CHAPTER 2  STRATEGIC PLANNING AND THE MANAGEMENT OF DESIGN FIRMS.

2.1 INTRODUCTION

To survive and grow, any business organization must be able both to effectively supply a product or a service in the market and to adapt to changes in its environment. These changes can result from both internal and external forces affecting the organization and are of special importance when the firm is competing with other organizations. The function of strategic planning is to position the firm so that it is able to compete with other firms on an equal or superior footing while taking advantage of opportunities and avoiding threats from its environment.

There is no universally accepted method of strategic planning; it is a complex activity that is usually structured in a series of logical steps designed to allocate the resources of the organization. Strategic planning becomes particularly important when the firm's business is highly competitive, when the environment is hostile, or when either the business or its environment are changing rapidly.

The practice of design generally is among the more competitive of professions. The textbook conditions for a highly competitive business include a large number of suppliers of the goods or service, low barriers to entry and exit, etc. (see Chapter 3). These conditions typically are satisfied for many forms of design practice. Accordingly, the production decision is made at the point where marginal cost equals marginal revenue. This means that in the long term, there are no excess profits beyond a fair return on the invested capital of the firm. If the firm is able to exact a higher price for its services or reduce its costs, then excess (or economic) profits exist and will continue to exist until its competitors are able to initiate similar changes in their businesses. As a result, a competitive firm must follow a continual process of improving its operations, developing its services, and monitoring the activities of the other participants in the market if it is not to fall behind its competitors.

A firm must be alert to changing conditions as they affect technological, regulatory, economic, social, and demographic factors underlying its business. For some design firms, the changing conditions of style, as an element of fashion, also may be important. This is especially true if the firm is engaged in monopolistic competition and has the element of “design” as its distinctive competence. By constant surveillance of its environment, a firm can anticipate and respond to changes in such a way that it is positioned not only to survive, but also to take advantage of the new conditions. In this way, planning is an active and continual process that endeavors to place the firm in a profitable niche in contrast to “knee-jerk” or passive reactions that often are associated with unsuccessful organizations.

There are limitations to strategic planning. The possibility exists that planning is seen as a panacea for all of the firm’s problems, leading to the formation of a management bureaucracy, stifling creativity and becoming an end in itself. Planning must not be seen as an activity that is isolated from the other systems of the organization. Further, there is a risk that the “grand design” of the firm could be replaced by logical incrementalism; that is, the systematized process of analysis may produce a structure of fragmented strategies that do not yield a rational “grand design” for all of the firm (assuming that this is desirable or even necessary). Finally, formal planning may prevent the firm from responding to opportunities if they are unplanned and spontaneous.

1. Monopolistic competition is discussed in Chapter Three. A monopolistic competitor is one whose market/practice combines elements of both monopoly and competition. Its monopoly position is secured by name recognition and advertising. Most signature design firms are monopolistic competitors (competing only against each other in many situations).
2.2 VALUE MAXIMIZATION AND GROWTH

Effective strategic planning utilizes the resources of the organization to their optimum levels and in doing so, maximizes the long-term value of the firm. This is the primary and overriding goal of all strategic planning. However, the value of the firm must not be construed to mean only its monetary or economic value. For a design firm there are many satisfying goals in addition to maximizing profits and are related to aesthetic and socio-cultural conditions as well as considerations of personal satisfaction, etc. These goals are not measured easily in economic terms, so they are difficult to evaluate in a quantifiable context but can be very important in determining the direction of a firm.

In a purely business sense, management should be concerned primarily with maximizing the economic value of the firm in terms of the interests of its owners. However, a responsible professional should be concerned with maximizing the value of the firm to all of the diverse stakeholders associated with the firm and its buildings.

Webster’s Dictionary defines value as:

“The worth, merit, usefulness, or importance of a thing; as, the value of an education; material or monetary worth, as in a business; the worth of a thing as measured by the amount of other things for which it can be exchanged...”;

and in its sociological meaning, “value” is:

“the qualities, customs, standards, and principles of a people regarded as desirable.”

All of these definitions may be appropriate and applicable to the values of a design firm. The role of the firm’s managers is to integrate the economic and socio/cultural values of firm into their decisions. An added problem is that of the externalities (external results) that occur as a result of those decisions and the firm’s operations. Design is a social endeavor in that the artifacts that are designed (such as buildings) are enjoyed by all of society, so the value of an design firm must include some realization of the social value of the firm’s artifacts/buildings (past, present, and future). Further, strategic planning must reflect the values of the firm’s employees, as well as its owners, considering their personal aspirations, talents, and abilities as well as their economic needs. In doing so, strategic planning encompasses organizational culture.

Why Maximize Value?

If a firm is being operated ineffectively, then its (and society's) resources are being wasted. The economic value of the firm will be reduced and its contributions to society will be fewer, with the associated social costs of such things as badly designed buildings, depressed and unmotivated employees, or even layoffs in periods of economic downturn, etc. Firms that do not maximize value in the long term will fail eventually because they fail to compete effectively.

Associated with the primary goal of value maximization is the need for the growth of the organization. To have any value at all, a firm must survive. This is the minimum condition. If a firm does not survive, then at some point its value is the abandonment value of its assets less its liabilities. For some design firms, failure might be desirable socially; but for others who have made significant contributions to the aesthetic environment, failure has a high social cost.

If a firm only survives and does not grow, then its economic value will be less than firms that experience positive growth. The life cycle of a firm typically has four stages: initiation, growth and development (high-positive growth), maturity (zero growth), and decline (negative growth).1 This does not mean that every firm must decline, although the evidence suggests otherwise, because few design firms have lasted more than one hundred years. However, the phases of maturity and decline can be postponed, and the development phase of positive growth can be extended, through effective strategic planning.

