

# **STRATEGIC AND COMPETITIVE PLAN WORKBOOK**

## **PLANNING SECTION**

**Version 2.0**

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## PREFACE

This workbook is a part of a larger business planning program. Its primary objective is to assist in the development of new business without large development staffs. While targeted toward the business development process, we hope that the workbooks within the Planning Section will have application to existing businesses as well.

The tools consist of a series of workbooks, which provide a check list of key issues to be addressed during the development of most business concepts. We believe that the process of venture development is an active one. While much of the workbooks' focus on data collection, analysis and planning, we believe that activities should be dedicated to "hands on work" with the product, the process, and the potential customers. We hope these tools will focus activities on "what must be done".

We intend that this workbook and all others in the series will be "evergreen". New versions of the workbooks are expected to be published periodically, reflecting constructive comments by users. This workbook reflects the efforts of many individuals who have provided ideas and comments.

The philosophy expressed in this workbook reflects that of the authors and not of the organizations or corporations involved.

The authors gratefully acknowledge the assistance of Ron Sullivan and Jack Frey in review this workbook. The PIMS data analysis contained in this workbook was obtained from Jack Frey.

## INTRODUCTION

This is a *Strategic and Competitive Plan Workbook*. It is designed as one of the tools for defining Venture Ideas as legitimate Business Venture Candidates and to assist in the preparation of the business plan. This workbook is compatible with the *Business Planning Guide*.

This *Strategic and Competitive Plan Workbook* represents a fifth of the Planning Section, or Step three of a detailed four-step process for taking an Idea to a Venture. The major steps are Definition, Analysis, Planning, Venturing. The other four workbooks of the Planning Section are the *Operations & Quality Plan* and *Marketing & Sales Plan, Product Position, Promotion, and Distribution Plan*, and *Information Plan Workbooks*.

The workbooks within the Planning Section take different perspectives on the planning process. This *Competitive and Strategic Plan Workbook* focuses on competition and long term opportunities. It is activity oriented. The *Marketing & Sales Plan Workbook* focuses on the actions of the customer. The *Operations and Quality Plan Workbook* focuses on production and delivering quality. The *Product Position, Promotion & Distribution Workbook* focuses on the marketing activities required to bring the product to the customer. The *Information Plan Workbook* focuses on the sources and needs for information and the systems to support its use.

No single perspective is likely to give a total picture of the business situation or the activities required for it be successful. Each workbook focuses on different aspects and approaches to planning critical business activities. It is the collection of approaches that should yield an overall view of planning.

It is not expected that you will have immediate answers to all the questions in this workbook. Developing adequate information is part of the planning process.

Good luck. It is not supposed to be easy.

# DEVELOPMENT

DEFINITION

ANALYSIS

PLANNING

VENTURING

Business Ideas

New Venture Workbook

New Venture Evaluation Workbook

Product Offering & Quality Workbook

Operations Development Workbook

Venture Analysis Workbook

Marketing & Sales Plan

Information Plan

Competitive & Strategic Plan

Product Position & Promotion./ Distribution Plan

Operations & Quality Plan

Business Plan Guide

Ventures



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## I. BUSINESS DEFINITION

We assume before you start this section, that you completed other workbooks and have reviewed your entries. In those workbooks the business concept is defined. Much information is likely to have accumulated since that definition was formulated. Business concepts evolve. Do not feel constrained by the previous definitions.

This Business Definition Section is intended to identify the business concept. We suggest that this section be completed in consultation with the business team, to assure that the business concept definition has consensus. Section II, Environmental Analysis, expands on the definition.

## A. Products

### **What products and services do you intend to sell?**

This description should be as specific or as general as this stage of development will permit. Try to be as specific as possible. The product definition limits the range of the business that will be considered. The more specific the product, the easier it is to define the means of production. Recognize that the character of the products may change as the business is redefined during the development process.

At a minimum, specify the use of the product and service to the customer and user.

## B. Applications

### **To whom will you sell the products and services and who will use them?**

The identities of buyers, specifiers, and users of the products and services are critical for defining the business. It should be noted that the buyers, specifiers, and users may be different individuals with widely different needs. All are considered to be customers.

If the product will be purchased more than once, either through a distributor or through subsequent processing where the identity of the product is maintained, (i.e. a Dacron Shirt) all customers should be identified. If the product loses its identity (i.e. sulfuric acid in a metal pickling process), subsequent elements of the use channel need not be identified.

If feasible, key perceived customer benefits should be identified along with the customers.

## II. ENVIRONMENTAL ANALYSIS

In this section, the perspective of the business is defined. This section focuses on the geographic and strategic framework for examining the business and the perceived competitive advantage of the business. This section takes an optimistic view and represents sources of opportunity. The next section, Section III, considers threats.

The Environmental Analysis Section is intended to give structure to the subsequent strategic analysis. We suggest that this section be filled out with consultation of the business team and additional personnel who have experience in this type of business. It could be helpful to consult market experts or friendly customers in examining your competitive advantage.

## A. Geographic Framework

**How are the markets structured geographically?**

**Where do you plan to participate?**

Markets, for this item, refer to the any possible customers for the product. The geographic market structure consists of those who would purchase the product; where they are located; and how much they might purchase. Indicate the market structure based on geography adopted by the Division, Department or the firm.<sup>1</sup>

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<sup>1</sup> Usually the geographic structure in the US follows sales force assignments. Often West Coast locations are separated from those of the mid-west, east, and southern. Other structures may be desirable. Traditionally, the international markets are assigned to Europe, Middle East, and Socialist Countries as a group. Groups including Africa, the Asia Pacific, Canada, Latin America and Other-than-Europe are often used.

## B. Strategic Market Framework

### How are markets defined?

Markets are generally defined in terms of the characteristics of the customers or the end user. Usually the markets are based on how the customers use the product or to whom they sell. Indicate how this business defines its markets.

### C. Strategic Market Segments

#### How are customers grouped?

There are multiple purposes to group customers. They are traditionally grouped as markets or by a characteristic of the account (i.e. national accounts). Other types of segmentation can be used for marketing and planning purposes. Indicate how the business groups its customers into market segments.<sup>2</sup>

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<sup>2</sup> Segmentation is covered in several workbooks including *Product Offering & Quality*, *Product Position, Promotion, & Distribution Plan*, and *Marketing & Sales Plan*. You may wish to consult these workbooks in filling out this item.

## D. Competitive Advantage

### 1. Customer Relations

**What advantages do we have over competition regarding historical relations with direct customers, the distribution channel, and the end users?**

Competitive advantage can be derived from a preference of our customers to deal with specific aspects of the firm such as individual people, the business, the organization, or the firm in general. Indicate what advantage the business has in your relationship. Indicate how you verify the relationship is real.<sup>3</sup>

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<sup>3</sup> Customer relations is a key component of the Quality program. This Quality issue is covered in two workbooks: *Product Offering & Quality Workbook* and the *Operations & Quality Workbook*.

## D. Competitive Advantage

### 2. Product Performance

**What advantages do we have over competition regarding performance of our product in delivering customer benefits?**

Product performance must be evaluated in terms of the benefits it provides to the customer. Indicate what overall performance advantage your product has over competitive products and technologies. Comparative product performance against competition is covered in detail in the next section, Threat Analysis.<sup>4</sup>

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<sup>4</sup> Product performance is a key component of the Quality program. This Quality issue is covered in two workbooks: *Product Offering & Quality Workbook* and the *Operations & Quality Workbook*.

## D. Competitive Advantage

### 3. Perceived Quality

**What advantages do we have over competition regarding the perceived product quality as viewed by direct customers, the distribution channel, and the end users?**

Product quality, here, refers to the overall view of the product's ability to exceed customers' expectations. Indicate your perception of how customers view your offering compared with competition. List all customers including the direct customer, wholesalers, distributors, dealers, and users.<sup>5</sup>

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<sup>5</sup> Product performance is a key component of the Quality program. This Quality issue is covered in two workbooks: *Product Offering & Quality Workbook* and the *Operations & Quality Workbook*.

## D. Competitive Advantage

### 4. Customer Support

**What advantages do we have over competition regarding perceived customer support?**

Customer support can be critical to obtain competitive advantage. Indicate the nature and structure of customer support for this business and the competitive advantage that it provides. List all customers including the direct customer, wholesalers, distributors, dealers, and users.<sup>6</sup>

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<sup>6</sup> Discussed in the *Marketing & Sales Plan Workbook* -- You may wish to consult that workbook before completing this item.

## D. Competitive Advantage

### 5. Technology

**What advantages do we have over competition regarding delivery of technological solutions to problems?**

Delivery of technology to the customer generally involves special knowledge that your business has acquired and is husbanding. The ability to deliver technological solutions to customers' problems can represent a significant competitive advantage. Indicate the types of technological expertise that your organization can deliver to the customer and how that translates into competitive advantage.

## D. Competitive Advantage

### 6. Cost Position

**What cost advantage do we have over competition?**

Having competitively low cost is a potential competitive advantage and always a financial benefit. Indicate what real and potential cost advantage this business has. Identify the source of that advantage (i.e., scale or technology).

## D. Competitive Advantage

### 7. Proprietary Position

**What proprietary advantage do we have over the competition?**

**What advantages does that proprietary position give us?**

Proprietary position is obtained by legal rights to use intellectual property. These include: patents on products, process, uses, or designs; copyrights; trademarks and trade names; and trade secrets. Include in this category business information that could be critical for running the business or competing. Indicate what significant advantage the proprietary position gives the business.

## D. Competitive Advantage

### 8. Geography

**What advantages do we have over competition regarding do to the location of our manufacture and business?**

The old real estate truism, "Three most important features of a property are location, location, and location" has value in all businesses. The location of the business and its manufacturing can give competitive advantage. Indicate what, if any, competitive advantage is obtained from the location of this business and the geographic location of the firm.

## D. Competitive Advantage

### 9. Practice

**What advantages do we have over competition regarding how our customers operate?**

The way customers run their businesses can be of advantage to your business. Indicate an advantage that is derived from your customers' business practices. This can include their processes or business operations.

### III. THREAT AND OPPORTUNITY ASSESSMENT

The previous section focused on the structure of analysis. This section focuses on the threats and opportunities to this business. The perspective and sources of threats and opportunities are discussed. This section deals with the sources of change to the business. The next section considers actions.

The Threat and Opportunity Assessment Section is intended to give structure to potential strategic changes that may impact this business. We suggest that this section be filled out with consultation of the business team and additional personnel who have experience in this type of business. It could be helpful to consult market experts or friendly customers in examining the reality of threats and opportunities.

## A. Competitive Segmentation

### 1. Vulnerability Segments

#### a. Definition

**How are the customers grouped to represent their vulnerability to competitive threat?**

The vulnerability segments represent groupings of customers that reflect their likely response to an attempt at penetration by an aggressive competitor. Indicate how the segments are to be defined. This may be outlined either in terms of expected behavior or by specific benefits and characteristics that protect from competition or exposure it toward competition.

Segment 1.

Segment 2.

Segment 3.

Segment 4.

Segment 5.

Segment 6.

Segment 7.

## 1. Vulnerability Segments

### b. Who?

|   |
|---|
| <b>Which customers or individuals make up each segment?</b> |
|---|

Segment 1.

Segment 2.

Segment 3.

Segment 4.

Segment 5.

Segment 6.

Segment 7.

## 2. Opportunity Segments

### a. Definition

**How are the customers to be grouped to represent the opportunity for new business?**

The opportunity segments represent groupings of potential customers that reflect their likely response to our penetration attempt. Indicate how the segments are to be defined. This may be outlined either in terms of expected behavior or by specific benefits and characteristics that favor our offerings.

Segment 1.

Segment 2.

Segment 3.

Segment 4.

Segment 5.

Segment 6.

Segment 7.

## 2. Opportunity Segments

### b. Who?

**Which customer or individuals make up each segment?**

Segment 1.

Segment 2.

Segment 3.

Segment 4.

Segment 5.

Segment 6.

Segment 7.

## B. World-wide Competitors

**Who are the competitors in this business?**

Indicate in-kind and functional, existing and likely near-term competitors. These are competitors that are in the market or have made some indications of short-term entry. Identify the products and the market segments in which they are active.

Competitor 1.

Competitor 2.

Competitor 3.

Competitor 4.

## B. World-wide Competitors

### 1. Functional Share

#### **What is the functional market share?**

The functional market share is the part of the total market your product controls for delivering the appropriate customer benefit. The competition includes both in-kind<sup>1</sup>, in-type<sup>2</sup>, and functional. Indicate share by market and geographically.

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<sup>1</sup> In-kind competition includes any product that can be directly substituted for ours.

<sup>2</sup> In-type competition includes any product of the same general classification that could substitute for ours, even if it requires major customer process modification.

## B. World-wide Competitors

### 2. In-kind Share

#### What is the in-kind market share?

The in-kind market share is the part of the total market your product controls compared with all other in-kind or "drop-in" competitors. Note that in-kind competition may include products that are chemically or structurally very different. The only requirement is that the customer views them as functionally equivalent and readily substituted in his process.<sup>3</sup>

Region 1.      Region 2.      Region 3.      Region 4.

Competitor 1.

Competitor 2.

Competitor 3.

Competitor 4.

---

<sup>3</sup> Market share for in-kind competitors in a geographic area tend to form stable relationships. John Reith has proposed that stable market shares are best described by a random process leading to an average "Broken Stick Rule" distribution, depending only on market position and the number of competitors. For two competitors, the distribution is a 75% - 25% split. For three competitors, the distribution is approximately 65%, 25%, and 10%.

## B. World-wide Competitors

### 3. Growth

**What is the growth of the competitors in your markets and regions?**

Indicate the growth in physical volume by market and by geographic region. Include both past history and expected patterns. Identify the source of the information and comment on its reliability.

Competitor 1.

Competitor 2.

Competitor 3.

Competitor 4.

**C. Competitors' Position**

**1. Competitor Forecasts**

**What are the competitors' sales and sales forecast?**

Indicate the best estimate of their historical physical sales and our estimate of their forecast. Indicate the markets for which the sales are targeted, if feasible. Identify the units of sales.

Competitor 1.

|       | -4 | -3 | -2 | -1 | Current | 1 | 2 | 3 | 4 | 5 |
|-------|----|----|----|----|---------|---|---|---|---|---|
| Years |    |    |    |    |         |   |   |   |   |   |
| Sales |    |    |    |    |         |   |   |   |   |   |

Competitor 2.

|       | -4 | -3 | -2 | -1 | Current | 1 | 2 | 3 | 4 | 5 |
|-------|----|----|----|----|---------|---|---|---|---|---|
| Years |    |    |    |    |         |   |   |   |   |   |
| Sales |    |    |    |    |         |   |   |   |   |   |

Competitor 3.

|       | -4 | -3 | -2 | -1 | Current | 1 | 2 | 3 | 4 | 5 |
|-------|----|----|----|----|---------|---|---|---|---|---|
| Years |    |    |    |    |         |   |   |   |   |   |
| Sales |    |    |    |    |         |   |   |   |   |   |

Competitor 4.

|       | -4 | -3 | -2 | -1 | Current | 1 | 2 | 3 | 4 | 5 |
|-------|----|----|----|----|---------|---|---|---|---|---|
| Years |    |    |    |    |         |   |   |   |   |   |
| Sales |    |    |    |    |         |   |   |   |   |   |

## 2. Competitors' Advantage

### a. Customer Relations

**What advantages do we believe our competitors have regarding historical relations with direct customers, the distribution channel, and the end users?**

Competitive advantage can be derived from a preference of our customers to deal with specific elements of our competition, such as his sales or technical people, his business, his organization, or his Corporation in general. Indicate what advantage the competition has regarding to his customer relations. Indicate how you verify that the relationship is real.<sup>4</sup>

Competitor 1.

