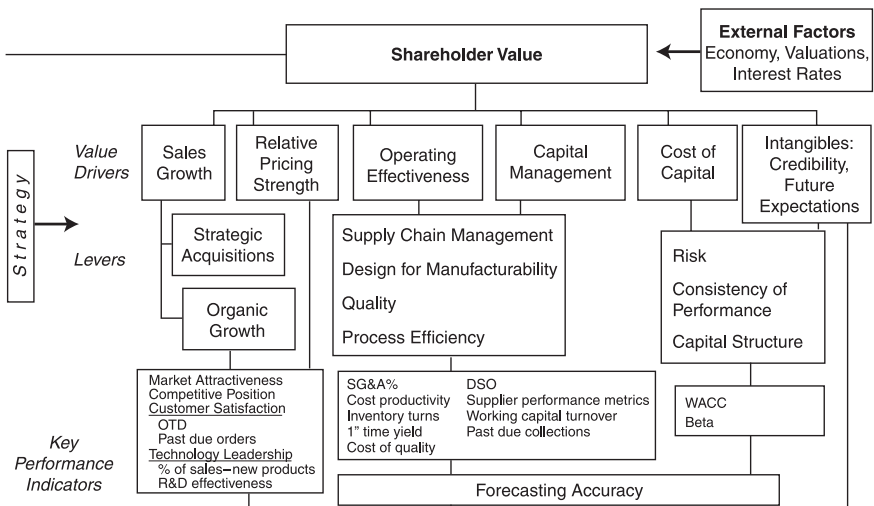
**FIGURE 1.2** The Measurement Challenge: Creating Context and Effectively Integrating Value, Financial, and Operational Measures

## ABOUT THE VALUE PERFORMANCE FRAMEWORK

The basic architecture for the Value Performance Framework is illustrated in Figure 1.3. The framework recognizes that there are a number of external factors that will affect shareholder value. These factors, such as the general economy, interest rates, and market valuation factors, will impact the value of all firms. Managers need to recognize these factors and understand the impact each has on their business performance and valuation. In this book, we focus on the value drivers that are largely under management's control:

- Sales growth.
- Relative pricing strength (competitive advantage).
- Operating effectiveness.
- Capital management.
- Cost of capital.
- The intangibles.

The critical element of the VPF is to link these value drivers to specific processes, activities, and improvement programs that resonate with managers and employees. Many managers and most employees do not under-



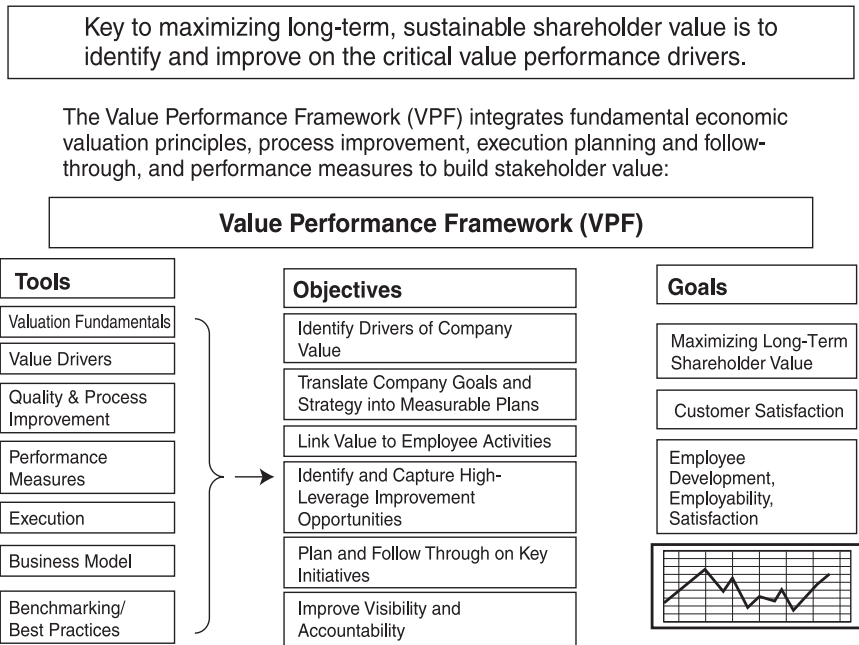
**FIGURE 1.3** Building Shareholder Value Requires Performance across All Key Value Drivers

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stand how their activities relate to shareholder value. For example, engineering groups may understand that their activities affect sales growth, but they may not fully understand the impact the activities have on working capital requirements of the firm. In most companies, a significant driver of inventory levels is the extent to which the products are designed for manufacturability (i.e., the design process has a focus on developing products that can be efficiently manufactured) and use common components. If the engineering group is sensitized to the impact of their practices on downstream business processes such as manufacturing, they have a context for more effective design decisions. If the firm establishes an effective set of performance measures—for example, to track the use of common components and product assembly steps—the future impact of design decisions on the supply chain process and inventory requirements can be measured. We cover more on this subject in Chapter 5.