A simple example will demonstrate the importance of growth to the value of a firm. Assume that the firm generates a net cash flow of $100,000 in the current period, the discount rate or required rate of return is ten percent, and the “life” of the firm is infinite and growth is continuous but at a constant rate.

1. The growth and life cycle of the firm will be discussed in greater detail in Chapter 5.
The value of the firm was determined using a simple valuation formula developed for valuing the common stock of corporations (Gordon Growth Formula):

\[ P_o = \frac{d_1}{k - g} \]

*Equation 2.1*

where:

- \( P_o \) is the expected price or market value
- \( d_1 \) is the dividend or net cash flow from the firm
- \( k \) is the discount rate or required rate of return on investments of this risk
- \( g \) is the real growth rate of the firm.

It should be realized that a firm cannot, and will not grow at a continuously compounding rate for an extended period of time, and certainly not for an infinite period of time. Economic cycles alone will ensure that growth is erratic. The major limitation to a firm's growth is the ability of management to position the firm for success over time; that is, its competence in strategic planning and the ability to implement those plans.

While this simple example demonstrates the economic effect of growth, there are many other benefits of growth in a business. For example, attracting and retaining good employees is facilitated when there are opportunities for advancement and responsibility. If a firm is not growing, then promotion occurs only at the rate of "attrition" at higher levels in the firm's hierarchy. Advancement will be slower in mature firms than in firms that are experiencing growth. Firms that are in the mature phase, or are declining, often will lose their most motivated employees first as they seek advancement elsewhere. This will hasten the decline since these employees also tend to be the most productive.

### 2.3 LONG-RANGE PLANNING

The previous section suggested that a firm should plan for its future success over a long period of time. Long-range planning was introduced in the 1950s as a response to the unprecedented opportunities of the post-World War II boom. It involved efforts by organizations to develop programs and budgets for planning horizons of incremental periods (for example, five years) and was a “bottom-up” process, with lower-level managers preparing budgets for their resource needs based upon forecasts of sales over the planning period. These budgets then were integrated into corporate plans by managers at higher levels. While this type of planning is limited by the few dynamic forces captured in the process, it does reflect the importance of an extended time horizon for operational and investment decisions.

While a firm should plan for its immediate future, it must be noted that many competitive and environmental forces can require a long lead time for the firm to understand, to prepare, and to adjust its operations. To plan effectively for these forces, a firm must have sufficient advance notice to have the opportunity to adapt its operations to the new conditions. For example, consider an architectural firm that developed an expertise in the design of hospitals and captured a significant portion of hospital commissions. If the firm was oblivious to the potential for increasing costs of medical services, restriction on payments by insurance companies, and federal regulations that require substantial improvements in hospital efficiency; it may not see that the market for hospital design either is changing, or is about to change. To counteract these changing conditions, the firm has a variety of possibilities ranging from developing improved and more efficient hospitals, entering new markets, etc.; but all of the possible courses of action will take time to develop the necessary expertise and to implement.

The key to effective strategic planning (in both long range and short term horizons) is to anticipate changes that may occur and instead of asking, “What is changing?” to ask “What if it changes?” Such a pro-active approach enables the firm to develop a strategic plan for probable situations (contingency planning).
2.4 PROCESS OF STRATEGIC PLANNING

The actual techniques of strategic planning that a firm uses will depend upon a diverse range of factors, but all effective planning tends to follow a formal approach that works systematically from establishing goals, identifying the strengths and weaknesses of the organization, discovering opportunities and threats, formulating objectives, and developing strategies to achieve the objectives. A final phase of tactical planning endeavors to implement strategies with short-term tactics. Figure 2.1 illustrates the elements of a formal strategic planning process.

As the firm’s internal and external environments are changing constantly, the strategic planning process must be ongoing. This does not mean that the firm continually is rewriting its mission and inventing new goals, but rather it should be scanning its internal and external environment for new opportunities, threats, strengths and weaknesses. This is essential for its continued survival. Similarly, the firm must evaluate its specific actions on an ongoing basis, determining whether they are appropriate and effective responses to its strategic plans and for the environmental conditions it is experiencing.

**Figure 2.1 Strategic Planning and Management Process**

- **Mission Statement**
  - The planning process begins with defining the mission of the organization. This is a statement of the overall business direction and determines the nature of the firm's goals and objectives. The mission statement should include:
    a. A specification of how the firm will value its resources, operations, and the artifacts produced as a result of its services;
    b. An expression of the degree of excellence the firm wants to achieve in its resources, operations, and artifacts;
c. A statement of the current business as:
   i. type of service to be offered
   ii. broad market categories served including geographic coverage, types of projects, client types, etc.;

d. A statement of the future business in terms of the overall purpose of the organization. This statement should be sufficiently broad to allow for a variety of future possibilities that may be introduced by unforeseen trends;

e. A statement of how the firm wants to pursue its future business in terms of the degree of leadership or competitive advantage/market share objectives.

### Determining Goals And Objectives

Every firm needs a “destination,” a defined position that it can strive to attain at some point in the future. This destination is described by the goals of the firm and usually is accompanied by a set of measurable objectives so that the firm can monitor its progress. For a design firm, one goal might be stated as recognition for the quality of design work. The measurable objective might be, for example, to have two projects published per year in Progressive Architecture, Axis etc.

The planning process is directed to formulating strategies to accomplish the firm’s objectives. In the example above, one strategy might be to recruit a talented young designer. The implementation of the strategy (or tactic) is achieved by a series of steps (or actions). For example, a search for qualified candidates could be undertaken, the organizational structure of the firm could be modified to provide an environment conducive to a design emphasis, etc. Finally, the firm's progress toward the goals/objectives must be reviewed and evaluated so that corrective action can be taken, or the goals modified if they are inappropriate.