Competitor 2.

Competitor 3.

Competitor 4.

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<sup>4</sup> Customer relations is a key component of the Quality program. This Quality issue is covered in two workbooks: *Product Offering & Quality Workbook* and the *Operations & Quality Workbook*.

## 2. Competitors' Advantage

### b. Product Performance

**What advantages does the competition have regarding performance of our product in delivering customer benefits?**

Product performance must be evaluated in terms of the benefits it gives to the customer. Indicate what overall competitive performance advantage the competitive products and technology have over your products.<sup>5</sup>

Competitor 1.

Competitor 2.

Competitor 3.

Competitor 4.

---

<sup>5</sup> Product performance is a key component of the Quality program. This Quality issue is covered in two workbooks: *Product Offering & Quality Workbook* and the *Operations & Quality Workbook*.

## 2. Competitors' Advantage

### c. Quality

**What advantages does the competition have regarding the perceived product quality, as viewed by direct customers, the distribution channel, and the end users?**

Product quality, here, refers to the overall view of the product's ability to exceed customers' expectations. Indicate your perception of how customers view competitive offerings compared with yours. List all customers including the direct customer, wholesalers, distributors, dealers, and users.<sup>6</sup>

Competitor 1.

Competitor 2.

Competitor 3.

Competitor 4.

---

<sup>6</sup> Product performance is a key component of the Quality program. This Quality issue is covered in two workbooks: *Product Offering & Quality Workbook* and the *Operations & Quality Workbook*.

## 2. Competitors' Advantage

### d. Customer Support

**What advantages does the competition have regarding perceived customer support?**

Customer support can be critical to obtain competitive advantage. Indicate the nature and structure of customer support that competitive businesses offer and the competitive advantage that they gain from it. List all customers including the direct customer, wholesalers, distributors, dealers, and users.

Competitor 1.

Competitor 2.

Competitor 3.

Competitor 4.

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<sup>7</sup> Discussed in the *Marketing & Sales Plan Workbook* -- You may wish to consult that workbook before completing this item.

## 2. Competitors' Advantage

### e. Technology

**What advantages does the competition have regarding delivery of technological solutions to problems?**

Delivery of technology to the customer generally involves special knowledge that your business has acquired and is husbanding. The ability to deliver technological solutions to the customers' problems can represent a significant competitive advantage. Indicate the types of technological expertise that your competition can deliver to the customer and how that translates into competitive advantage.

Competitor 1.

Competitor 2.

Competitor 3.

Competitor 4.

## 2. Competitors' Advantage

### f. Cost Position

**What cost advantage does the competition have?**

Having competitively low cost is a potential competitive advantage and always a financial benefit. Indicate what real and potential cost advantage competition has. Identify the source of that advantage (i.e., scale or technology).

Competitor 1.

Competitor 2.

Competitor 3.

Competitor 4.

## 2. Competitors' Advantage

### g. Proprietary Position

**What proprietary advantage does the competition have?**

**What advantages does that proprietary position give them?**

Proprietary position is obtained by obtaining legal rights to use intellectual property. These include: patents on products, process, uses, or designs; copyrights; trademarks and trade names; and trade secrets. Include in this category business information that could be critical for running the business or competing. Indicate what significant proprietary position the competition has and what advantage it gives his business.

Competitor 1.

Competitor 2.

Competitor 3.

Competitor 4.

## 2. Competitors' Advantage

### h. Geography

**What advantages does the competition have regarding the location of his manufacture and business?**

The location of the business and its manufacturing can give competitive advantage. Indicate what, if any, competitive advantage is obtained from the geographic location of the competitors. In particular, global trade issues can be critical. Indicate any such issues and advantages to location.

Competitor 1.

Competitor 2.

Competitor 3.

Competitor 4.

## 2. Competitors' Advantage

### i. Practice

**What advantages does the competition have regarding how our customers operate?**

The way customers run their businesses can be of advantage to your competitors' businesses. Indicate any advantage that is derived from their customers' business practices. This can include their processes or business operations.

Competitor 1.

Competitor 2.

Competitor 3.

Competitor 4.

### 3. Resources

#### a. Capacity

**What is the manufacturing capacities of the competition?**

**How do we expect those capacities to change?**

Historically, sales share has been highly correlated with manufacturing share for materials and many industrial products. It is important to track the manufacturing capabilities of competitors. Recent changes in that capability may indicate a change in expectations for that business by a competitor. Indicate the capacity of the major existing and potential competitors and any recent changes expected in that capacity.

Competitor 1.

Competitor 2.

Competitor 3.

Competitor 4.

### 3. Resources

#### b. Allied Products

**What other products does the competition sell to our customers?**

**In what other businesses do they participate?**

Many industrial products are sold by combined sales forces that sell several products to the same customers. The ability of a competitor to gain strength and credibility by selling allied products represents a potential competitive advantage. Indicate all such situations for the major existing and potential competitors.

Competitor 1.

Competitor 2.

Competitor 3.

Competitor 4.

### 3. Resources

#### c. Financial

**What is the financial situation of the competition?**

**Could they sustain a price war?**

The financial ability of a competitor to sustain low earnings or even losses is a measure of financial strength. That strength can translate into aggressive action. It does not reflect competitor's willingness to sustain those conditions. Indicate the for overall financial situation for the major competitors.

Competitor 1.

Competitor 2.

Competitor 3.

Competitor 4.

### 3. Resources

#### d. Technology

**What is the competition's technology exploitation capability?**

The technologies and R&D capabilities of a competitor reflect options that he may wish to employ. Indicate the technological strengths and abilities of the major existing and potential competitors.

Competitor 1.

Competitor 2.

Competitor 3.

Competitor 4.

#### 4. Competitors' Intention

##### a. Position

**What is the intended position or mission of the competition?**

**How important is this business to them?**

The likely behavior of a competitor should depend on how he views his business. Indicate our perception of the competitor's view of his business. Identify how important it is him.

Competitor 1.

Competitor 2.

Competitor 3.

Competitor 4.

#### 4. Competitors' Intention

##### b. Targets

**What are competitors' target market shares?**

**Do they view the market as stable?**

Indicate what share of the market you believe the major competitors wish to obtain. Market stability reflect both growth and changes in market share. Stable markets reflect established relationships among customers and their suppliers. Indicate how stable you think the competitor believes the market to be.

Competitor 1.

Competitor 2.

Competitor 3.

Competitor 4.

#### 4. Competitors' Intention

##### c. View of the Firm

**How does the competition view the firm?**

Indicate how you feel competitors view the firm, in general, and this business in particular. Comment on their perception of how important this business is to the firm. Indicate how we know this.

Competitor 1.

Competitor 2.

Competitor 3.

Competitor 4.

#### 4. Competitors' Intention

##### d. Pricing

**How does the competition price products?**

Indicate pricing policy of the competitors. Identify who, each competitor believes, is the price leader in this market. Is there a difference geographically?

Competitor 1.

Competitor 2.

Competitor 3.

Competitor 4.

## D. Competitor Assessment

### 1. Price Response

**How will the competition respond to a price decrease or an increase?**

Indicate this for both major and minor price changes. Identify the size of the price changes. Comment on historical experience with these competitors. Is there a difference geographically?

Competitor 1.

Competitor 2.

Competitor 3.

Competitor 4.

## D. Competitor Assessment

### 2. Preference

#### **Are these desirable competitors?**

Orderly markets are made of "good" competitors. Good competitors compete in a manner that does not disrupt the market or in a fashion that the firm does not wish to match. Indicate the degree to which each of the major existing and potential competitors are desirable.

Competitor 1.

Competitor 2.

Competitor 3.

Competitor 4.

## E. Customer Status

### 1. Changes in Customers' Products

**What changes are expected in the Customers' products or way of doing business that could impact this business?**

Indicate what changes in the customers' businesses could impact this business. Identify, if feasible, the specific customers or market or segment of interest. Indicate the likelihood of these changes. Comment on the source of information.

Customer 1.

Customer 2.

Customer 3.

Customer 4.

Customer 5.

## E. Customer Status

### 2. Customers' Competitive Threat

**How could the Customer compete against this business?**

In some markets the customer can compete directly with this business. Indicate the changes in the business structure that could or have led this to happen. Comment on the source of information.

Customer 1.

Customer 2.

Customer 3.

Customer 4.

Customer 5.

## E. Customer Status

### 3. Changes in End-Users Products

**What changes are expected in the End-Users' products that could impact this business?**

Indicate what changes in the customers' businesses could impact this business. Identify, if feasible, the specific customers or market or segment of interest. Indicate the likelihood of these changes. Comment on the source of information.

End-User 1.

End-User 2.

End-User 3.

End-User 4.

End-User 5.

## E. Customer Status

### 4. End-Users' Competitive Threat

**How could the End-User compete against this business?**

In some markets the end-user of the product can compete directly with this business. Indicate the changes in the business structure that could or have let this to happen. Comment on the source of information.

End-User 1.

End-User 2.

End-User 3.

End-User 4.

End-User 5.

## F. Technology

### 1. Type

**What key technological changes will impact this industry?**

Technology encompasses scientific and engineering issues and changes in the way business is done. Indicate what technological changes will impact this business over the next ten years. Describe these technologies.

Technology 1.

Technology 2.

Technology 3.

Technology 4.

Technology 5.

## F. Technology

### 2. Impact

|  |
|--|
| <p><b>What is the nature of that impact?</b></p> <p><b>How severe will it be?</b></p> <p><b>How can we take advantage of the technological change?</b></p> |
|--|

Technology 1.

Technology 2.

Technology 3.

Technology 4.

Technology 5.

## F. Technology

### 3. Timing

|  |
|--|
| <b>When will those changes likely occur?</b> |
|--|

Technology 1.

Technology 2.

Technology 3.

Technology 4.

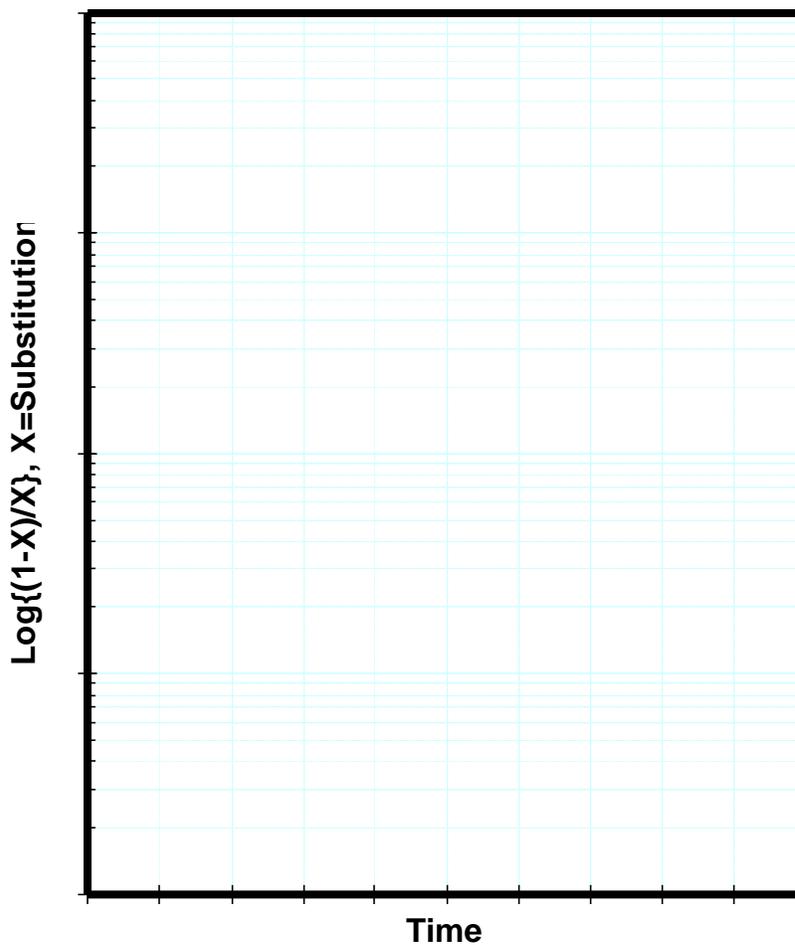
Technology 5.

## F. Technology

### 4. Substitution Curves

**How fast will the new technologies substitute for the older ones?**

Substitution of one technology for another is generally described by a "logistics" or symmetric "S" shaped curve. The penetration of similar technologies within an industry tend to follow the same rate. Indicate in the plot below the substitution history and forecast for key technologies.<sup>8</sup>



<sup>8</sup> The "logistics" function has the form  $x = x^*/(1 + \text{EXP}[A(t-t_0)])$ ; where  $x$  is substitution,  $x^*$  is the maximum substitution,  $t$  is time, and  $t_0$  is the time to reach half of  $x^*$ , and  $A$  is the rate of substitution. This is a straight relationship if we make  $F = (x^* - x)/x$ , and plot the logarithm of  $F$  versus time:  $F = \text{EXP}[A(t - t_0)]$ .

## F. Technology

### 5. Overall Risk

**What is the overall competitive risk to our business from technological change?**

Risk is measured both in terms of the likelihood of the technological event and the likelihood that the event will have a major impact on the business. Indicate both the likelihood of the event and the impact if that event happens within the specified timing.<sup>9</sup>

Technology 1.

Technology 2.

Technology 3.

Technology 4.

Technology 5.

---

<sup>9</sup> The likelihood of an event depends on its timing. If there is a great variation in expected timing of events, it is best to indicate a distribution of likelihood and timing.

## G. Quality

### 1. Key Customer Expectations & Compliance

#### a. Direct Customers

**What are the key expectations of our direct customers?**

**How well do we serve them?<sup>10</sup>**

Total Quality focuses on exceeding customers' expectations. In order to deliver Quality, the key customer expectations need to be identified. The direct customers are those who first receive ownership of the product. Indicate your perception of these customers' expectations and how well you meet them.

---

<sup>10</sup> These Quality issues are covered in two workbooks: *Product Offering & Quality Workbook* and the *Operations & Quality Plan Workbook*.

## 1. Key Customer Expectations & Compliance

### b. Other Customers & End-Users

**What are the key expectations of our end-users and indirect customers?**

**How well do we serve them?<sup>11</sup>**

Indirect customers and end-users consist of those organizations that use the product after its initial purchase from the firm. Indicate your perception of these customers' expectations and how well you meet them.

---

<sup>11</sup> These Quality issues are covered in two workbooks: *Product Offering & Quality Workbook* and the *Operations & Quality Plan Workbook*.

## 2. Changes in Expectations & Compliance

### a. Direct Customers

**What changes in direct customer expectations, "Quality", can be expected?**

**Are we positioned to exceed these expectations?**

Change can usually be identified as an opportunity. Since the goal of Quality is to exceed customers' expectations, those expectations can be expected to rise. Indicate what changes in the direct customers' expectations are likely and how your business is positioned to take advantage of those new expectations.

## 2. Changes in Expectations & Compliance

### b. Other Customers & End-Users

**What changes in end-user and indirect customer expectations, "Quality", can be expected?**

**Are we positioned to exceed these expectations?**

Indicate what changes in the indirect customers' and end users' expectations are likely and how your business is positioned to take advantage of those new expectations.