Linking critical business processes to value drivers and financial performance in this manner can have a profound impact on the firm. Employees are more engaged if they feel connected to the company’s overall performance and shareholder value. It becomes easier to choose between compet-



ing initiatives or projects when we can evaluate the potential contribution of each to long-term shareholder value. One of the great aspects of this link between shareholder value and process is the realization that shareholder value is not at odds with satisfying customers or employees. To the contrary, the framework underscores the need to attract, retain, develop, and motivate a competent workforce that exceeds customers' expectations. This in turn will lead to building long-term sustainable value for shareholders.

The key to implementing sustainable performance improvements and building long-term shareholder value is to integrate valuable business tools including value drivers, benchmarking, quality and process initiatives, and performance management into a cohesive management framework. This integrated framework is illustrated in Figure 1.4. Supported by research covering over 125 companies, the framework emphasizes the importance of linking shareholder value to critical business processes and employee activities. Key elements of the VPF include:

- Understanding key principles of valuation.
- Identification of key value drivers for a company.
- Assessing performance on critical business processes and measures through evaluation and external benchmarking.
- Creating a link between shareholder value and critical business processes and employee activities.
- Aligning employee and corporate goals.
- Identification of key "pressure points" (high-leverage improvement opportunities) and estimating potential impact on value.
- Implementation of a performance management system to improve visibility and accountability in critical activities.
- Development of performance dashboards with high visual impact.

The integrated framework allows managers to ask and answer the following questions:

- What impact will my quality initiatives have on shareholder value?
- How do we compare to best practice companies on key performance measures?
- Given limited financial and human resources, should we pursue a program to reduce working capital or warranty expense?
- How do acquisitions affect shareholder value?
- What is the full potential value of this firm?

We begin with a review of key financial concepts and build a common vocabulary in Chapter 2.

PART

# One

## **Creating Context and Covering the Basics**



# Fundamentals of Finance

**A** key building block in our foundation for utilizing the Value Performance Framework is the ability to understand and evaluate financial statements and financial performance. This chapter presents a brief introduction (or refresher) to financial statements and financial ratios. Many of these financial ratios will be used as overall measures of a company's performance or as overall measures of performance on a particular driver of value.

## **BASICS OF ACCOUNTING AND FINANCIAL STATEMENTS**

There are three primary financial statements: income statement, balance sheet, and the statement of cash flows. We need all three statements to properly understand and evaluate financial performance. However, the financial statements provide only limited insight into a company's performance and must be combined with key ratios and ultimately an understanding of the company's market, competitive position, and strategy, before evaluating a company's current performance and value.

Financial statements are based on generally accepted accounting principles (GAAP). A key objective of financial statements prepared under GAAP is to match revenues and expenses. Two significant conventions arise from this objective: the accrual method of accounting and depreciation. These two conventions are significant in our intended use of financial statements for economic evaluation and valuation purposes, since they result in differences between accounting income and cash flow.

### **Accrual Accounting**

Financial statements record income when earned and expenses when incurred. For example, the accrual basis of accounting will record sales when the terms of the contract are fulfilled, usually prior to collection of cash.

**TABLE 2.1** Comparison of Common P&L Measures

|   | Abbreviation | P&L         | EBIT      | EBIAT     | EBITDA    | EP        |
|---|--------------|-------------|-----------|-----------|-----------|-----------|
| Sales   |              | \$100,000   | \$100,000 | \$100,000 | \$100,000 | \$100,000 |
| Cost of Goods Sold  | COGS         | 50,000      | 50,000    | 50,000    | 50,000    | 50,000    |
| Gross Margin  | GM           | 50,000      | 50,000    | 50,000    | 50,000    | 50,000    |
| % of Sales  |              | 50.0%       | 50.0%     | 50.0%     | 50.0%     | 50.0%     |
| Research & Development  | R&D          | 5,000       | 5,000     | 5,000     | 5,000     | 5,000     |
| Selling, General, & Administrative Expenses                     | SG&A         | 15,000      | 15,000    | 15,000    | 15,000    | 15,000    |
| Depreciation and Amortization                                   | D&A          | 10,000      | 10,000    | 10,000    | —         | 10,000    |
| Operating Profit  | OP           | 20,000      | 20,000    | 20,000    | 30,000    | 20,000    |
| % of Sales  |              | 20.0%       | 20.0%     | 20.0%     | 30.0%     | 20.0%     |
| Interest Expense  |              | 3,000       |           |           |           |           |
| Profit Before Tax   | PBT          | 17,000      |           |           |           |           |
| Income Tax  |              | 35.0% 5,950 |           | 7,000     |           | 7,000     |
| Net Income (Profit After Tax)                                   | PAT          | \$ 11,050   |           |           |           |           |
| %   |              | 11.1%       |           |           |           |           |
| Earnings Before Interest and Taxes                              | EBIT         |             | \$ 20,000 |           |           |           |
| Earnings Before Interest <i>After</i> Taxes                     | EBIAT        |             |           | \$ 13,000 |           | 13,000    |
| Earnings Before Interest, Taxes, Depreciation, and Amortization | EBITDA       |             |           |           | \$ 30,000 |           |
| Capital Charge  |              |             |           |           |           | 10,000    |
| Economic Profit   | EP           |             |           |           |           | \$ 3,000  |