The role of management should be to assist the other people in the firm to achieve the goals by planning, organizing, scheduling, controlling, and evaluating the firm's activities. The task begins with setting goals that are appropriate and relevant. Goals do not have to be oriented to the “bottom-line” performance of the firm; but, nonetheless, the very first step in setting goals should be a consideration of profit. Profit should not be considered as a leftover or residual that remains after all expenses are paid. Profit is essential for growth and survival and is a summary measure of the overall health of the firm. The question that must be addressed in establishing goals is: How much profit is right? This may be addressed indirectly by determining whether the firm is to be a “plan factory” or a design studio. The owners/managers of the firm should each review his or her own motivation for being in business, philosophy, and desired standard of living to determine the degree of emphasis that will be placed upon performance and profitability; ranging from profit maximization to not-for-profit. Consensus between the owner/managers on the role that profit will play in the firm's operations is critical for successful relationships among the firm's members. Thereafter, the function of management is to ensure that the stated profit level is attained and the firm remains in a healthy state.

Generally, goals should be high minded, ideal and, perhaps, not attainable\(^1\) so the firm will always have something for which to strive. Further, they should be general, relating to all areas of the firm and operating as a unifying force that gives a common purpose or mission. On the other hand, objectives should be what the firm really can achieve, not what the firm could do if..... It is important to realize that objectives should reflect what the firm could achieve if additional resources were introduced into the firm beyond those already available. However, those additional resources should be realistic, reasonably accessible to the firm, and can be obtained if desired. Objectives should be specific and focused on performance, covering such issues as how much, by when, etc. They should be observable, have measurable value (but not necessarily economic value), be intrinsically rewarding to the achiever and to the firm. If the members of the firm are involved actively in setting objectives, then they will be more committed to achieving them. Progress toward the objectives should be measured and recorded at regular intervals (e.g., monthly), and they should be reviewed and updated at regular intervals (e.g., annually).

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\(^1\) This should not be construed to mean that the goal is irrelevant because it is unattainable. Goals should relate to the firm’s vision and mission and should establish the primary direction(s) of the firm.
Figure 2.2  Examples of Goals (G) and Objectives (O) for a design firm:

<table>
<thead>
<tr>
<th>No.</th>
<th>Goal/Objective</th>
<th>Priority</th>
<th>Date Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>G-2</td>
<td>Attract the best client base possible with projects that will challenge and stimulate the staff while emphasizing the strengths of our multi-disciplinary firm.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>O-5</td>
<td>Create and cultivate an “early warning” intelligence network to identify potential leads and specific clients within the firm’s primary and natural geographic markets</td>
<td>Urgent</td>
<td>2</td>
</tr>
<tr>
<td>O-6</td>
<td>Define the “value” of the firm’s services and better communicate it to potential clients (news-letter, brochure, etc.)</td>
<td>Immediate</td>
<td>4</td>
</tr>
<tr>
<td>O-7</td>
<td>Actively pursue three times the income volume objective for the firm in order to ensure constant income, work, staff</td>
<td>Overtime</td>
<td></td>
</tr>
<tr>
<td>G-4</td>
<td>Continue to build a high-quality and competent staff through development of current staff and effective recruitment.</td>
<td>Urgent</td>
<td>2</td>
</tr>
<tr>
<td>O-11</td>
<td>Define and communicate internal growth opportunities, key roles, and structural organization with the firm.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>O-12</td>
<td>Develop and implement an effective six-month, two-way performance-evaluation program for all staff.</td>
<td>Immediate</td>
<td>3</td>
</tr>
<tr>
<td>O-13</td>
<td>Develop a realistic strategy to develop and provide adequate and competent staff at all positions vis-a-vis the organization chart.</td>
<td>Overtime</td>
<td></td>
</tr>
<tr>
<td>O-14</td>
<td>Continue to encourage active interest in the firm, its well-being, and how each one of us can contribute through the sharing of information by the firm and encouraging questions through organized and impromptu discussions.</td>
<td>Overtime</td>
<td></td>
</tr>
</tbody>
</table>

Internal Environment Of The Firm

An analysis of the internal environment is performed to discover the firm’s inherent strengths and weaknesses. In some situations it may also reveal the firm’s distinctive competence; that is, those strengths that identify the unique abilities of the firm and separate it from the competition. Strengths and weaknesses can be determined by a critical evaluation of the past performance of the firm and its current competitive position. All of the important factors that have contributed to the firm’s recent successes and failures should be identified and assessed as to their current and future relevance. The analysis should also determine the untapped potential in the firm and the unrealized weaknesses that could cause problems in the future if conditions were to change.

A firm’s primary strengths may become weaknesses if conditions were to change in the future. For example, if the firm is highly specialized in one geographic area (i.e., Houston, Denver, etc.) or in one type of market (i.e., exhibit design or the design of schools or housing for the elderly, etc.), then although it would possess the strength of highly specialized knowledge, it would also be susceptible to any changes that might affect its specialty. For example, changes in demography could cause dramatic changes in the construction of schools, while economic forces could have similar...
effects on specific geographic areas. The analysis of strengths and weaknesses should consider all aspects of the firm, including its human, physical, financial, and technological resources as well as its management competence, communications, marketing, and production/operational efficiency.

Figure 2.3 Examples of Strengths and Weaknesses for a design firm:

Strengths
a. Good geographic coverage through sales offices in the five major cities in the marketing area;
b. On-staff experts in energy-conservation applications, or in any “hot” new area in design services;
c. An experienced estimating department with a 95-percent accuracy rate;
d. Repeat business in the 70-to-80-percent range.