### 3. Improving Quality

#### a. Complaint Control

**What procedures are in place to correct complaints?<sup>12</sup>**

Complaints reflect unmet expectations. As such, they represent a source of information and a special area for Quality concerns. Indicate what procedures exist to verify and correct complaint.

---

<sup>12</sup> Complaint systems are covered in two workbooks: *Product Offering & Quality Workbook* and the *Operations & Quality Plan Workbook*.

### 3. Improving Quality

#### b. Monitoring Compliance

**What procedures are in place to monitor complaints and corrective measures?<sup>13</sup>**

Indicate what procedures are in-place to monitor complaints and assure compliance for corrective action.

---

<sup>13</sup> These Quality issues are covered in two workbooks: *Product Offering & Quality Workbook* and the *Operations & Quality Plan Workbook*.

### 3. Improving Quality

#### c. Requiring Improvement

**What programs are in place to assure improved Quality?<sup>14</sup>**

Indicate Total Quality programs in place to assure improved Quality. Identify who is responsible for those programs and compliance with plans.

---

<sup>14</sup> These Quality issues are covered in two workbooks: *Product Offering & Quality Workbook* and the *Operations & Quality Plan Workbook*.

## H. Other Threats and Opportunities

### 1. Environmental

**What threats to the business exist due to materials handling, release, and disposal?**

**What measures have been taken to reduce the potential difficulties?**

**What competitive advantage would a proactive solution of these problem give this business?**

Issue

Corrective Measure

Competitive Advantage

## H. Other Threats

### 2. Legal

|  |
|--|
| <p><b>What legal problems could possibly arise that could endanger the business?</b></p> <p><b>What measures have been taken to reduce the potential difficulty?</b></p> <p><b>What competitive advantage would a proactive solution of the problem give us?</b></p> |
|--|

Issue

Corrective Measure

Competitive Advantage

## H. Other Threats

### 3. Labor

**What organized labor problems could possibly arise that could endanger the business?**

**What measures have been taken to reduce the potential difficulty?**

**What competitive advantage would a proactive solution of the problem give us?**

Issue

Corrective Measure

Competitive Advantage

## H. Other Threats

### 4. Other Critical Issues

|  |
|--|
| <p><b>What other problems could possibly arise that could endanger the business?</b></p> <p><b>What measures have been taken to reduce the potential difficulty?</b></p> <p><b>What competitive advantage would a proactive solution of the problem give us?</b></p> |
|--|

Issue

Corrective Measure

Competitive Advantage

#### IV. FEASIBLE ACTIONS

The previous sections focused on the structure of the business. This section focuses on actions that are planned to take advantage of opportunities and to insulate the business from threats. This section deals with the conduct of business. The next section, Section V, considers into the likely impact of those actions and long term forecasts.

This Feasible Action Section is intended to give substance to the forecast and mission of the business. It is the plan of what the business staff intends to accomplish. We suggest that this section be completed with input and agreement of the total business team.

## A. Offering Strategy

### 1. Customization

**How could the development of custom offerings provide competitive advantage in our markets?**

**How do these relate to customers' needs?**

**How much will it cost?**

**When would it be advantageous or disadvantageous?**

Customization includes the development of new grades and products or relabeling to meet individual customer specifications. Indicate the type of customization, the customer need that will be met, the cost, and advantage.

Offering

Customer  
Need

Cost

Advantage or  
Disadvantage

## A. Offering Strategy

### 2. Planned Replacement

**How could periodic product replacement provide competitive advantage in our markets?**

**Why would they be replaced?**

**How much will it cost?**

**When would it be advantageous or disadvantageous?**

Periodic replacement consists of introducing new products as replacement of old grades. While this tends to cannibalize existing business, it maintains strong position. A key issue is the removal of old grades. If old grades are still produced, the result of "replacement" is to expand the product line. Indicate whether replacement or product line expansion is envisioned.

| <u>Item</u> | <u>Customer Cause</u> | <u>Cost</u> | <u>Advantage or Disadvantage</u> |
|-------------|-----------------------|-------------|----------------------------------|
|-------------|-----------------------|-------------|----------------------------------|

## A. Offering Strategy

### 3. System Development

**How could the development and promotion of an application system provide competitive advantage in our markets?**

**How much will it cost?**

**When would it be advantageous or disadvantageous?**

A systems approach focuses on the totality of the chore that the customer needs to accomplish. The firm may be able, in some cases, to offer a group of products and services as a system designed to meet particular needs of the customer (i.e. printing system, X-ray System, etc.). Indicate the potential for strengthening the market position by using a systems approach to the market.

#### System Description

#### Cost

#### Advantages/Disadvantages

## B. Sales Programs

### 1. Response and Conditions

**How will our management respond to a competitive threat at a customer?**

**What conditions will generate that response?**

The nature and speed of response to a competitive threat is a sign of importance that management holds for a customer. Indicate how the organization will respond to a competitive threat and under what conditions.

## B. Sales Programs

### 2. Timing

**How fast will the organization respond?**

**What needs to be in place to make it happen?**

Indicate how quickly the organization will respond and procedures put in place to assure response. Identify who is responsible for the decisions.

## B. Sales Programs

### 3. New Applications

**How will the organization identify new applications for the product?**

**Who is responsible for identifying and developing new applications?**

**How will that development be encouraged?**

Growth requires the identification of new applications or products. Indicate how those new opportunities are going to be identified. Indicate who is responsible and how those people who have identified opportunities will be rewarded.

## C. Customer Support Strategy

### 1. Customer Support

**What customer support program will be provided?<sup>1</sup>**

**How much would it cost?**

**When would it be advantageous or disadvantageous?**

---

<sup>1</sup> This topic is discussed in detail in the *Marketing & Sales Plan Workbook*.

## C. Customer Support Strategy

### 2. Customer Computing

**How could the development of custom computing and information system provide competitive advantage in our markets?<sup>2</sup>**

**How much would it cost?**

**When would it be advantageous or disadvantageous?**

Customer computing consists of providing computer support to the firm's customers, distributors, dealers, or end-users. Programs, computer packages, access to centralized information, and system assistance can be provided. Indicate what programs are planned, their costs and potential advantages and disadvantages.

---

<sup>2</sup> This topic is discussed in detail in the *Marketing & Sales Plan Workbook*.

## D. Pricing Strategy

### 1. Controlled Long Term Real Price

**How could the assurance of stable, long term, real price provide competitive advantage in our markets?**

**How much would it cost?**

**When would it be advantageous or disadvantageous?**

Assurance of stable long term price can be obtained by contract or by informal "understandings". Indicate whether such agreements are customary in this market and what advantages to the firm could be obtained by them. Identify whether such agreements are planned.

## D. Pricing Strategy

### 2. Maintenance of Price Premium

**How do we intend to maintain a price premium?**

Maintaining price premium is a key route to sustain profitability of a business. Indicate what price premium this business has been able to sustain and what programs are in place to maintain it.

Price Premium

Programs

Cost

## D. Pricing Strategy

### 3. Conditions to Meet Competitive Price

**Under what conditions we will meet a competitive price or bid?**

Indicate the conditions where the firm will meet a competitive price or bid. Identify who is responsible to determine price under competitive conditions and how long it will take him to respond. Discuss the consequence of competitive pricing and the probable response of the customers.

## D. Pricing Strategy

### 4. Targeting

**In what market segments and geographic regions will your business fight to maintain share?**

Not all markets or regions are created equal. Indicate which markets and regions are of specific importance. Comment on how that importance will be communicated to competition.

## E. Manufacturing Strategy

### 1. Grade Consolidation

**What advantage could be obtained by eliminating product grades or variations?**

Grade consolidation can help reduce costs.<sup>3</sup> Indicate the potential advantages to product line consolidation and what, if any, programs are underway to reduce the product offerings.

---

<sup>3</sup> The PIMS database, however, indicates that there is no average significant return advantage to reduced product line.

## E. Manufacturing Strategy

### 2. New Process Development

**What process developments could provide major improvement in product quality?**

Indicate what process programs are underway to improve quality. Identify who is responsible and when the developments will be accomplished.<sup>4</sup>

New Processes

Improvements in Product Quality

Program Costs

When

Responsibility

---

<sup>4</sup> These Quality issues are covered in the *Operations & Quality Plan Workbook*.

## E. Manufacturing Strategy

### 3. Elimination of Low Quality

**What cost saving could be obtained by elimination of low quality products?**

The production of either low quality, broad specification, or non-standard product introduces costs. These costs involve reworking the product, handling materials, disposal costs, and/or reduced pricing. Indicate programs designed to reduce low quality products, their potential savings, and costs. Identify who is responsible for the programs.<sup>5</sup>

#### Program Elements

#### Reduction in Non-Standard Products

#### Expected Savings

#### Program Costs

#### When

#### Responsibility

---

<sup>5</sup> Cost of Quality issues are covered in two workbooks: *Product Offering & Quality Workbook* and the *Operations & Quality Plan Workbook*.

## E. Manufacturing Strategy

### 4. Cost Reduction

**What cost reduction program is in place to assure the meeting the yield and cost forecast?**

Indicate what process programs are underway to reduce costs. Identify who is responsible and when the programs will be accomplished.

New Processes

Expected Savings

Program Costs

When

Responsibility

## F. Technical Strategy

### 1. Key Technologies

**What key technologies are being developed to assure a long term competitive advantage?<sup>6</sup>**

**What resources have been allocated for this function?**

Technologies

Resources

Responsibility

---

<sup>6</sup> This topic is covered in the *Information Plan Workbook*.

## F. Technical Strategy

### 2. Needed Inventions

**What inventions are needed to provide a "quantum" competitive advantage?**

**What programs are underway to assure that the business will have these inventions?**

Significant competitive advantage can be obtained with major improvements in technology. Indicate the need for such invention, the program, or potential route, for the invention, and the resources that are required. While it is not possible to precisely time invention, it is necessary to have a timing for when such developments are likely.

Need

Potential Route

Resources

Timing

## V. LONG TERM FORECASTS

The previous section focused on the programs for this strategic plan. This section focuses on the expected results from implementing the plan. This section deals with the likely results of the conduct of the business. The next section, Section VI, considers uncertainty and risk assessment.

The Forecast Section is intended to quantify the results of the programs. It is a projection of what the business staff expects the business to do. We suggest that this section be completed with input and agreement of the total business team.

**A. Sales**

**1. Product Group**

**How is the total product group defined?**

**What are the historical sales and forecast for the product group?**

A product usually can be considered as part of a group of products or benefits that are being given to the customer. For example, a new film product will be a part of all plastic films; a new car door window opener is part of all such devices. It is necessary to understand the history and at least a ten-year projection of the product group in order to get an overview of the market. The historical sales and forecast should be in physical units, (pounds, square feet, or units, for example) either as annual sales or as installed units. Note the units being used. Use industry, sales force, and model projections<sup>1</sup>.

|       |      |    |    |    |    |    |    |    |    |         |
|-------|------|----|----|----|----|----|----|----|----|---------|
|       | -9   | -8 | -7 | -6 | -5 | -4 | -3 | -2 | -1 | Current |
| Years |      |    |    |    |    |    |    |    |    |         |
| Sales |      |    |    |    |    |    |    |    |    |         |
|       |      |    |    |    |    |    |    |    |    |         |
|       | Next | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10      |
| Years |      |    |    |    |    |    |    |    |    |         |
| Sales |      |    |    |    |    |    |    |    |    |         |

<sup>1</sup> There are several models that can be used for effective projection. For growth markets the General Sales Growth Curve gives good results. For mature markets an econometric model should be satisfactory.

**A. Sales**

**2. Geographic Region**

**What are the forecast and historical sales for the product in each part of the world?**

**What are the key current business assumptions inherent in this forecast?**

Consider sales of the product geographically. The historical sales and forecast should be in physical units, (pounds, square feet, or units, for example) either as annual sales or as installed units. Use the geographic framework described in the Business Definition. Note the units being used. Use sales force and model projections<sup>2</sup>.

Region 1.

|       | -4 | -3 | -2 | -1 | Current | 1 | 2 | 3 | 4 | 5 |
|-------|----|----|----|----|---------|---|---|---|---|---|
| Years |    |    |    |    |         |   |   |   |   |   |
| Sales |    |    |    |    |         |   |   |   |   |   |

Region 2.

|       |  |  |  |  |  |  |  |  |  |  |
|-------|--|--|--|--|--|--|--|--|--|--|
| Sales |  |  |  |  |  |  |  |  |  |  |
|-------|--|--|--|--|--|--|--|--|--|--|

Region 3.

|       |  |  |  |  |  |  |  |  |  |  |
|-------|--|--|--|--|--|--|--|--|--|--|
| Sales |  |  |  |  |  |  |  |  |  |  |
|-------|--|--|--|--|--|--|--|--|--|--|

Region 4.

|       |  |  |  |  |  |  |  |  |  |  |
|-------|--|--|--|--|--|--|--|--|--|--|
| Sales |  |  |  |  |  |  |  |  |  |  |
|-------|--|--|--|--|--|--|--|--|--|--|

<sup>2</sup> There are several models that can be used for effective projection. For growth markets the General Sales Growth Curve gives good results. For mature markets an econometric model should be satisfactory.

**A. Sales**

**3. Markets**

**What are the forecast and historical sales for the product by market segment?**

**What are the key current business assumptions inherent in this forecast?**

Consider sales of the product by each market segment. The historical sales and forecast should be in physical units, (pounds, square feet, or units, for example) either as annual sales or as installed units. Use the market segments or the market framework described in the Business Definition section. Note the units being used. Use sales force and model projections<sup>3</sup>.

|           | -4 | -3 | -2 | -1 | Current | 1 | 2 | 3 | 4 | 5 |
|-----------|----|----|----|----|---------|---|---|---|---|---|
| Market 1. |    |    |    |    |         |   |   |   |   |   |
| Years     |    |    |    |    |         |   |   |   |   |   |
| Sales     |    |    |    |    |         |   |   |   |   |   |
| Market 2. |    |    |    |    |         |   |   |   |   |   |
| Sales     |    |    |    |    |         |   |   |   |   |   |
| Market 3. |    |    |    |    |         |   |   |   |   |   |
| Sales     |    |    |    |    |         |   |   |   |   |   |
| Market 4. |    |    |    |    |         |   |   |   |   |   |
| Sales     |    |    |    |    |         |   |   |   |   |   |

<sup>3</sup> There are several models that can be used for effective projection. For growth markets the General Sales Growth Curve gives good results. For mature markets an econometric model should be satisfactory.