Weaknesses
a. High staff turnover at the associate and project-manager levels;
b. A repeat-client rate of less than 25 percent;
c. No staff experience in a growing project type;
d. No written marketing plan.

External Environment Of The Firm

The analysis of the firm’s external environment is the most difficult part of the process as the firm endeavors to discover the non-controllable or exogenous forces that may affect its well-being (either positively or negatively) in the future. This task becomes much more difficult the longer the planning horizon, because the future becomes more uncertain the further ahead one looks. An assessment of future conditions for a period of three years ahead will tend to be far more certain, or likely to occur than an assessment for a period of five or eight years, for example. However, it is possible to include this lack of certainty into the planning process using probability-based techniques, or realistic/best/worst-case scenarios.

Further, the diverse range of factors that can influence a firm’s environment is so broad and so complex that any reliable estimation is often impossible and tantamount to “crystal ball gazing.” However, for some factors, qualitative and/or quantitative estimation is practicable. For example, demographic changes are predictable to a large degree with known birth, death, and migration rates so that demographic cohorts (proportion of a population in a given segment) such as age, sex, etc., both now and in the future, can be known with a high degree of certainty simply by extrapolating current conditions. An analysis of such “known” population characteristics can be very helpful in determining market trends that influence a firm’s work. Other conditions arising from economic, technological, political, and social trends often are far less certain because they are influenced by a multitude of factors and any extrapolation must be viewed with skepticism. Despite the lack of confidence in predictions of this type, the strategic planning process should still make explicit recognition of their potential impact on the firm since some consideration is better than none at all and crisis management.

An “advanced” analysis of the firm’s external environment begins with the formation of an economic scenario and includes such variables as economic growth (Gross National Product), inflation and interest rates, employment, population growth by demographic region and demographic segment, growth of disposable income, growth of key industrial sectors, analysis of important social and political trends, and an examination of international conditions. Forecasts of these variables are available from professional services and government agencies such as the US Department of Commerce. These economic forecasts are complex, often “black-box” in nature, and should be treated cautiously, even by professional managers and planners.
The economic analysis is related to the firm’s primary businesses and used to develop detailed projections for each industry that generates commissions, where appropriate. For example, for an architectural firm all of the above factors can have a profound effect on the retailing industry. This, in turn, will affect the volume of new construction and rehabilitation work for architects involved in the design of retailing facilities. Determining the sensitivities of a particular industry to major economic variables is a key problem and is discussed further in Chapter 10 on Forecasting and Economic Cycles.

External environmental analysis should also consider the impact of technological change and the availability of people who have the capability of addressing new technologies. For professional service organizations such as design firms, the supply of trained and competent people continues to be the primary constraint on strategic planning and repositioning of the firm to take advantage of technological change.

Figure 2.4 Examples of Opportunities and Threats for a design firm:

Opportunities
a. A new government funding program that enables the firm to recycle staff experience from other projects;
b. A newly won project or client in a distant growth market gives the firm the chance to open a branch office from which to market its services;
c. The brother of the managing partner is elected governor of the state.

Threats
a. A continuing increase in commercial interest rates;
b. High unemployment in the marketing area;
c. A sharp rise in lawsuits from clients;
d. Actions of the firm's competitors.

2.5 FORMULATING STRATEGIES

The process of strategic planning has as its primary objective the formulation of courses of action to take advantage of environmental opportunities, to build upon existing strengths, to avoid threats from the external environment, and to eliminate weaknesses. These courses of action are guided by and are in accordance with the mission and goals of the organization. Strategies tend to have two or more different planning horizons: short-term or immediate strategies to eliminate quickly specific (and usually) major problems that were discovered during the analytical phase, and longer term strategies to reposition the firm in a broad sense with respect to its market and operations.

Strategies that a firm can follow tend to fall into one of four categories, and a firm's strategic response or course of action in each category can range from aggressive to gradual action depending on the commitment of resources by the firm. These categories are:

1. Develop existing business;
2. Maintain existing business;
3. Withdraw from existing business;
4. Discover and enter new business.
Develop Existing Business

A firm may choose a strategy of developing one of its existing lines of business if it believes that there are sufficient advantages to having increases in that business as a part of its operations. For example, if the business is growing rapidly and is in an early stage of its life cycle with substantial future opportunities, then a firm may allocate resources to expanding its operations aggressively and thereby obtain a larger share of the market. Development strategies also can include reducing the cost of providing goods or services to the market by more efficient management of the firm's resources.

Maintain Existing Business

A firm may choose a strategy of maintaining an existing business if it has a strong position and the future for that business, although not strong, is still attractive. In this situation, the firm's goal generally is to exploit the business situation by maximizing profits by providing satisfactory services, usually with the minimum (or low-cost) of resources.

Withdraw From Existing Business

If the “bottom line” is the primary motivator, then a firm should withdraw from an existing business when it no longer sees the opportunity for future profits. Generally, the business will be declining as a result of irreversible conditions associated with the fundamental nature of the business (often arising from changes in the underlying market demand), or the firm's cost structure will be such that it can no longer compete effectively. In this situation, the firm should divest (sell off) or liquidate the business. Alternatively, the firm may choose to remain in the business if it is motivated by other than non-monetary reasons. It will either subsidize its participation by using profits from other operations or begin to decline as its resources are drained by inefficient operations.

Discover And Enter A New Business/market

In this situation the firm will perceive business opportunities that result from developing new products/services or entering new markets with its existing services/products, or both. Opportunities arise from needs that currently are not satisfied. They usually are discovered when the firm undertakes analysis of its existing markets to discover what additional services are demanded but not supplied, or examines other markets to see if its current services (or a variation of its services) can be supplied to meet existing unsatisfied needs. One method of determining new opportunities is to use a segmentation approach to demographic data and match user needs of specific target groups (e.g. Yuppies) with what is currently supplied/offered to that market group (market niche).

RESOURCE ALLOCATION AND BUDGETING

The next phase of the strategic planning process is to determine and budget the resource needs of the firm for achieving its strategies. This involves:

- Determining the timing and resource requirements of each strategy;
- Ascertaining whether strategies are related as prerequisites or co-requisites;
- Prioritizing the strategies as to their importance to the future survival and growth of the firm;
- Determining the economic requirements and developing funding arrangements for the strategies in terms of:
  - tangible assets (including people, equipment etc.);
  - working capital requirement;
  - expenses of research and development, marketing, management, etc.;
- Establishing control mechanisms to monitor and measure the implementation and performance of each strategy.
2.6 TOOLS FOR STRATEGIC PLANNING

Many of the tools and techniques for strategic planning were developed in the 1960s and 1970s by the Boston Consulting Group (BCG). While there is a tendency to associate these approaches with firms engaged in productive enterprises, they may be equally relevant to service-oriented professional organizations. The BCG techniques consider the firm to be a portfolio of separate and distinct businesses that contribute to the overall success or failure of a firm. The strategic development of these independent business units usually can be considered separately from the firm and from each other. The portfolio approach also can be applied to design firms if the firm’s operations can be organized into distinct segments. For an architectural firm, these segments might be related to geographic region, type of building (school, apartment, office), type of client, and type of service. There are several techniques available for analyzing the portfolios of business that can comprise the firm. These are: Growth-Share Matrix; Business Strength Matrix; and Life-Cycle Approach.

Growth-share Matrix

The individual business segments are plotted on a matrix of four quadrants (as shown in Figure 2.5) by evaluating each business in terms of its relative market share (representing the firm’s relative strength in that business) and the market growth rate (representing the relative attractiveness of the specific business). It should be noted that this two-dimensional matrix reflects only two attributes of a very complex business situation. There obviously are many more factors that should enter into the strategic planning decision. For example, consideration should be given not only to market share and market growth but also to such issues as the degree of competition (measured by the ease of entry and exit of competitors into the business), the possibility of “price wars” etc., the potential for profits and future market growth, the level of variability in sales in the business segment, as well as a vast array of non-monetary costs and benefits that may influence the decision. However, the method is a useful tool both for preliminary analysis and systematizing the decision process.

Each business operated by the firm is plotted as a circle in the matrix, with the area of each circle being proportional to the total volume of sales ($) or net operating income generated by that business.

<table>
<thead>
<tr>
<th>Market Growth Rate</th>
<th>Cash Generation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Embryonic and growing markets</td>
<td>High</td>
</tr>
<tr>
<td>Mature or declining markets</td>
<td>Low</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Relative Market Share</th>
<th>Star</th>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>Small</td>
<td>0.1</td>
<td></td>
</tr>
</tbody>
</table>

Figure 2.5 Growth Share Matrix for a Hypothetical Firm in 199x

Market Growth Rate = (Total Market 199x - Total Market 199x-1) / Firm Sales in Market in 199x-1

Relative Market Share = Firm’s Sales in Business in 199x / Leading Competitor’s Sales in 199x

The higher the market growth rate, the more attractive that market is because the firm can enter and penetrate the market without the substantial adverse competitive effects that would occur if the market were stable (mature) or declining.
The relative market share measures the relative strength of the firm in competing in that business. A higher market share implies that the higher volume of sales will provide opportunities for cost reductions by the firm as it gains experience and is able to systematize the design/production process. This in turn leads to higher profitability.

Determining the size and nature of the individual markets that are to be considered may be difficult. For example, the nature of a particular business or market may determine the extent of the market, so the definition of the market segment may be crucial to the analysis. In a city such as Cincinnati, for example, the market for the design of apartment buildings is fairly localized with very few intrusions by firms from outside the immediate area, except when projects are large or prestigious. The market for speculative Class-B office buildings tends to be regional, while the market for large Class-A office buildings in the central business district tends to be national, with competition for commissions from such firms as Skidmore, Owings and Merrill (Chicago), and Kohn, Pedersen, Fox (New York).1

To determine whether a firm’s market share is indicative of strength or weakness in the specific market requires knowledge of the base level of fragmentation in the market, the ease of entry and exit of competitors, etc. The “cut-off” value of 1.0 has been assigned arbitrarily to the diagram, and it should be noted that the level should be defined properly as the relative market share that allows a firm to enjoy a significant competitive advantage because of its dominance over other firms.

The cash flow implications of the growth-share-matrix technique also are illustrated in Figure 2.5. Each quadrant has distinctive cash flow generation and investment characteristics that enable each business to be identified as either a “cash cow,” “star,” “question mark,” or “dog.” The cash cows are the primary sources of cash because the firm enjoys a very strong competitive position in a mature or declining market, and the cash generated by the business considerably exceeds the investment needs for that business.

A star is a highly attractive business that is in the embryonic or growth stage and in which the firm has established a strong market share. These businesses both consume and generate large quantities of cash as the firms must reinvest their profits if they are to continue to dominate or maintain their positions.

The question marks represent businesses that have been untapped by the firm. They are attractive opportunities because of their high growth rates but require significant investment by the firm if it is to develop a strong position in the market. Strategic planning plays a key role in identifying these businesses and selecting among them so that the firm’s strengths are used optimally and resources are not employed to compete when the firm is prepared inadequately.

A dog is a business that is a “cash trap” for the firm. Additional investment is wasted, and any cash that it generates generally is needed for reinvestment. These businesses should be divested as soon as practicable if there are no other reasons to maintain them.