**4. Total Product Sales**

**a. Forecast**

**What are the forecast and historical sales for the product?**

**What are the key current business assumptions inherent in this forecast?**

If the business consists of only one one product of the product group, consider total sales of that product. The historical sales and forecast should be in physical units, (pounds, square feet, or units, for example) either as annual sales or as installed units. Note the units being used. Use sales force and model projections<sup>4</sup>.

|                | -4 | -3 | -2 | -1 | Current | 1 | 2 | 3 | 4 | 5 |
|----------------|----|----|----|----|---------|---|---|---|---|---|
| Years<br>Sales |    |    |    |    |         |   |   |   |   |   |

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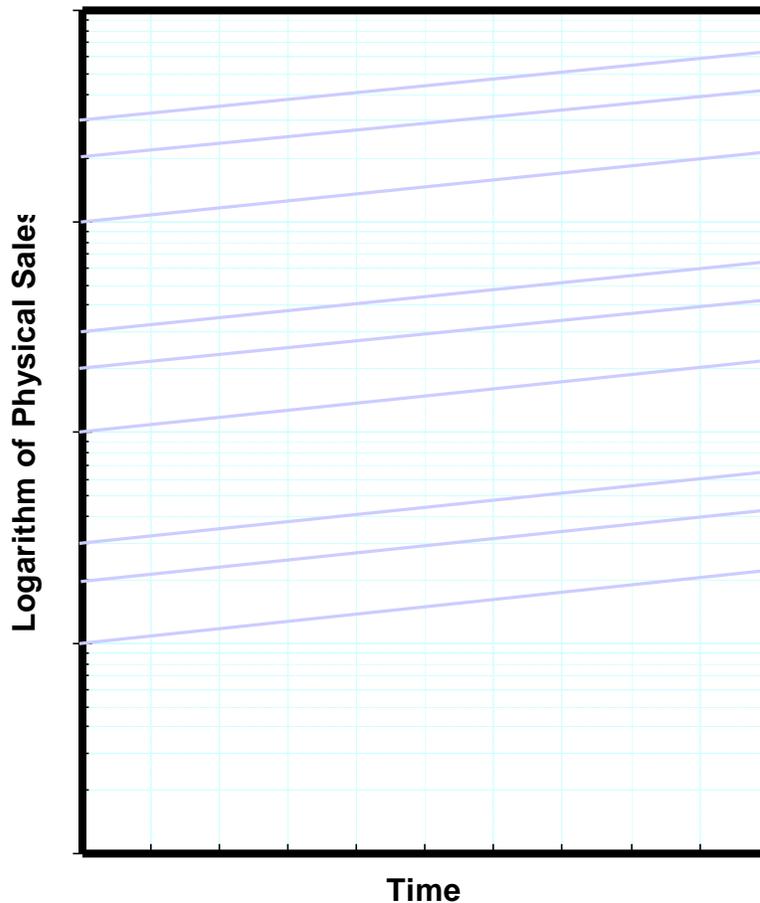
<sup>4</sup> There are several models that can be used for effective projection. For growth markets the General Sales Growth Curve gives good results. For mature markets an econometric model should be satisfactory.

**4. Total Product Sales**

**b. General Sales Growth Curve**

**How do forecasted physical sales compare with a standard sale penetration pattern?**

The General Sales Growth Curve is a good description of the maximum speed that sales can grow during the growth phase of the business life cycle. The curve is generated by fitting model to historical data. In addition to a forecast, the model generates an estimate of a growing market potential that the business could grow into, given continuing growth patterns.<sup>5</sup>



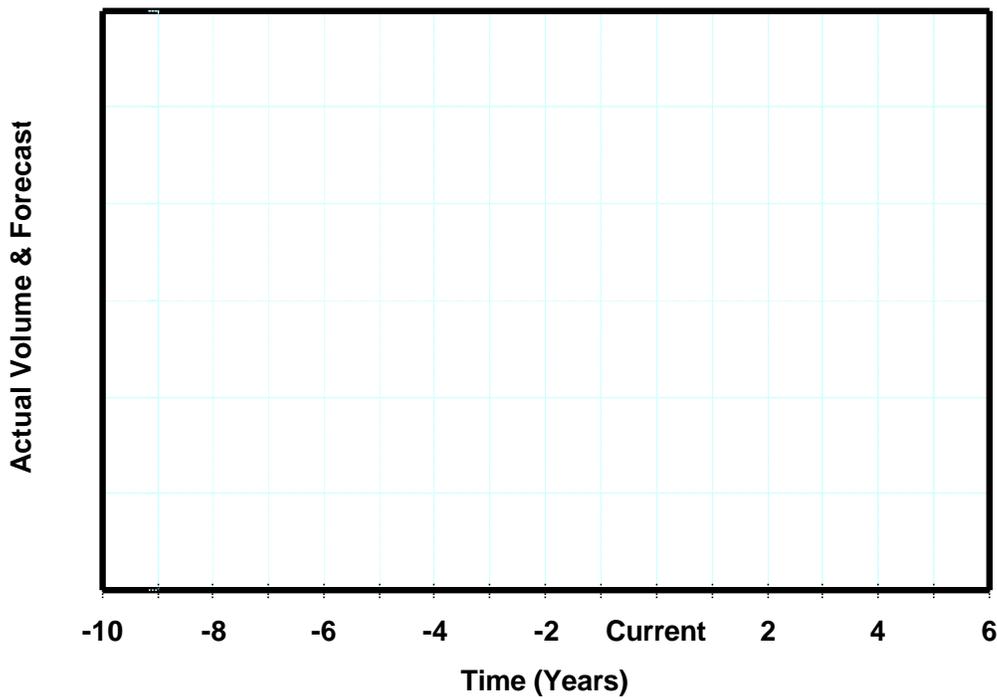
<sup>5</sup> The fit of the General Sales Growth Curve consists of converting both independent variable  $[.77^t]$  where  $t$  is time, and the dependent variable  $[\log(q) - .077t]$  where  $q$  is the physical sales. A straight-line relationship usually results from which the forecast is estimated. The logarithm of the potential at the initial time is equal to the constant of the curve fit. The standard plot consists of a logarithm of sales, the General Sales Growth Curve, and the Potential that grows at 8% annually.

#### 4. Total Product Sales

##### c. Econometric Model

**How do forecasted physical sales compare with a standard sale pattern?**

Econometric Models can be used to forecast sales for mature businesses. Such models are based on the assumption that sales of the product track general economic activity. Compare the sales forecast with the based econometric model available.<sup>6</sup>



<sup>6</sup> Most econometric models rely on macro-economic forecasts. Unfortunately, they are not particularly reliable. However, a forecasting model is possible if one can relate future sales to present or past macro-economic factors (leading indicator model). Several statistical and forecasting packages are designed to test model and determine leading and lagging factors.

**B. Price**

**1. Average Price**

**What has been the historical price and forecast for the product?**

Use the average realized price. If a large variation exists among product grades, use the major grade and indicate the range of variation. Give the price by region or market, whichever is most appropriate for the business.

|                  | -4 | -3 | -2 | -1 | Current | 1 | 2 | 3 | 4 | 5 |
|------------------|----|----|----|----|---------|---|---|---|---|---|
| Region/Market 1. |    |    |    |    |         |   |   |   |   |   |
| Years            |    |    |    |    |         |   |   |   |   |   |
| Sales            |    |    |    |    |         |   |   |   |   |   |
| Region/Market 2. |    |    |    |    |         |   |   |   |   |   |
| Sales            |    |    |    |    |         |   |   |   |   |   |
| Region/Market 3. |    |    |    |    |         |   |   |   |   |   |
| Sales            |    |    |    |    |         |   |   |   |   |   |
| Region/Market 4. |    |    |    |    |         |   |   |   |   |   |
| Sales            |    |    |    |    |         |   |   |   |   |   |
| Average Price    |    |    |    |    |         |   |   |   |   |   |
| Sales            |    |    |    |    |         |   |   |   |   |   |

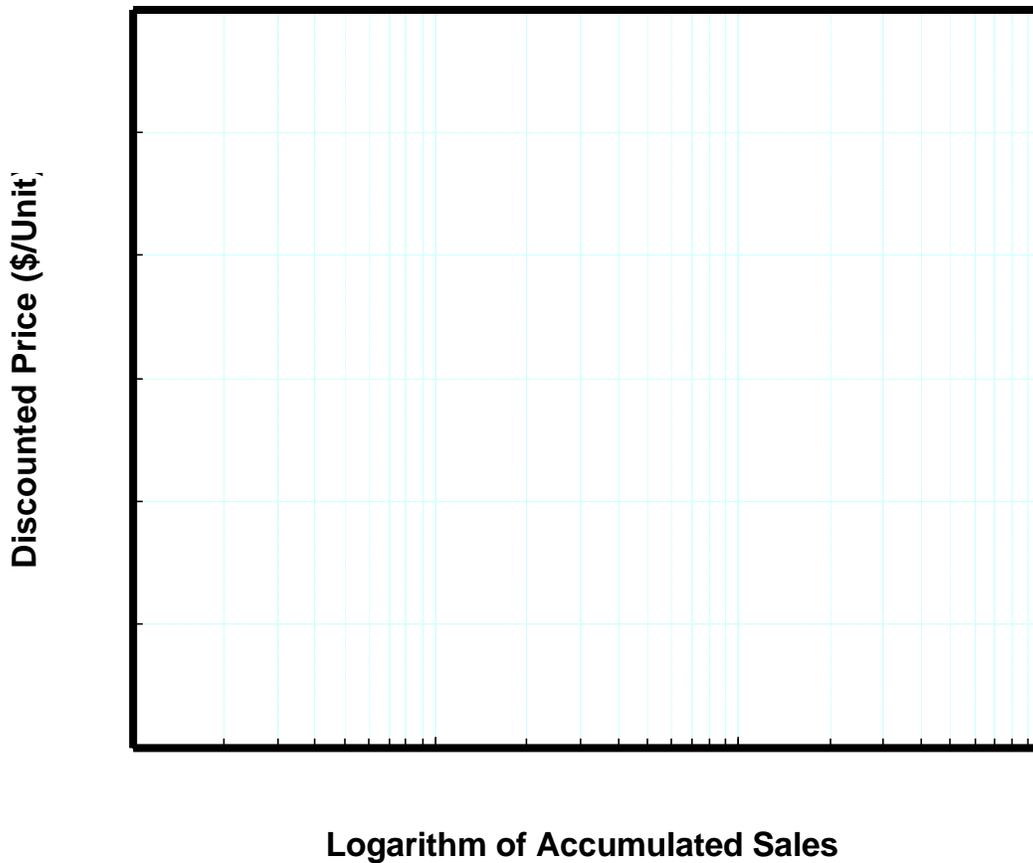
**B. Price**

**2. Experience Curve**

**a. Curve Projection**

**What is the "Experience Curve" Price Projection?**

A standard for comparison between of price is the "Experience Curve". This curve assumes that "real price" should decrease with accumulated experience of manufacturing the product. The "real price" is the average price discounted for inflation. The accumulated experience is measured by the accumulated sales<sup>7</sup>.



<sup>7</sup> The curve is constructed by plotting the logarithm of the "real price" against the logarithm of the accumulated sales. A regression fit of appropriate years to give an historical learning curve fit.

## 2. Experience Curve

### b. Forecast

**What is the comparison between the expected price and the "Experience Curve" projection?**

Indicate the discount rates for the price. This may be the chemical price index or other appropriate index.

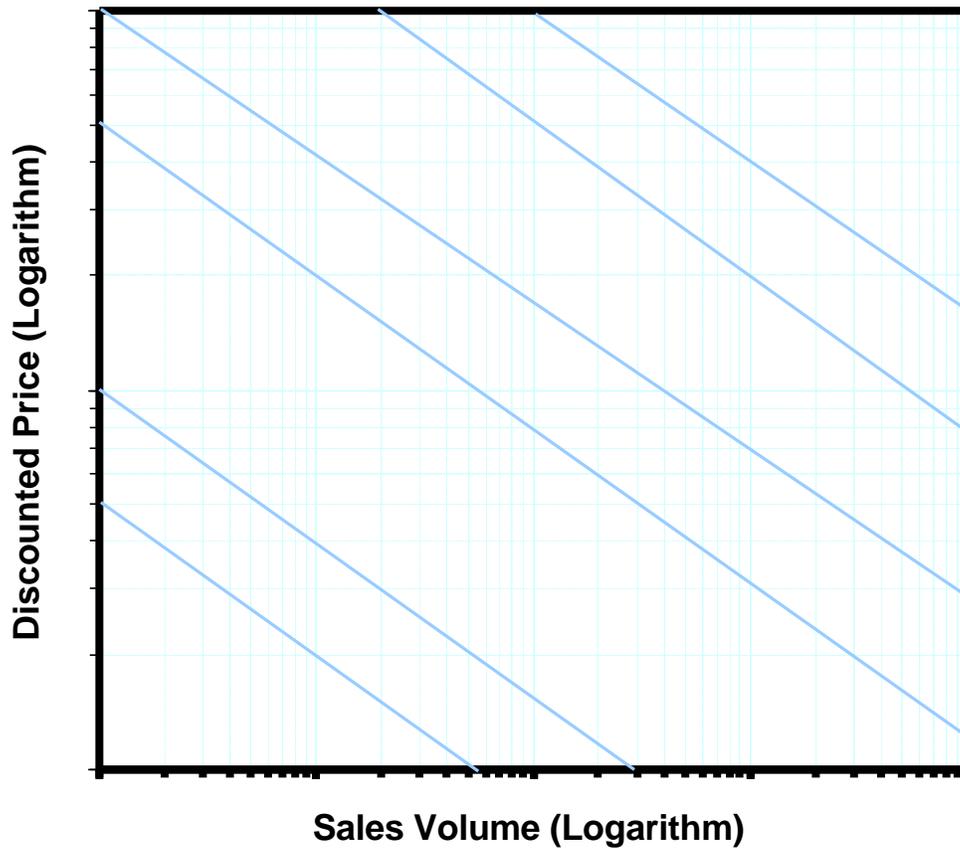
| Years            | -4 | -3 | -2 | -1 | Current | 1 | 2 | 3 | 4 | 5 |
|------------------|----|----|----|----|---------|---|---|---|---|---|
| Accum. Sales     |    |    |    |    |         |   |   |   |   |   |
| Learning Curve   |    |    |    |    |         |   |   |   |   |   |
| Discounted Price |    |    |    |    |         |   |   |   |   |   |

### 3. Price Scaling Curve

#### a. Curve Projection

**What is the "Market Scale Curve" Price Projection?**

Market scaling is based on the assumption that price is tied directly to the scale of manufacture<sup>8</sup>. The 6/10th rule asserts that revenues should increase with the sales raised to the 6/10th's power. This would follow traditional fixed costs for the chemical process industry.



<sup>8</sup> Like the "Experience Curve" model, the market scale model assumes that price follows cost; however, the scale model assumes that cost is directly related to scale rather than experience. It is handled by plotting the "real price" against sales raised to the -.4 power. Plotting as logarithms and using regression produces a standard curve.

### 3. Price Scaling Curve

#### b. Forecast

**What is the competitive price?**

**What is the comparison between the discounted prices and "Market Scale Price"?**

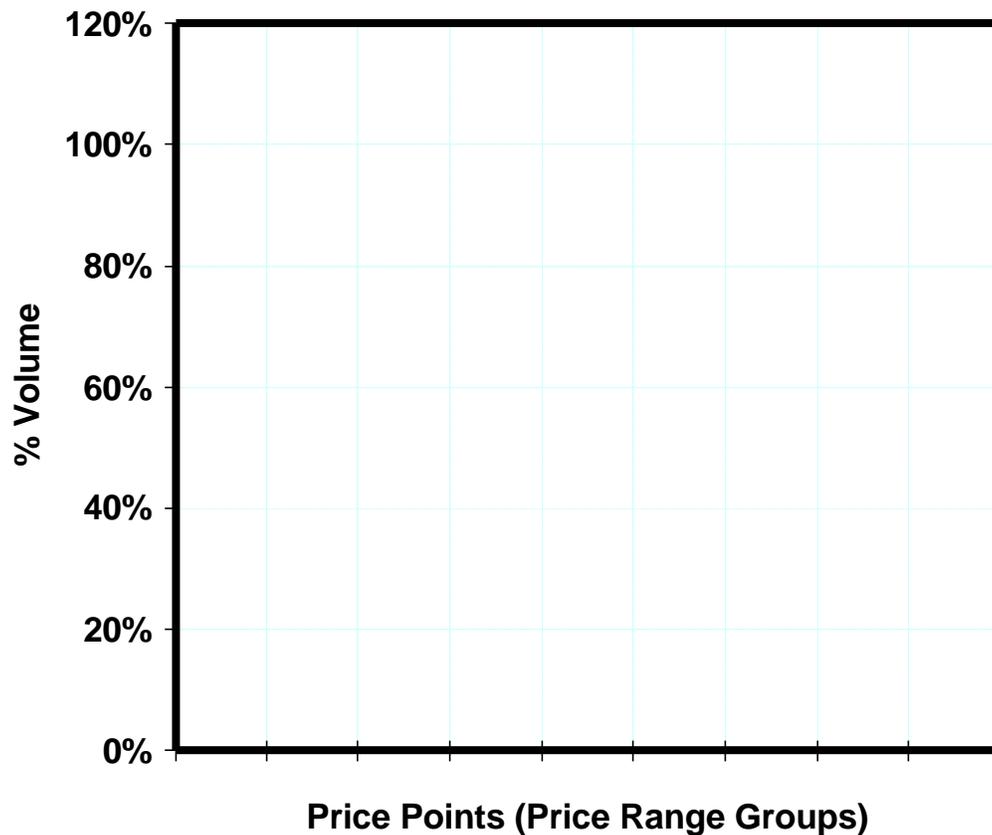
Indicate the expected market scale price, the average price, and the competitive price of the product.

| Years                     | -4 | -3 | -2 | -1 | Current | 1 | 2 | 3 | 4 | 5 |
|---------------------------|----|----|----|----|---------|---|---|---|---|---|
| Sales <sup>0.6</sup>      |    |    |    |    |         |   |   |   |   |   |
| Scaled Price              |    |    |    |    |         |   |   |   |   |   |
| Aver. Price               |    |    |    |    |         |   |   |   |   |   |
| Compe-<br>titive<br>Price |    |    |    |    |         |   |   |   |   |   |

#### 4. Price Point Distribution

##### What is the price range of the product line?

Most businesses involve delivering a number of products to customers. These products are usually delivered over a range of prices. Examining the price distribution can identify the intensity of the business and potential opportunities. The price point distribution shows how much product is sold at what price.<sup>9</sup>



<sup>9</sup> The price point distribution usually forms a "skewed distribution". A log-normal distribution can be used to fit this data and extrapolate potential low and high end opportunities. We recommend that price-point distribution be compared with competition to identify differences in pricing and product strategy.

**C. Revenues**

**What are the historical revenues from the venture and the forecast?**

**What are the key current business assumptions inherent in this forecast?**

Revenue is the product of the average price times the physical sales.

|         |      |    |    |    |    |    |    |    |    |         |
|---------|------|----|----|----|----|----|----|----|----|---------|
|         | -9   | -8 | -7 | -6 | -5 | -4 | -3 | -2 | -1 | Current |
| Years   |      |    |    |    |    |    |    |    |    |         |
| Revenue |      |    |    |    |    |    |    |    |    |         |
|         |      |    |    |    |    |    |    |    |    |         |
|         | Next | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10      |
| Years   |      |    |    |    |    |    |    |    |    |         |
| Revenue |      |    |    |    |    |    |    |    |    |         |

**D. Costs**

**1. Yield**

**What is the historical manufacturing yield and forecast yield?**

Yield is the ratio of acceptable product to that which could have been produced based on raw materials expended. Usually acceptable product is that which can be sold for a profit over average direct costs. This definition should become more restrictive with time as the quality assurance program reduces any second, limited use, or wide specification grades or product.

Indicate all assumption in making the yield forecast.

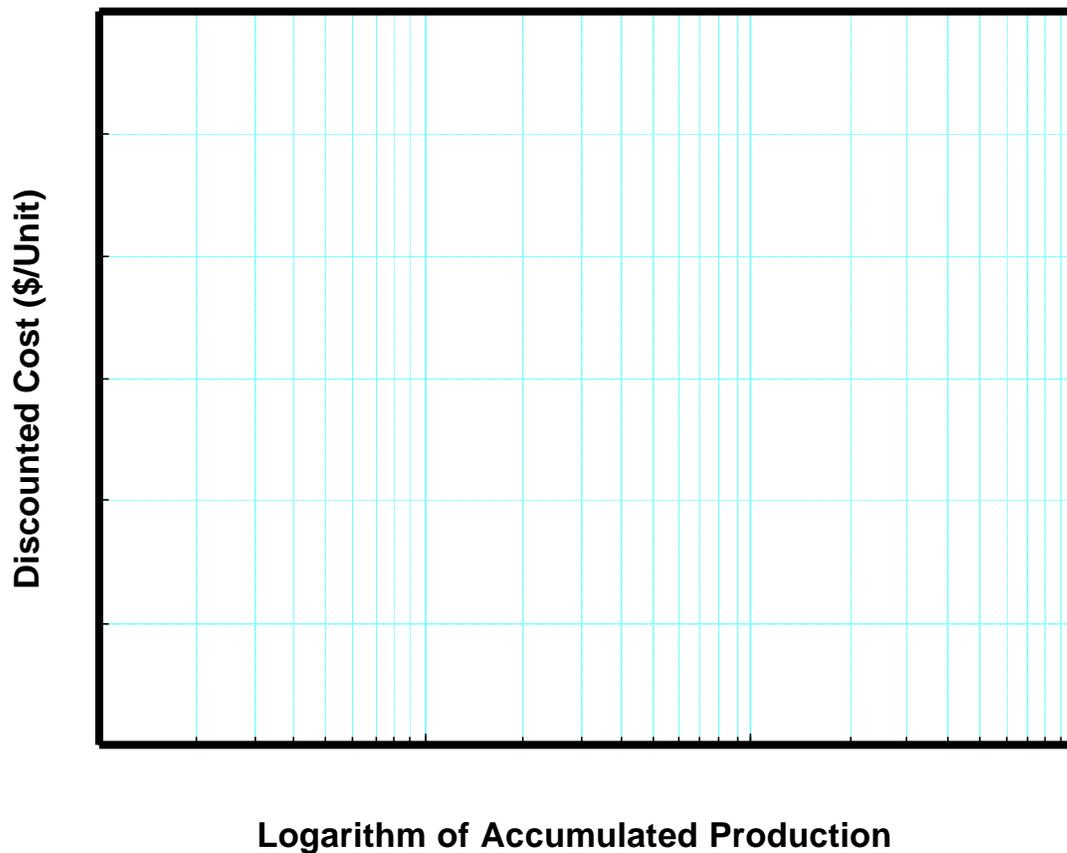
|       | -4 | -3 | -2 | -1 | Current | 1 | 2 | 3 | 4 | 5 |
|-------|----|----|----|----|---------|---|---|---|---|---|
| Years |    |    |    |    |         |   |   |   |   |   |
| Yield |    |    |    |    |         |   |   |   |   |   |

## 2. Learning Curve

### a. Curve Projection

#### What is the "Learning Curve" Cost Projection?

A standard for comparison between production and costs is the "Learning Curve". This curve assumes that "real cost" should decrease with accumulated experience of manufacturing the product. The "real cost" is the average cost discounted for inflation. The accumulated experience is measured by the accumulated sales<sup>10</sup>.



<sup>10</sup> The curve is constructed by plotting the logarithm of the discounted cost against the logarithm of the accumulated sales. A regression fit of appropriate years to give an historical learning curve fit.

## 2. Learning Curve

### b. Forecast

**What are the historical costs and forecast based on the "Learning Curve"?**

Indicate the discount rate for the cost. This may be the chemical price index or other appropriate index.

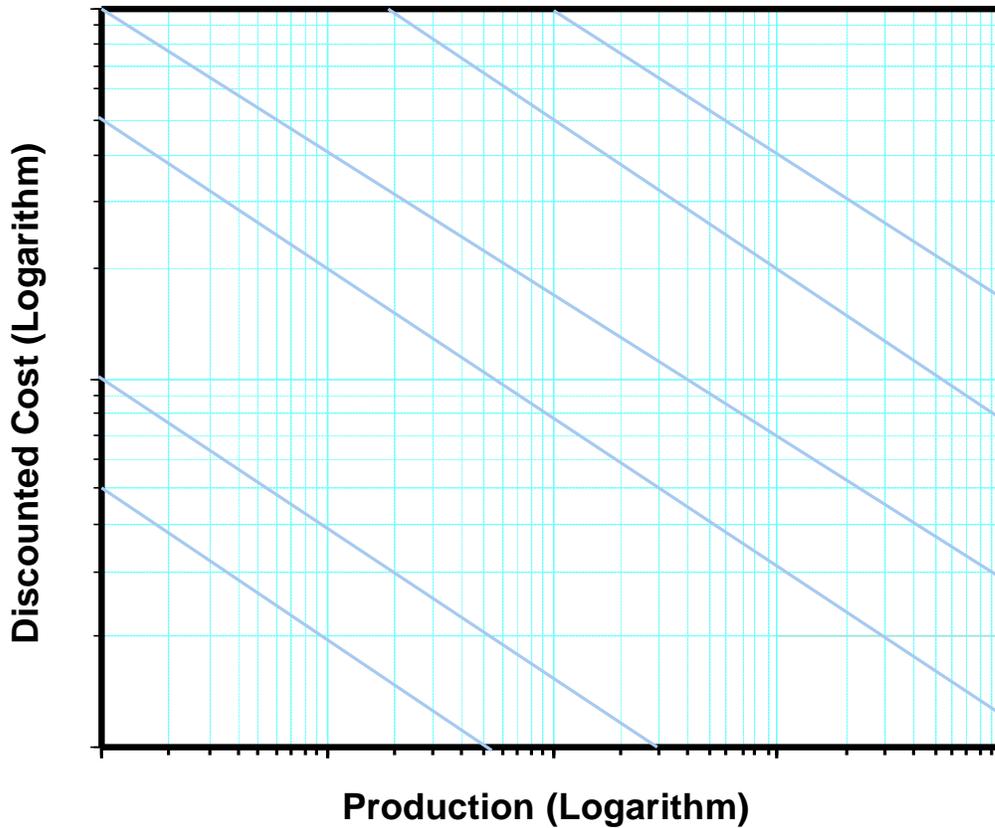
| Years           | -4 | -3 | -2 | -1 | Current | 1 | 2 | 3 | 4 | 5 |
|-----------------|----|----|----|----|---------|---|---|---|---|---|
| Accum. Sales    |    |    |    |    |         |   |   |   |   |   |
| Learning Curve  |    |    |    |    |         |   |   |   |   |   |
| Discounted Cost |    |    |    |    |         |   |   |   |   |   |

### 3. Scaling Curve

#### a. Curve Projection

**What is the "Market Scale Curve" Cost Projection?**

Market scaling is based on the assumption that cost is tied directly to the scale of manufacture<sup>11</sup>. The 6/10th rule asserts that total costs should increase with the volume production raised to the 6/10th's power. This would follow traditional fixed costs for the chemical process industry.



<sup>11</sup> Like the "Learning Curve" model, the market scale model assumes that cost follows sales, however, the scale model assumes that cost is directly related to scale rather than experience. It is handled by plotting the "real cost" against sales raised to the -0.4 power. Plotting as logarithms and using regression produces a standard curve.

### 3. Scaling Curve

#### b. Forecast

**What is the forecast based solely on improvements due to scale?**

Indicate the expected market scale cost, the average cost, and the discounted cost of the product.

|                      | -4 | -3 | -2 | -1 | Current | 1 | 2 | 3 | 4 | 5 |
|----------------------|----|----|----|----|---------|---|---|---|---|---|
| Years                |    |    |    |    |         |   |   |   |   |   |
| Sales <sup>0.6</sup> |    |    |    |    |         |   |   |   |   |   |
| Scaled Cost          |    |    |    |    |         |   |   |   |   |   |
| Discounted Cost      |    |    |    |    |         |   |   |   |   |   |

**E. Technologies**

**What technologies are forecast that could influence our costs in the next ten years?**

Indicate and describe technologies that could impact this business over the next ten years.

| <u>Technology</u> | <u>Description</u> | <u>Early Date</u> | <u>Expected Date</u> | <u>Late Date</u> |
|-------------------|--------------------|-------------------|----------------------|------------------|
|-------------------|--------------------|-------------------|----------------------|------------------|

**F. Capacity**

**1. Process**

**What is the forecast for capacity?**

**How will that capacity be obtained?**

Capacity should be given in delivered units of physical volume by product.

|            |    |    |    |    |         |   |   |   |   |   |
|------------|----|----|----|----|---------|---|---|---|---|---|
| Product 1. |    |    |    |    |         |   |   |   |   |   |
| Years      | -4 | -3 | -2 | -1 | Current | 1 | 2 | 3 | 4 | 5 |
| Capacity   |    |    |    |    |         |   |   |   |   |   |

|            |  |  |  |  |  |  |  |  |  |  |
|------------|--|--|--|--|--|--|--|--|--|--|
| Product 2. |  |  |  |  |  |  |  |  |  |  |
| Capacity   |  |  |  |  |  |  |  |  |  |  |

|            |  |  |  |  |  |  |  |  |  |  |
|------------|--|--|--|--|--|--|--|--|--|--|
| Product 3. |  |  |  |  |  |  |  |  |  |  |
| Capacity   |  |  |  |  |  |  |  |  |  |  |

|            |  |  |  |  |  |  |  |  |  |  |
|------------|--|--|--|--|--|--|--|--|--|--|
| Product 4. |  |  |  |  |  |  |  |  |  |  |
| Capacity   |  |  |  |  |  |  |  |  |  |  |

## F. Capacity

### 2. Feed Stocks

**How are feedstocks secured in the long run?**

**How are costs of feedstocks secured?**

Indicate what programs are underway to assure feedstock availability for this business. Indicate what arrangements have been taken to control prices of feedstocks.

**G. Investment**

**What is the forecast for needed investment in physical facilities?**

**What are the key current business assumptions inherent in this forecast?**

Indicate all needed facilities, including new equipment, plants, and land. Note if any existing facilities will be retired or if rented, leased or subcontracted facilities will not be used. Otherwise, the new facilities will be viewed as a plant or capability expansion.

|            | -4 | -3 | -2 | -1 | Current | 1 | 2 | 3 | 4 | 5 |
|------------|----|----|----|----|---------|---|---|---|---|---|
| Years      |    |    |    |    |         |   |   |   |   |   |
| Investment |    |    |    |    |         |   |   |   |   |   |

**H. Earnings**

**What are the historical earnings for this venture and its forecast earnings?**

**What are the key current business assumptions inherent in this forecast?**

Several measures of profitability that are typically used. The choice of the appropriate measure depends on the nature of the business. Typically, After Tax Operating Income (ATOI) is used. Other measures, such as after-tax Earnings or the Cash In-flow, may also be used. Indicate which measure is being used and why.