The growth-share matrix can assist in identifying the strengths and weaknesses of the firm, indicating both the capacity of each business to generate cash and its requirements for additional investment to fund further growth and development, and suggesting strategic alternatives for the planning process. Thus, by transferring resources from highly profitable operations that have limited potential for future growth, eliminating businesses that drain resources from the firm (without having the potential for future profits), and reinvesting the resources in businesses that have excellent prospects for continued growth and profit, a firm is able to maintain its overall growth and profitability.2

Extensions of the growth-share matrix include measuring the changes in the matrix over a period of time to observe the firm’s response to market share and growth. Alternatively, the dynamics of the firm’s operations also can be plotted using a time-frame approach.

---

1. Similar limitations may apply to the markets of other types of design professionals.
2. It should be noted that this does not imply that the only source of funds for a firm is the retention of earnings from operations. However, all methods of raising additional finance depend upon the firm’s ability to generate income from its operations in the long term.
Criticisms of the BCG Growth-Share Matrix technique include issues of nomenclature (cash cows, dogs, etc.) that are “vulgar and destructive,” problems of market definition, the validity of (and reliance upon) indicators of market strength and opportunity, and even challenges to the underlying premises of the model (including the relationships assumed to exist between growth and profits, portfolios balanced only in terms of cash flow generation and investment, etc.). For example, reliance on the growth-share technique to eliminate a “dog” at a business cycle peak could mean that a valuable business is eliminated because its cash-generation cycle could be correlated negatively with the economic cycle.

Industry Attractiveness: Business Strength Matrix

An extension of the BCG growth-share matrix was developed by General Electric in the early 1970s. The GE approach uses a similar matrix but includes many more factors to describe the attractiveness of the business or industry and the strength of the firm in that business, thereby avoiding the problems inherent in single predictors. The approach identifies critical success factors related to both internal and external conditions and then classifies each business of the firm into a nine-square grid with two dimensions for industry attractiveness and business strength and three quality ratings (for each dimension). The success factors are considered with respect to both current and future conditions so that potential opportunities are captured by the model. The factors include:

<table>
<thead>
<tr>
<th>INTERNAL FACTORS</th>
<th>EXTERNAL FACTORS</th>
</tr>
</thead>
<tbody>
<tr>
<td>(controllable by the firm)</td>
<td>(uncontrollable by the firm)</td>
</tr>
<tr>
<td>Market Share</td>
<td>Market Size</td>
</tr>
<tr>
<td>Sales Force/Marketing</td>
<td>Market Growth Rate</td>
</tr>
<tr>
<td>Customer Service</td>
<td>Cyclically of Business</td>
</tr>
<tr>
<td>Research and Development</td>
<td>Competitive Structure</td>
</tr>
<tr>
<td>Specialized Knowledge</td>
<td>Barriers to Entry</td>
</tr>
<tr>
<td>Production</td>
<td>Profitability of Business</td>
</tr>
<tr>
<td>Financial Resources</td>
<td>Technology</td>
</tr>
<tr>
<td>Human Resources</td>
<td>Inflation</td>
</tr>
<tr>
<td>Image</td>
<td>Regulation (Political/Legal Issues)</td>
</tr>
<tr>
<td>Breadth of Product/Service Line</td>
<td>Manpower Availability</td>
</tr>
<tr>
<td>Quality/Reliability of Service</td>
<td>Social Issues</td>
</tr>
<tr>
<td>Managerial Competence</td>
<td>Environmental Issues</td>
</tr>
</tbody>
</table>

It should be noted that this is not an exhaustive list and each firm should determine the factors relevant to its own operations. Because these factors generally are the same as those addressed in the analysis of internal and external environments during strategic planning, the GE approach can be integrated easily into a systematized planning process.

The GE approach involves eight steps:

i. Define the critical internal and external factors;
ii. Assess the external factors as they pertain to the firm and the attractiveness of the business;
iii. Assess the internal condition of the firm with respect to its competitive advantage/disadvantage;
iv. Establish the current position of each business in the matrix;
v. Forecast trends for each external factor
vi. Develop the desired level of each internal factor;
vii. Establish the desired position of each business in the matrix;
viii. Develop strategies to move the business from its current position to its desired position by building on strengths and neutralizing weaknesses (internal conditions) while avoiding negative trends and taking advantage of positive external environmental conditions.

Some extensions of this technique weight the factors to obtain a weighted score for the attractiveness of the business/industry and strength of the firm in the particular business; however, the weighting process may cloud the issues with an implied objectivity that is usually inherent in any subjective process of assigning weights.
Life Cycle Approach

This approach stems from the knowledge that the sales volume derived from a specific product or service business generally tends to follow a predictable path: from initiation of the market demand, through growth and maturity, to a decline as it is replaced in turn by other market demands. Within this four-stage life cycle there are corresponding implications for cash flow and profits (see Figure 2.6); and, accordingly, life cycles of business can have a profound influence on the strategic planning process.

Figure 2.6 Life Cycle Approach to Sales, Cash-flow, and Profits.

The life cycle varies in length for different types of businesses. Those that arise from temporary social trends (fashions and fads) or high technology (with rapid innovation) will be short-lived, while those business that are generated by well-founded demands of a growing population will last much longer.

A firm needs to know the current stage of the life cycle that a particular business is in because the level of competition (and therefore profitability) tends to be directly related to the life cycle stage. For example, if a business is at the initiation or embryonic stage, then a firm often can obtain a substantial market share easily by acquiring the necessary resources before other firms have realized that a new market exists. It should be stressed that this is also the stage with the greatest level of risk, and the potential for losses is high if the life cycle is very short and the growth rate is low. Firms entering the market at this stage often must develop the specialized knowledge to serve or meet the needs of the market without knowing with certainty whether the return on the investment will provide sufficient compensation to offset the costs of entry. During the growth stage, the potential of the market becomes both more certain and more visible so that other firms begin to enter the market. These new entrants may have lower investments because of the possibility of transfer of knowledge and/or skilled personnel from the existing firms, but they generally must work harder to develop a share of the market because the existing firms have established their reputations already. In the mature phase, the market is visible to all firms and the costs of entry are relatively low, so competition increases. During this phase, sales will increase to a maximum and begin to decline as the market is saturated. This phase also will be identified with decreasing profits as firms engage in competitive practices to reduce the overall level of profits. Finally, in the last phase the market will decline further and profits will decrease to the level where firms are lucky to make a fair return on the invested resources.

The smooth curvilinear progress of the life cycle that is illustrated in Figure 2.6 may be misleading because the levels of sales, cash flow, and profit may vary erratically as the business responds to economic cycles and other influencing factors. As a result, it may be very difficult to determine the current status of the life cycle of a given business. In addi-
tion, a business may evolve or change over time, even abruptly with the influence of new technology or changes in fashions so that the life cycle may undergo further growth when the product or service is in the mature or declining stage.

There are a number of factors which can be used to determine the life cycle stage. These factors are:

i. Market growth rate;
ii. Market growth potential;
iii. Breadth of products/services;
iv. Number of competitors;
v. Distribution of market shares;
vi. Customer loyalty;
vii. Existence of barriers to entry;
viii. Level and change of technology.

For example, a business in its formative stage may be characterized by rapid changes in technology, fast growth of the market with new customers being pursued actively, and fragmented and changing market shares.

The life cycle approach also considers a firm to be a portfolio of businesses and develops a matrix with dimensions for the life cycle stage and the competitive position of the firm. The strategic positioning (in terms of market share, investment needs, and profitability) developed from this matrix is illustrated in Table 2.1.
Table 2.1  Strategic Positioning Using the Life Cycle Portfolio Matrix
2.7 EVALUATING THE ECONOMIC IMPACT OF A STRATEGIC PLAN

The introduction of this chapter observed that the primary goal of an organization is to maximize its value. Without a lengthy discussion of the many diverse aspects of value that are perceived by the different stakeholders in the design process, it is impossible to determine adequately the value generated by a particular strategic decision. This section will limit the evaluation of a strategic decision to its immediately measurable economic impacts, but it should be stressed that the impact of a decision can be, and usually is, more extensive than that which is measured by “bottom line” performance. The valuation equation is shown below (Equation 2.1) using a discounted-cash-flow framework which is discussed further in Chapter 19. It is the basis for all economic decisions involving future cash flows.

\[
V = \sum_{t=0}^{n} \frac{(\tilde{R}_t - \tilde{C}_t)(1 - r) + r \tilde{D}_t}{(1 + k)^t} - IO
\]

where:
- \(V\) is the expected value of the strategy
- \(n\) is the expected duration of the effects of the strategy
- \(\tilde{R}_t\) is the change in expected revenue in period \(t\) resulting from the strategy
- \(\tilde{C}_t\) is the change in expenses in period \(t\) resulting from the strategy
- \(\tilde{D}_t\) is the change in the expected depreciation deduction
- \(r\) is the marginal tax rate of the firm's owner
- \(k\) is the discount rate appropriate for the level of risk and the cost of financing the strategy.
- \(IO\) is the initial outlay to implement the strategy

There are, of course, many problems in assessing the relative effects of a strategic decision on the revenue, expenses and depreciation of a firm. As every strategic decision will have some effect on the value of the organization, then every decision will affect the variables of the valuation equation in some form or other. The problem is compounded because these variables are not constant through time (for example, life cycle effects on revenue) and are subject to uncertainty as well because they occur in the future. In addition, the discount rate used is very sensitive and plays a major role in determining whether a particular strategy should be followed. In Equation 2.1, the discount rate includes the relative costs of debt and equity, as well as the level of risk, and can be very difficult to measure accurately. However, before one concludes that any economic analysis is meaningless, it should be stated that some analysis is probably better than none at all. Further, the process stimulates an understanding of the underlying assumptions and the critical factors that can influence the final outcome of a strategy so that the decision to pursue a particular strategy is more informed and, therefore, more likely to be successful.
Rothschild Design was founded in 1970, primarily to design fixtures and equipment for specialized buildings such as retail and medical facilities. Over a period of several years, the nature of the firm's work gradually changed to include an increasing amount of interior design projects. These projects usually were for large law and accounting firms, although other professional service companies also were frequent clients. By the early 1980s the firm had grown to 25 people and occupied the top floor of a warehouse that had been converted to offices. Leslie Rothschild retired in 1982; and although he remained on the Executive Committee, the day-to-day operation of the firm was handed over to Chris Rothschild, his eldest son and a graduate of Princeton University's architecture program.

The influence of the change in management was apparent almost immediately. By 1983 the firm had changed from a partnership to a corporation and had undertaken an aggressive effort to market the firm into several new areas. These areas were: retail design (especially automotive showrooms and computer companies) and high-priced housing for upper-middle-income clients. The firm's staff was increased by three people to handle marketing and client contact, and three architects with housing and retail design experience were added.

The firm was restructured so that there were four divisions: furniture and equipment design, retail, housing, and other clients, each handled by a director who was responsible for the overall design direction of the division as well as managing the employees and workload. The marketing and client contact team was placed under the control of Susan Martin, an accountant with four years experience in the firm.

For several years the new divisions were very successful, but by 1986 there were some indications of problems. The first sign came when a client of the housing group sued the firm for professional negligence and breach of contract. A house designed and constructed in 1985 had cracked extensively, and the stucco exterior wall treatment had deteriorated badly. The first problem was traced to the foundations that, although properly designed, had not been constructed in accordance with the working drawings. The second problem was related to insufficient site supervision but was also a result of poor application techniques and the presence of iron in the sand used in the stucco mix. Rothschild settled out of court for an undisclosed sum and were informed later by their insurance company of substantial increases in their premium.