Indicate all assumptions critical to this forecast. Indicate any discrepancy with the assumptions used for the other financial measures.

| Years    | -4 | -3 | -2 | -1 | Current | 1 | 2 | 3 | 4 | 5 |
|----------|----|----|----|----|---------|---|---|---|---|---|
| Earnings |    |    |    |    |         |   |   |   |   |   |

**I. Performance**

**What is the expected performance of this venture?**

There are several overall measures of performance generally used. These include: Cash Return on Investment (CROI), Return on Investment (ROI), Net Present Value (NPV), and Internal Rate of Return (IRR). The choice of measure depends on the nature of the business and needs of Departmental and Corporate management.<sup>12</sup>

|            | -4 | -3 | -2 | -1 | Current | 1 | 2 | 3 | 4 | 5 |
|------------|----|----|----|----|---------|---|---|---|---|---|
| Years CROI |    |    |    |    |         |   |   |   |   |   |
| Years ROI  |    |    |    |    |         |   |   |   |   |   |

5 Year Net Present Value

Internal Rate of Return

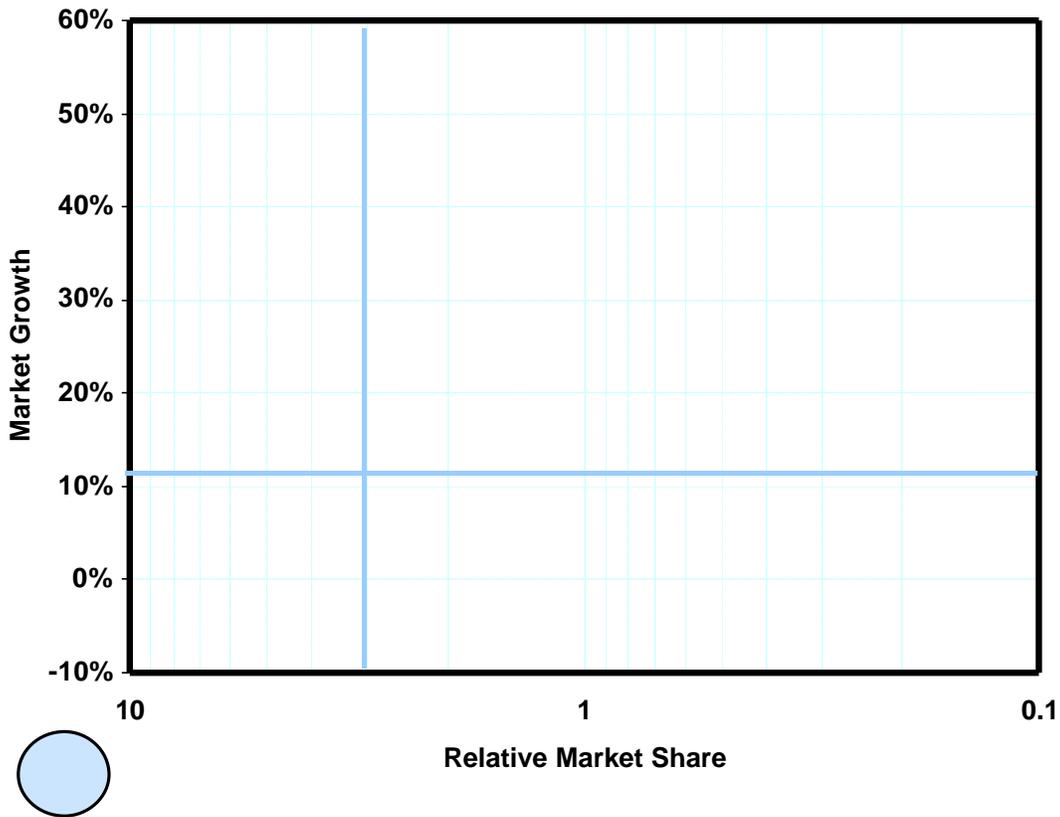
<sup>12</sup> These measures are discussed in the Venture Analysis Workbook. We suggest that you review that reference for further details. For Net Present Value calculations the current Corporate standard is a 12% discount rate.

### J. Graphical Summary

#### 1. Present Position

**How are you doing compared to your competitors? (bubble chart)<sup>13</sup>?**

The "Competitive Bubble Chart" displays the relative share, market growth, and volume on a standard chart.



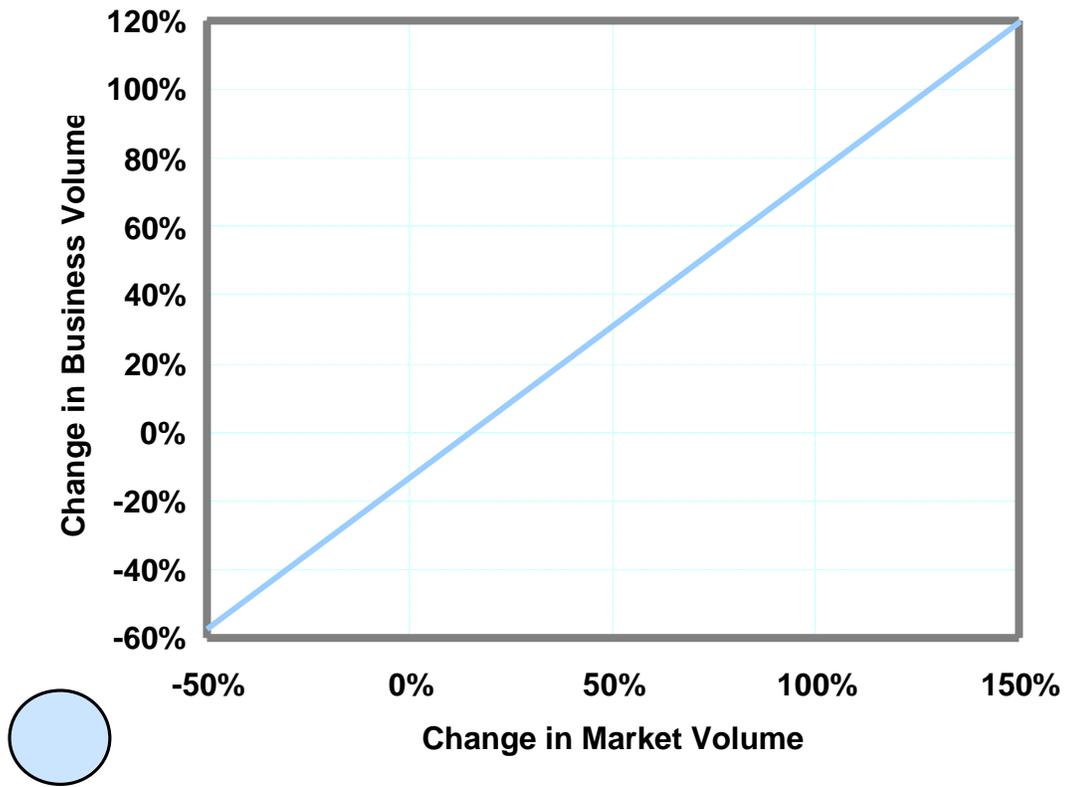
<sup>13</sup> This type of analysis is advocated by several consultant companies including Boston Consulting Group and Braxton Associates. It is derived from an older or general procedure referred as the Shell Matrix which positions competitors on coordinates representing market strength and business attractiveness. If relative share is a poor measure of market strength and/or market growth is a poor measure of attractiveness choose more appropriate measures.

**J. Graphical Summary**

**2. Momentum**

**How will the share change compared with the market?**

The "Momentum Bubble Diagram"<sup>14</sup> displays the change in volume compared to that of the market. This is done for each market. Identify competitors.



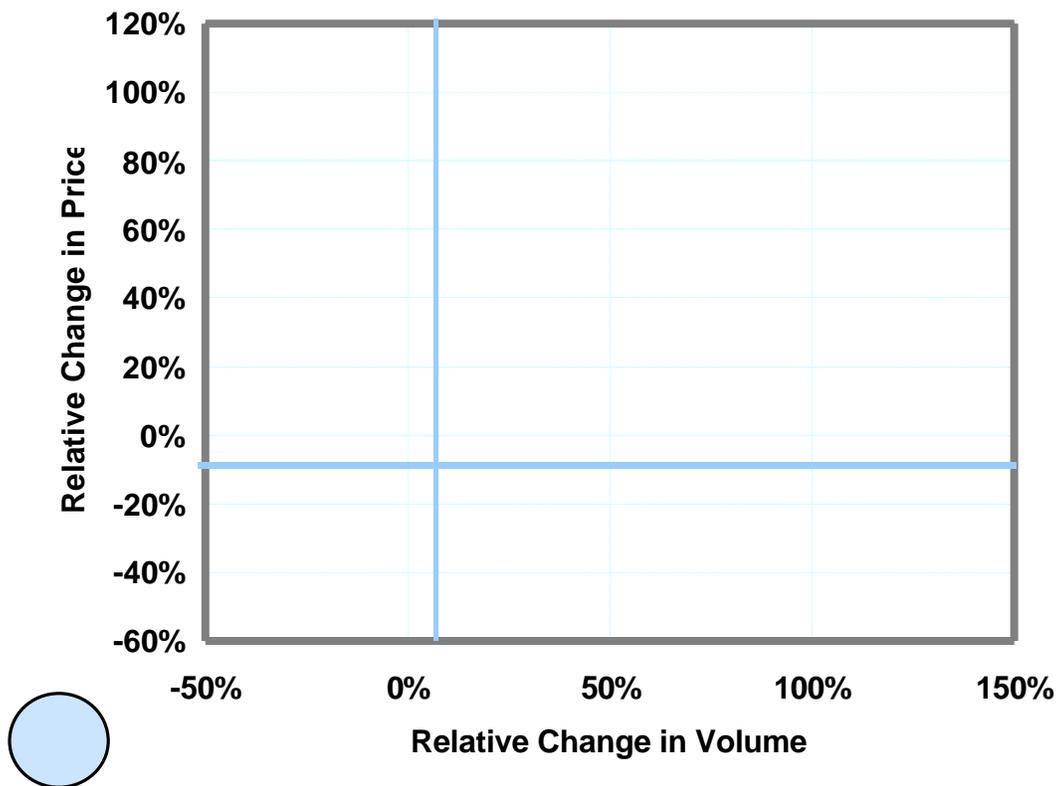
<sup>14</sup> This type of analysis is advocated by Braxton Associates. A diagonal line on this diagram separates those businesses that are growing faster than the market (above the line) from those that are trailing the market (below the line).

## J. Graphical Summary

### 3. Price/Volume Momentum

#### How has price changed compared with volume?

The "Price/Volume Momentum Bubble Diagram"<sup>15</sup> displays relative changes of volume against relative changes in price for markets.



<sup>15</sup> This type of analysis was developed by Jack Frey as a means of determining the source of volume changes. Changes in volume and price for the business are scaled against changes in the market. The purpose of this analysis is to identify if pricing policy is a source of volume change.

## **VI. ALTERNATIVE SCENARIOS AND RISK ASSESSMENT**

The previous sections focused on the expected programs and results. This section focuses on uncertainty and assessment of risk. This section you examine how confident you are in achieving those results. The next section, Section VII, considers feasible business missions, goals, and strategies.

The Risk Assessment Section is intended to quantify the uncertainty in results. It is an assessment of confidence that your organization has in its evaluation of the business. We strongly recommend that this section be completed with input from total business team.

## A. Sensitivity

### 1. Critical Issues

**What are the critical issues and concerns regarding this business?**

Critical issues represent the problems and themes that require major attention now and in the near future. Indicate the critical issues as specifically as possible. Identify the timing of the issue to be resolved and the reason for its importance.

Critical Issue

Timing

Reason

## A. Risk Assessment

### 2. Sensitivity

**What is the impact of these critical issues on long term sales and earnings?**

Indicate the potential impact of these critical issues on physical sales and earnings. Long term for this item is 5 years. Indicate the impact as either a percent change or as an increment.

Critical Issue

Impact on Sales

Impact on Earnings

## B. Alternative Scenarios

### 1. Key Events

|   |
|---|
| <p><b>What key events could materially impact this business?</b></p> <p><b>What is the likelihood of occurrence?</b></p> <p><b>What is their probable impact on earnings and sales?</b></p> <p><b>How will they be monitored?</b></p> <p>Key events refer specific measurable occurrences that could significantly impact the business. Indicate the events, their likelihood, their impact and the method by which they will be monitored.<sup>1,2</sup></p> |
|---|

| <u>Key Event</u> | <u>Likelihood</u> | <u>Impact on Sales</u> | <u>Impact on Earnings</u> | <u>Method of Monitoring</u> |
|------------------|-------------------|------------------------|---------------------------|-----------------------------|
|------------------|-------------------|------------------------|---------------------------|-----------------------------|

<sup>1</sup> Various techniques are available to combine these estimates to get an overall measure of the distribution of sales and earnings from these events. *Decision and Risk Analysis* is used widely by various organizations. Simulation often referred to as *Risk Analysis* or *Monte Carlo Analysis* can also be used to merge these estimates into a distribution of outcomes.

<sup>2</sup> This methodology is covered in the *Venture Analysis Workbook*. You may wish to review that document before considering more detailed analyses.

## B. Alternative Scenarios

### 2. Sales Forecasts

#### What is the range of probable sales?

Indicate the range of probable physical sales.<sup>3</sup> Identify the likelihood of the high and low estimate taking place.<sup>3</sup>

|               | Physical Sales |   |   |   |   |
|---------------|----------------|---|---|---|---|
| Years         | 1              | 2 | 3 | 4 | 5 |
| High Estimate |                |   |   |   |   |
| Low Estimate  |                |   |   |   |   |

<sup>3</sup> This methodology is covered in the *Operations Development* and the *Venture Analysis Workbooks*. You may wish to review that document before considering more detailed analyses.

## B. Alternative Scenarios

### 3. Earnings Forecasts

#### What is the range of probable earnings?

Indicate the range of probable after tax earnings. Identify the likelihood of the high and low estimate taking place.<sup>4</sup>

|               |  | After Tax Earnings |   |   |   |   |
|---------------|--|--------------------|---|---|---|---|
|               |  | 1                  | 2 | 3 | 4 | 5 |
| Years         |  |                    |   |   |   |   |
| High Estimate |  |                    |   |   |   |   |
| Low Estimate  |  |                    |   |   |   |   |

<sup>4</sup> This methodology is covered in the *Operations Development* and the *Venture Analysis Workbooks*. You may wish to review that document before considering more detailed analyses.

## B. Alternative Scenarios

### 4. Competitive Reaction

**What is the range of possible competitive reaction to our plans?**

Indicate what are the possible reactions of both existing and potential competitors to our plans. Identify manufacturing expansions, pricing, and marketing potential actions.

Capacity

Pricing

Marketing

Competitor 1.

Competitor 2.

Competitor 3.

Competitor 4.