The following year four talented employees resigned and started their own firm, and for the first year the firm did not make a profit. There were complaints throughout all levels of the company when bonuses were cancelled and salary increases for the coming year were reduced or even eliminated for the lower ranking employees.

Chris Rothschild believed that increasing competition from three other companies largely was responsible for the firm's difficulties in obtaining commissions and ordered that the marketing team become more aggressive. At the same time, their budget was reduced by twenty percent to reflect the new “belt-tightening” plans in effect for the following year. By the next year it was obvious that the new plans had failed; and the firm was experiencing major problems, not only in getting commissions but also in retaining its best employees.

In a special meeting in April 1988, the members of the firm aired their grievances: “We can't keep on going like this,” argued Lou Brown, the director of the housing group. “Most of our projects are unprofitable. The small additions and rehabs that we do take a lot of time to design and supervise. We have to do them to keep the clients happy because most of our future projects come from their referrals. If we let the junior staff do these projects, they usually make a lot of mistakes anyway and upset the clients.”

“How about the big projects like the apartments and condominiums,” asked Susan Martin. “The big jobs should have big profits, I guess,” answered Lou, “but they are all for developers, so there's not much glory. No one wants to work on them. We usually have trouble keeping the teams together for the duration of the project and practically every sheet of the working drawings is redrawn several times because the projects go over budget.”
Similar concerns were aired by the other three groups, and by the end of the meeting it was agreed that the firm had to reorganize its production capabilities. For example, there was no standardized method of operation. Although many employees had suggested that the firm needed manuals for project management, documentation, standard design details, etc., there had been no effort to undertake the work. Most projects proceeded on an ad-hoc basis with designers learning from each other, usually by referring to earlier projects.

The operations of the firm were monitored by a computerized accounting system operated by Susan Martin’s team. Although it was difficult to obtain time-sheets, etc., from the employees, the system was valuable in showing where problems were occurring. However, the directors of each group were reluctant to use the information to keep abreast of the progress in their areas of responsibility. The assignment of work and employees was a matter of negotiation among the directors. It depended on who was available, who had relevant experience, and who worked best with whom.

“Overall, the firm is a mess,” Susan Martin complained to her associates. “There’s no organization that makes sense when it can’t produce a decent set of drawings at a reasonable cost. I’d be hopeful if we could find even one satisfied employee, let alone one who could specialize at one skill for more than a month.”

Suddenly, at the end of 1988, Chris Rothschild resigned from the firm and went to San Francisco. The meeting of the Board of Directors was gloomy. Leslie Rothschild was reluctant to take the initiative the way he had in the past, and finally Susan Martin took control. “If we are only going to sit around and complain, we might as well go home now and call it quits,” she said. “Frankly, the firm is in bad shape. We all know that; but it’s still salvageable. Our big problems right now are in design and production because our costs are too high for us to compete effectively with other firms. As I see it, the firm needs to develop a strategy to overcome these problems. We have enough cash available to do a few things that could really help out.” By the end of the meeting, Susan Martin had been appointed managing director and was charged with the responsibility of developing a strategic plan for the next two to three years.

In 1989 the Rothschild Design Company began the process of strategic planning. Susan Martin studied closely the operations of its three major competitors and determined that there would have to be a three-pronged attack on the production problem. First, there needed to be a system of allocating personnel to the appropriate projects, maintaining their contributions and rewarding outstanding performance. Second, each group would have to assist in developing manuals for operations, production, etc. Third, the firm must make a major commitment to integrating computers into the firm’s production/documentation process. If these strategies were not undertaken immediately, the firm would not be able to compete effectively as its costs would be substantially higher than its competitors. She decided to focus her initial efforts on developing a cost-benefit analysis of the strategies.

The firm currently employs 25 architects and draftsmen in production/documentation. The firm operates on a profit-center basis where each department is expected to cover its own costs, the allocated overhead, and an appropriate portion of the firm’s overall profit using a multiplier on hourly salary amounts of 2:8. Martin estimated that three computer workstations could be employed to reduce much of the repetitive drafting of details, plans, etc., and could save a total of 12,000 “man”-hours per year, or six employees, (once the computers are fully operational) at all levels of the firm. The current average hourly wage is approximately $21.00, including holidays and benefits, etc. For the sake of simplicity, assume that all amounts are constant and do not need to be increased for inflation, etc.

The computer workstations and the necessary software licenses will cost approximately $45,000 each and are expected to last five years before they are technically obsolete. Assume that the workstations will be depreciated over the five-year period at a straight-line rate, so every year one fifth of the initial purchase price is the depreciation for that period. In addition, three employees must be retrained at a total cost of $25,000 for a three-week seminar in Chicago. Martin’s discussions with the other firms had suggested that the initial productivity gains from the computers will be very limited for the first twelve months and only about fifty percent of the employees’ time will be billable during this period; thereafter 100 percent will be billable. This means that the labor savings from the computers will be in effect fully only in the second and later years. Her discussions also revealed that these employees would have to be compensated at a higher rate if they were not to be lured away to other firms. This would increase the average hourly wage to about $25.00 (including holidays and benefits, etc.), assuming 2,000 hours per year for each employee.
You should assume that the marginal tax rate of the firm is 40 percent and the discount rate is 14 percent (refer to the attached chart of discount factors). Evaluate the economic impact of the strategy over a five-year horizon, carefully outlining your assumptions. Discuss which assumptions are critical, and then review what other factors must be considered in the decision.