### C. Risk Analysis

#### 1. Assumptions

**What are your assumptions regarding the risks involved in this business?**

Assumption

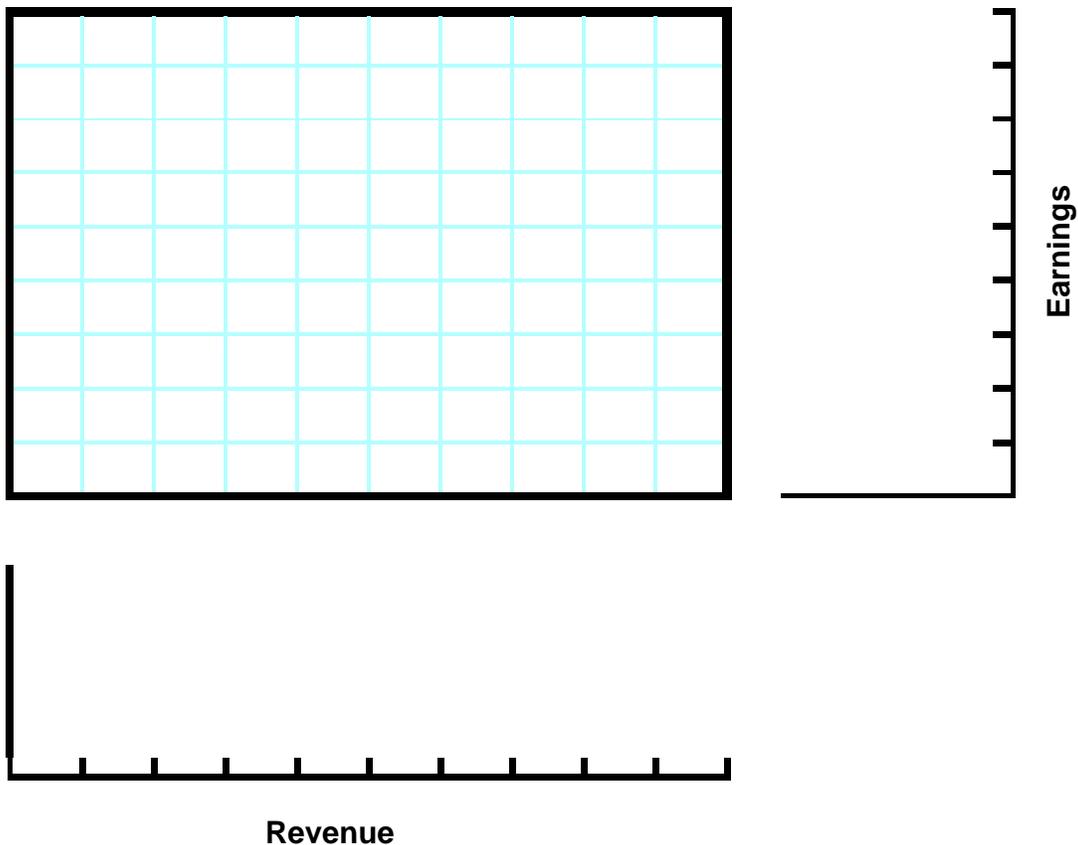
Reason

## C. Risk Analysis

### 2. Earnings and Revenue

#### How much could fifth year Earnings and Revenue vary?

The range of earnings and revenues can be shown by distributions of each and the bivariate distribution of both. The bivariate distribution is sometimes referred to as an opportunity envelope, since it represents the range of possible outcomes.<sup>5,6</sup>



<sup>5</sup> Various techniques are available to combine risk estimates to get an overall measure of the distribution of sales and earnings. *Decision and Risk Analysis* is used widely by various organizations. Simulation, often referred to as *Risk Analysis* or *Monte Carlo Analysis* can also be used to merge these estimates into a distribution of outcomes.

<sup>6</sup> This methodology is covered in the *Venture Analysis Workbook*. You may wish to review that document before considering more detailed analyses.



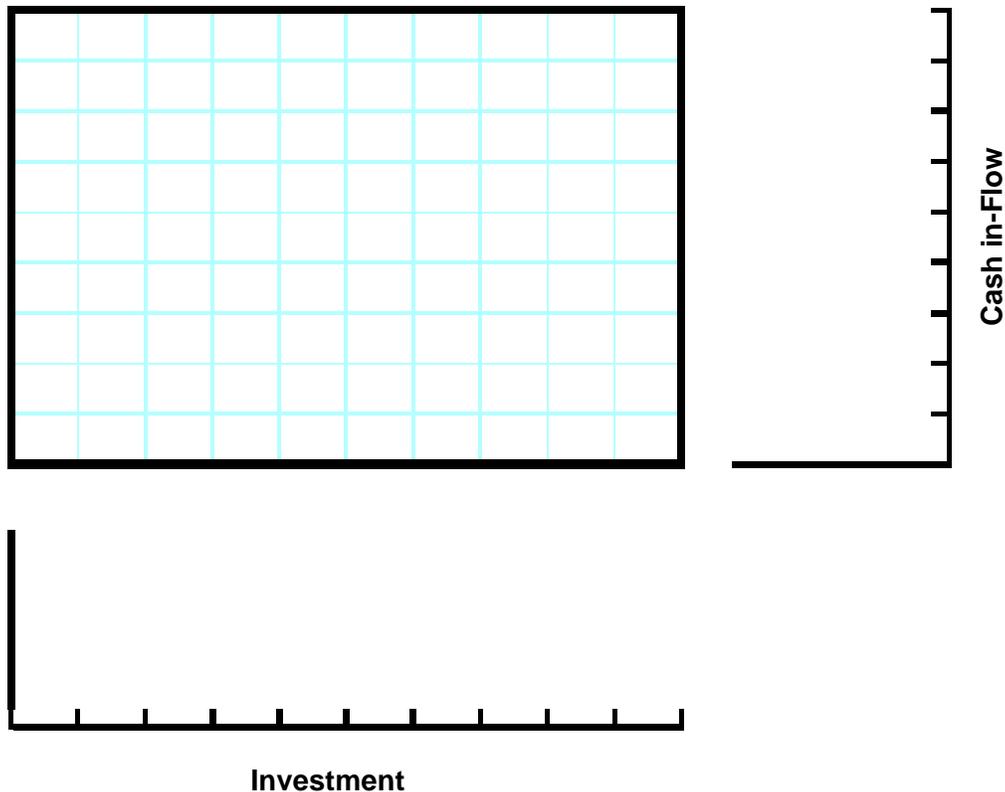
## C. Risk Analysis

### 3. Cash In-flow and Investment

**How much could fifth year Cash-In-flow and Investment vary?**

**How Cash Return on Investment vary?**

The range of cash-inflow and investment can be shown by distributions of each and the bivariate distribution of both. The bivariate distribution is sometime referred to as an opportunity envelope since it represents the range of possible outcomes.<sup>7,8</sup>



<sup>7</sup> Various techniques are available to combine risk estimates to get an overall measure of the distribution of investment and cash in-flow. *Decision and Risk Analysis* is used widely by various organizations. Simulation, often referred to as *Risk Analysis* or *Monte Carlo Analysis* can also be used to merge these estimates into a distribution of outcomes.

<sup>8</sup> This methodology is covered in the *Venture Analysis Workbook*. You may wish to review that document before considering more detailed analyses.

## C. Risk Analysis

### 4. Contingency Plans

**How are you going to react given unexpected major events occurring?**

In an ever-changing world, contingency planning allows the business to take advantage of opportunities and to minimize the effect of unfortunate occurrences. Indicate the unexpected, but significant, events that must be anticipated; the action that will be taken; and the resources that must be available to go forward.

Event

Action

Resources

## **VII. FEASIBLE BUSINESS MISSION, GOALS & STRATEGIES**

The previous section focused on uncertainty and assessment of risk. This last section of this workbook focuses on business mission and goals. In this section you are asked to summarize the programs into a consistent overall strategy and mission.

The Mission Section is intended to bring together all of the components and analyses discussed earlier in this workbook. It develops the direction of the business for which upper management support is sought. As such we strongly recommend that this section be completed with agreement from the total business team.

## A. Mission

**What is the directed mission of this business?**

**Is this feasible, given the available resources?**

**What is the "best" alternative mission for the business?**

The mission of the business is dictated by what it can do for the firm as a whole. Be specific as to the overall mission for the business. Include not only the general statement, but how it is being interpreted.<sup>1</sup>

---

<sup>1</sup> Growth businesses generally requires funds or at least should be viewed as a minimal source of capital. Maintenance businesses require significant reinvestment; however, they should be major contributors of funds. Harvest businesses are being milked; they will either die or should be sold.

**B. Goals**

**What should be the "reach goals" for this business?**

**What are realistic sales and earnings goals for the business?**

Business goals are set in terms of earnings, share, revenues, or return. Indicate what goals are being set for this business. Identify who in the organization is setting this goal and whether it is specific to this business or general over a class of businesses. Discuss under what conditions this goal is realistic or counter productive.

### C. Milestones Time Table

**What are the milestones for the ultimate goals?**

**When will you reach them?**

What are the key events or milestones during the span of this strategic plan. Indicate how we will know that each has been achieved and when it can be expected. Identify who is responsible.

Milestone

Measurement

Timing Responsibility

## D. Global Strategy

### 1. Segment Strategy

**What are key strategic items in each segment?**

**What are the milestones by segment?**

**How will you reach them?**

Indicate for each key market segment the specific strategy that will be followed in the immediate future. Identify the desired outcome or change and the approach that will be used.

Strategy

Desired Outcome

Path Forward

Segment 1.

Segment 2.

Segment 3.

Segment 4.

Segment 5.

## D. Global Strategy

### 2. Long Term Strategy

**What are key long-term action items in each segment?**

**What are the milestones by segment?**

**How will you reach them?**

Indicate for each key market segment the specific strategy that will be followed in the long term (2 to 5 years). Identify the desired outcome or change and the approach that will be used and the timing.

| <u>Strategy</u> | <u>Desired Outcome</u> | <u>Path Forward</u> | <u>Timing</u> |
|-----------------|------------------------|---------------------|---------------|
|-----------------|------------------------|---------------------|---------------|

Segment 1.

Segment 2.

Segment 3.

Segment 4.

Segment 5.

## D. Global Strategy

### 3. Geographic Strategy

**What are key strategies in each geographic region?**

**How will you allocate resources by geographic area?**

Indicate the geographic regional strategies for this business. Comment on their consistency and the need for coordination. Identify the desired outcome or change and the approach that will be used. The availability of resources can be a critical problem. Identify what shared resources are needed.

|           | <u>Strategy</u> | <u>Desired Outcome</u> | <u>Path Forward</u> | <u>Resources</u> |
|-----------|-----------------|------------------------|---------------------|------------------|
| Region 1. |                 |                        |                     |                  |
| Region 2. |                 |                        |                     |                  |
| Region 3. |                 |                        |                     |                  |
| Region 4. |                 |                        |                     |                  |
| Region 5. |                 |                        |                     |                  |

## D. Global Strategy

### 4. Grand Strategy

**What is the global approach to this business?**

**What are the priorities in allocated resources?**

Grand strategy relates to the overall approach to the business. It describes the global means by which the goals will be achieved. It is more concerned with "Winning the Peace" than winning individual product or sales battles. Indicate the strategic principles that will govern the conduct of this business. Identify which markets and geographic regions will be emphasized and the manner in which business will be conducted.

## E. Resources

### 1. Budget and Funds

**What is the distribution and level of funding necessary to successfully implement this strategy?**

Indicate required funding for all key functions for this business. Include all contractual assistance as well as internal resources. Indicate funds that may be necessary to implement contingency plans as well as those required for the business plan.

Business  
Plan

Contingency  
Plan

Manufacturing/Plant

Sales

Support

Distribution

Marketing

Technical (R&D)

Administration

Other

## E. Resources

### 2. Man-Power

**What man-power and skills are necessary to successfully implement this strategy?**

Indicate required man-power and special skills necessary for all key functions for this business. Exclude contractual assistance unless the nature of business requires inclusion.

Quantity

Skills

Manufacturing/Plant

Sales

Support

Distribution

Marketing

Technical (R&D)

Administration

Other

### 3. Marketing Resources

#### a. Sales Force

#### What sales effort is needed to successfully implement the sales program?

Indicate the sales effort that will be necessary to successfully execute the marketing program. Compare that levels with the industry standards. Average estimates for various business conditions and structures are shown below. These figures are representative averages. Real businesses typically deviate from them in some manner. Indicate the logic behind either higher or lower levels of commitment.<sup>2</sup>

MAN-POWER REQUIREMENT

TOTAL COSTS

PERCENT OF SALES

#### PIMS AVERAGE EXPENDITURE

| <u>Life Cycle Stage</u>            | <u>Sales Force/Revenue(%)</u> | <u>Sample Size</u> |
|------------------------------------|-------------------------------|--------------------|
| Introduction                       | 6.6                           | 18                 |
| Growth                             | 6.4                           | 556                |
| Mature                             | 4.9                           | 2008               |
| Decline                            | 4.7                           | 162                |
| <u>Type of Consumer Business</u>   |                               |                    |
| Durable                            | 4.8                           | 311                |
| Non-durable                        | 5.5                           | 455                |
| <u>Type of Industrial Business</u> |                               |                    |
| Capital Goods                      | 7.4                           | 431                |
| Materials                          | 2.4                           | 377                |
| Components                         | 4.5                           | 618                |
| Supplies & Consumables             | 6.7                           | 377                |
| Service & Distributors             | 4.8                           | 175                |

<sup>2</sup> The *PIMS* database consists of operational information on over 2500 businesses supplied by the companies over at least a three-year period. The participants in the *PIMS* program are usually large firms. The database is operated by the *Strategic Planning Institute, Inc.* and has been coordinated by Jack Frey, who provided this information.

### 3. Marketing Resources

#### b. Advertising & Promotion

##### **What funds are needed to successfully implement the advertising and promotional program?**

Indicate the advertising and promotional effort that will be necessary to successfully execute the marketing program. Compare that levels with the industry standards. Average estimates for various business conditions and structures are shown below. These figures are representative averages. Real businesses typically deviate from them in some manner. Indicate the logic behind either higher or lower levels of commitment.<sup>3</sup>

TOTAL COSTS

PERCENT OF SALES

| <u>PIMS AVERAGE EXPENDITURE</u>    |                                    |                    |
|------------------------------------|------------------------------------|--------------------|
| <u>Life Cycle Stage</u>            | <u>A&amp;P Expenses/Revenue(%)</u> | <u>Sample Size</u> |
| Introduction                       | 3.1                                | 18                 |
| Growth                             | 2.4                                | 556                |
| Mature                             | 2.4                                | 2008               |
| Decline                            | 1.9                                | 162                |
| <u>Type of Consumer Business</u>   |                                    |                    |
| Durable                            | 3.1                                | 311                |
| Non-durable                        | 8.6                                | 455                |
| <u>Type of Industrial Business</u> |                                    |                    |
| Capital Goods                      | 1.2                                | 431                |
| Materials                          | 0.3                                | 377                |
| Components                         | 0.6                                | 618                |
| Supplies & Consumables             | 1.1                                | 377                |
| Service & Distributors             | 1.2                                | 175                |

<sup>3</sup> The *PIMS* database consists of operational information on over 2500 businesses supplied by the companies over at least a three-year period. The participants in the *PIMS* program are usually large firms. The database is operated by the *Strategic Planning Institute, Inc.* and has been coordinated by Jack Frey, who provided this information.

### 3. Marketing Resources

#### c. Total Marketing Effort

##### **What total marketing effort is needed to successfully implement the sales effort?**

Indicate the funds that will be necessary to successfully execute the marketing program. Compare that levels with the industry standards. Average estimates for various business conditions and structures are shown below. These figures are representative averages. Real businesses typically deviate from them in some manner. Indicate the logic behind either higher or lower levels of commitment.<sup>4</sup>

#### TOTAL COSTS

#### PERCENT OF SALES

| <u>PIMS AVERAGE EXPENDITURE</u>    |                                    |                    |
|------------------------------------|------------------------------------|--------------------|
| <u>Life Cycle Stage</u>            | <u>Marketing Effort/Revenue(%)</u> | <u>Sample Size</u> |
| Introduction                       | 12.7                               | 18                 |
| Growth                             | 10.9                               | 556                |
| Mature                             | 8.8                                | 2008               |
| Decline                            | 8.2                                | 162                |
| <u>Type of Consumer Business</u>   |                                    |                    |
| Durable                            | 9.8                                | 311                |
| Non-durable                        | 15.8                               | 455                |
| <u>Type of Industrial Business</u> |                                    |                    |
| Capital Goods                      | 11.1                               | 431                |
| Materials                          | 3.5                                | 377                |
| Components                         | 6.5                                | 618                |
| Supplies & Consumables             | 9.9                                | 377                |
| Service & Distributors             | 7.0                                | 175                |

<sup>4</sup> The *PIMS* database consists of operational information on over 2500 businesses supplied by the companies over at least a three-year period. The participants in the *PIMS* program are usually large firms. The database is operated by the *Strategic Planning Institute, Inc.* and has been coordinated by Jack Frey, who provided this information.

#### 4. R&D (Technical)

##### a. Product Development

**What product R&D effort is needed to successfully implement the business development effort?**

Indicate the funds that will be necessary to successfully execute the product development effort. Compare that levels with the industry standards, if available. Average estimates for various business conditions and structures are shown below based on PIMS data. Unfortunately, the basis for these estimate differ widely from business to business and corporation to corporation. These figures are representative averages of those reported figures. Real businesses typically deviate from them in some manner. Indicate the logic behind either high or low levels of commitment.<sup>5</sup>

TOTAL COSTS

PERCENT OF SALES

| <u>PIMS AVERAGE EXPENDITURE</u>    |  |                    |
|------------------------------------|--|--------------------|
| <u>Life Cycle Stage</u>            | <u>Product R&amp;D Effort/Revenue(%)</u> | <u>Sample Size</u> |
| Introduction                       | 3.9                                      | 18                 |
| Growth                             | 2.2                                      | 556                |
| Mature                             | 1.3                                      | 2008               |
| Decline                            | 0.8                                      | 162                |
| <u>Type of Consumer Business</u>   |  |                    |
| Durable                            | 1.1                                      | 311                |
| Non-durable                        | 0.6                                      | 455                |
| <u>Type of Industrial Business</u> |  |                    |
| Capital Goods                      | 2.9                                      | 431                |
| Materials                          | 1.2                                      | 377                |
| Components                         | 1.8                                      | 618                |
| Supplies & Consumables             | 1.3                                      | 377                |
| Service & Distributors             | 0.3                                      | 175                |

<sup>5</sup> The *PIMS* data base consists of operational information on over 2500 businesses supplied by the companies over at least a three year period. The participants in the *PIMS* program are usually large firms. The data base is operated by the *Strategic Planning Institute, Inc.* and has been coordinated by Jack Frey, who provided this information.

#### 4. R&D (Technical)

##### b. Process Development

**What process R&D effort is needed to successfully implement the process development effort?**

Indicate the funds that will be necessary to successfully execute the process development effort. Compare that levels with the industry standards, if available. Average estimates for various business conditions and structures are shown below based on PIMS data. Unfortunately, the basis for these estimate differ widely from business to business and corporation to corporation. These figures are representative averages of those reported figures. Real businesses typically deviate from them in some manner. Indicate the logic behind either high or low levels of commitment.<sup>6</sup>

TOTAL COSTS

PERCENT OF SALES

| <u>PIMS AVERAGE EXPENDITURE</u>    |  |                    |
|------------------------------------|--|--------------------|
| <u>Life Cycle Stage</u>            | <u>Process R&amp;D Effort/Revenue(%)</u> | <u>Sample Size</u> |
| Introduction                       | 0.6                                      | 18                 |
| Growth                             | 0.7                                      | 556                |
| Mature                             | 0.5                                      | 2008               |
| Decline                            | 0.4                                      | 162                |
| <u>Type of Consumer Business</u>   |  |                    |
| Durable                            | 0.5                                      | 311                |
| Non-durable                        | 0.3                                      | 455                |
| <u>Type of Industrial Business</u> |  |                    |
| Capital Goods                      | 0.5                                      | 431                |
| Materials                          | 0.6                                      | 377                |
| Components                         | 0.8                                      | 618                |
| Supplies & Consumables             | 0.5                                      | 377                |
| Service & Distributors             | 0.1                                      | 175                |

<sup>6</sup> The *PIMS* database consists of operational information on over 2500 businesses supplied by the companies over at least a three-year period. The participants in the *PIMS* program are usually large firms. The database is operated by the *Strategic Planning Institute, Inc.* and has been coordinated by Jack Frey, who provided this information.

## F. Commitments

**How strongly are Divisional and Departmental Management committed to these goals, strategies, and long term funding?**

## SUMMARY

### I. BUSINESS DEFINITION

- A. PRODUCTS
- B. APPLICATIONS

### II. ENVIRONMENTAL ANALYSIS

- A. GEOGRAPHIC FRAMEWORK
- B. STRATEGIC MARKET FRAMEWORK
- C. STRATEGIC MARKET SEGMENTS
- D. COMPETITIVE ADVANTAGE
  - 1. *Customer Relations*
  - 2. *Product Performance*
  - 3. *Perceived Quality*
  - 4. *Customer Support*
  - 5. *Technology*
  - 6. *Cost Position*
  - 7. *Proprietary Position*
  - 8. *Geography*
  - 9. *Practice*

### III. THREAT AND OPPORTUNITY ASSESSMENT

- A. COMPETITIVE SEGMENTATION
  - 1. *Vulnerability Segments*
    - a. Definition
    - b. Who?
  - 2. *Opportunity Segments*
    - a. Definition
    - b. Who?
- B. WORLD-WIDE COMPETITORS
  - 1. *Functional Share*
  - 2. *In-kind Share*
  - 3. *Growth*
- C. COMPETITORS' POSITION
  - 1. *Competitor Forecasts*
  - 2. *Competitors' Advantage*
    - a. Customer Relations
    - b. Product Performance
    - c. Quality
    - d. Customer Support
    - e. Technology
    - f. Cost Position
    - g. Proprietary Position
    - h. Geography
    - i. Practice

**SUMMARY, Continued****3. Resources**

- a. Capacity
- b. Allied Products
- c. Financial
- d. Technology

**4. Competitors' Intention**

- a. Position
- b. Targets
- c. View of the Firm
- d. Pricing

**D. COMPETITOR ASSESSMENT****1. Price Response****2. Preference****E. CUSTOMER STATUS****1. Changes in Customers' Products****2. Customers' Competitive Threat****3. Changes in End-Users Products****4. End-Users Competitive Threat****F. TECHNOLOGY****1. Type****2. Impact****3. Timing****4. Substitution Curves****5. Overall Risk****G. QUALITY****1. Key Customer Expectations & Compliance**

- a. Direct Customers
- b. Other Customers & End-Users

**2. Changes in Expectations & Compliance**

- a. Direct Customers
- b. Other Customers & End-Users

**3. Improving Quality**

- a. Complaint Control
- b. Monitoring Compliance
- c. Requiring Improvement

**H. OTHER THREATS AND OPPORTUNITIES****1. Environmental****2. Legal****3. Labor****4. Other Critical Issues****IV. FEASIBLE ACTIONS****A. OFFERING STRATEGY****1. Customization**

2. *Planned Replacement*

3. *System Development*

### **SUMMARY, Continued**

#### **B. SALES PROGRAMS**

1. *Response and Conditions*

2. *Timing*

3. *New Applications*

#### **C. CUSTOMER SUPPORT STRATEGY**

1. *Customer Support*

2. *Customer Computing*

#### **D. PRICING STRATEGY**

1. *Controlled Long Term Real Price*

2. *Maintenance of Price Premium*

3. *Conditions to Meet Competitive Price*

4. *Targeting*

#### **E. MANUFACTURING STRATEGY**

1. *Grade Consolidation*

2. *New Process Development*

3. *Elimination of Low Quality*

4. *Cost Reduction*

#### **F. TECHNICAL STRATEGY**

1. *Key Technologies*

2. *Needed Inventions*

### **V. LONG TERM FORECASTS**

#### **A. SALES**

1. *Product Group*

2. *Geographic Region*

3. *Markets*

4. *Total Product Sales*

a. Forecast

b. General Sales Growth Curve

c. Econometric Model

#### **B. PRICE**

1. *Average Price*

2. *Experience Curve*

a. Curve Projection

b. Forecast

3. *Price Scaling Curve*

a. Curve Projection

b. Forecast

4. *Price Point Distribution*

#### **C. REVENUES**

#### **D. COSTS**

1. *Yield*
2. *Learning Curve*
  - a. Curve Projection
  - b. Forecast

### **SUMMARY, Continued**

3. *Scaling Curve*
  - a. Curve Projection
  - b. Forecast

#### E. TECHNOLOGIES

#### F. CAPACITY

1. *Process*
2. *Feed Stocks*

#### G. INVESTMENT

#### H. EARNINGS

#### I. PERFORMANCE

#### J. GRAPHICAL SUMMARY

1. *Present Position*
2. *Momentum*
3. *Price/Volume Momentum*

### **VI. ALTERNATIVE SCENARIOS AND RISK ASSESSMENT**

#### A. SENSITIVITY

1. *Critical Issues*
2. *Sensitivity*

#### B. ALTERNATIVE SCENARIOS

1. *Key Events*
2. *Sales Forecasts*
3. *Earnings Forecasts*
4. *Competitive Reaction*

#### C. RISK ANALYSIS

1. *Assumptions*
2. *Earnings and Revenue*
3. *Cash In-flow and Investment*
4. *Contingency Plans*

### **VII. FEASIBLE BUSINESS MISSION, GOALS & STRATEGIES**

#### A. MISSION

#### B. GOALS

#### C. MILESTONES TIME TABLE

#### D. GLOBAL STRATEGY

1. *Segment Strategy*
2. *Long Term Strategy*
3. *Geographic Strategy*
4. *Grand Strategy*

## SUMMARY, Continued

### E. RESOURCES

1. *Budget and Funds*

2. *Man-Power*

3. *Marketing Resources*

a. Sales Force

b. Advertising & Promotion

c. Total Marketing Effort

4. *R&D (Technical)*

a. Product Development

b. Process Development

### F. Commitments

## GLOSSARY

Many of the terms used in this workbook have broader definitions than are intended here. The following definitions refer to this *Competitive and Strategic Plan Workbook*.

|                              |  |
|------------------------------|--|
| <b>Cash In-Flow</b>          | Cash In-flow consists of all after-tax sources of cash to the business. It consists of earnings, depreciation, and any other charges that do not result in cash flow out of the firm, such as an oil depletion allowance.                                      |
| <b>Competitive Price</b>     | The competitive price is the price charged by the nearest functional competing product.  |
| <b>CROI</b>                  | CROI or Cash Return on Investment is the ration of the Cash In-flow to the Investment. See Cash In-flow  |
| <b>Customers</b>             | Customers consist of all individuals and organization who uses or takes possession of the offering.  |
| <b>Customer Computing</b>    | Customer computing consists of any activity by the firm to assist customers in the use of computer systems. It may include the establishment of separate systems that connect the firm with customers.   |
| <b>Customer Expectations</b> | Customer expectations consists of benefits that the customer believes are inherent to the firm's offerings.  |
| <b>Customer Support</b>      | Customer Support includes all non-sales activities with customers. Traditionally this includes any process and technical service associated with the business.   |
| <b>Discounted Cost</b>       | Discounted Cost is the price discounted for the "cost of capital". Usually the discount rate for prices is set at the Producers' Price Index.  |
| <b>Distribution Channel</b>  | The Distribution Channel consists of the specific route by which a product gets to the customer. It is a list of intermediate owners and agents who handle the product or take ownership of it.  |
| <b>Earnings</b>              | Earnings in this workbook refer to after tax earnings. ATOI (After Tax Operating Income) can be substituted for after tax earnings if it is traditionally used. ATOI consists of after tax earnings after an adjustment charge of working capital is included. |
| <b>Econometric Models</b>    | Econometric models consists of forecasting models based on macro or national economic factors. Typically it is desired to relate future sales to the present economic activities.  |

|                                   |  |
|-----------------------------------|--|
| <b>End Users</b>                  | An industrial product is often used as an intermediate in forming the ultimate product. During that process the product may lose its identify. End-User is usually the last industrial user of a product, or the ultimate consumer, or the person whose use of the product removes any identification of it.             |
| <b>Experience Curve</b>           | In this workbook, Experience Curves refer to the forecasting approach of relating price to the accumulated sales of a product. The underlying assumption is that with gained experience in the manufacture and sale of the product; the producer can afford to sell the product at decreasing price. See Learning Curve. |
| <b>Forecast</b>                   | In this workbook, Forecast refers to a series of projections of expected operations. The very nature of a forecast conveys uncertainty and risk.   |
| <b>General Sales Growth Curve</b> | The General Sales Growth Curve is successful model for describing and forecasting the physical sales growth of industrial products during their growth phase.  |
| <b>Grade Consolidation</b>        | Product Grades consists of the variations of the product sold making up the product line or product group. Grade Consolidation is the process of reducing the number of product variations being offered.  |
| <b>Indirect Customers</b>         | Indirect customers consist of all individuals who buy the product on its way to the end-user. Intermediate or direct customers are generally associated with resellers of the product rather than intermediate users or converters.  |
| <b>IRR</b>                        | IRR or Internal Rate of Return is an overall estimate of the long-term return on funds committed to the business. These funds include operating losses as well as standard investment. The Internal Rate of Return can be considered the discount rate needed to make the Net Present Value zero.                        |
| <b>Learning Curve</b>             | In this workbook, Learning Curves refer to the forecasting approach of relating cost to the accumulated production of a product. The underlying assumption is that with gained experience in the manufacture and sale of the product, the producer's cost will fall. See Experience Curve.                               |
| <b>Likelihood</b>                 | A "Likelihood" measure is a subjective estimate of the probability that an event will take place.  |
| <b>Long Term</b>                  | For this workbook, long term refers to a period of two and five years.   |

|                              |  |
|------------------------------|--|
| <b>Market Segments</b>       | Market segments are groups of customers with similar characteristics. The choice of characteristics reflects the specific objective of using the segmentation.   |
| <b>Non-standard Products</b> | Non-standard products have characteristics that deviate from goal specifications.  |
| <b>NPV</b>                   | The NPV or Net Present Value consists of a sum of the discounted cash flow. It can be either a lifetime estimate or over a fixed time period. Since the cash flow is usually discounted, the impact of future earnings has decreasing impact on the Net Present Value. The Net Present Value is dependent on the chosen discount rate (Cost of Capital). |
| <b>Opportunity Envelope</b>  | The Opportunity Envelope consists of area of probable business performance usually in terms of earnings and revenue. Formally it contains a fixed fraction (75 or 90%) of all simulated possibilities.   |
| <b>PIMS</b>                  | <i>PIMS</i> refers to a database of operating business information compiled by the <i>Strategic Planning Institute, Inc.</i> It is used as a sample population to estimate average business characteristics.   |
| <b>Product Offering</b>      | The Product or Product Offering consists of all aspects of that which the business delivers to the customer. Service and image aspects of the product as well as its physical attributes must be considered.   |
| <b>Proprietary Position</b>  | Proprietary Position, in this workbook, refers to protected information or right for use of technology and written work. Included are patents, trademarks, copyrights and trade secrets.   |
| <b>Quality</b>               | Quality in this workbook refers to meeting and exceeding of customers' expectations. Both product Quality Assurance and the more general Total Quality Management function are included in the Quality activity. See Total Quality Management.   |
| <b>Real Price</b>            | Real or Discounted Price is the price discounted for the "cost of capital". Usually the discount rate for prices is set at the Producers' Price Index.   |
| <b>ROI</b>                   | ROI, Return on Investment calculations are a set of ratios of earnings to various definitions of investment. They track the profitability of the business.   |
| <b>Scale</b>                 | Scale, in this workbook, refers to the reduction in price and cost with increased manufactured and sold volume.  |

**Substitution Curves**

Substitution curves are based on the logistics or symmetric "S" shaped curves describing the substitution of technologies. This model has been fairly successful in describing the rate at which one technology replaces another.

**Yield**

Yield is the ratio of acceptable product to that which could have been produced with the raw materials used.