Product Portfolio

The **business portfolio** is the collection of businesses and products that make up the company. The best business portfolio is one that fits the company's strengths and helps exploit the most attractive opportunities.

The company must:

(1) Analyse its current business portfolio and decide which businesses should receive more or less investment, and

(2) Develop growth strategies for adding new products and businesses to the portfolio, whilst at the same time deciding when products and businesses should no longer be retained.

The two best-known portfolio planning methods are from the Boston Consulting Group (the subject of this revision note) and by General Electric/Shell. In each method, the first step is to identify the various Strategic Business Units ("SBUs") in a company portfolio. An SBU is a unit of the company that has a separate mission and objectives and that can be planned independently from the other businesses. An SBU can be a company division, a product line or even individual brands - it all depends on how the company is organized.

The Boston Consulting Group Matrix/Box ("BCG Matrix/Box")

Using the BCG Box, a company classifies all its SBU's according to two dimensions:

On the horizontal axis: relative market share - this serves as a measure of SBU strength in the market

On the vertical axis: market growth rate - this provides a measure of market attractiveness

By dividing the matrix into four areas, four types of SBU can be distinguished:

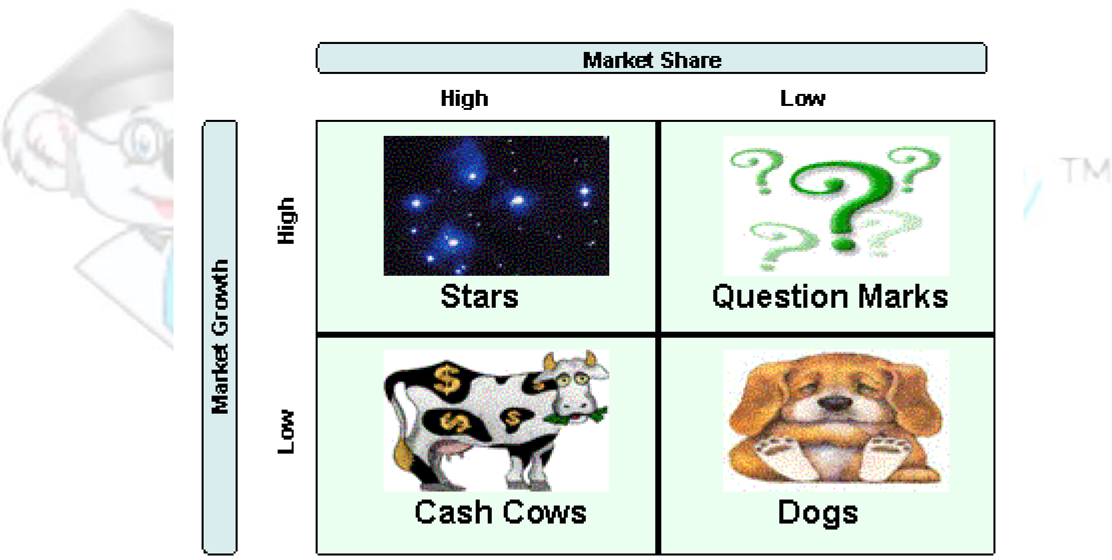
Stars - Stars are high growth businesses or products competing in markets where they are relatively strong compared with the competition. Often they need heavy investment to sustain their growth. Eventually their growth will slow and, assuming they maintain their relative market share, will become cash cows.

Cash Cows - Cash cows are low-growth businesses or products with a relatively high market share. These are mature, successful businesses with relatively little need for investment. They need to be managed for continued profit - so that they continue to generate the strong cash flows that the company needs for its Stars.

Question marks - Question marks are businesses or products with low market share but which operate in higher growth markets. This suggests that they have potential, but may require substantial investment in order to grow market share at the expense of more powerful competitors. Management have to think hard about "question marks" - which ones should they invest in? Which ones should they allow to fail or shrink?

Dogs - Unsurprisingly, the term "dogs" refers to businesses or products that have low relative share in unattractive, low-growth markets. Dogs may generate enough cash to break-even, but they are rarely, if ever, worth investing in.

The Boston Consulting Group Matrix/Box ("BCG Matrix/Box")



Using the BCG Box to determine strategy

Once a company has classified its SBUs, it must decide what to do with them. In the diagram above, the company has one large cash cow (the size of the circle is proportional to the SBU's sales), a large dog and two, smaller stars and question marks.

Conventional strategic thinking suggests there are four possible strategies for each SBU:

(1) Build Share: here the company can invest to increase market share (for example turning a "question mark" into a star)

(2) Hold: here the company invests just enough to keep the SBU in its present position

(3) Harvest: here the company reduces the amount of investment in order to maximize the short-term cash flows and profits from the SBU. This may have the effect of turning Stars into Cash Cows.

(4) Divest: the company can divest the SBU by phasing it out or selling it - in order to use the resources elsewhere (e.g. investing in the more promising "question marks").

Portfolio Matrix and Product Life Cycle

The product portfolio matrix approach propounded by the Boston Consulting Group may be related to the product life cycle by letting the introduction stage begin in the question mark quadrant; growth starts toward the end of this quadrant and continues well into the star quadrant. Going down from the star to the cash cow quadrant, the maturity stage begins. Decline is positioned between the cash cow and the dog quadrants. Ideally, a company should enter the product/market segment in its introduction stage, gain market share in the growth stage, attain a position of dominance when the product/market segment enters its maturity stage, maintain this dominant position until the product/ market segment enters its decline stage, and then determine the optimum point for liquidation.

Unbalanced portfolios may be classified into four types:

1. Too many losers (due to inadequate cash flow, inadequate profits, and inadequate growth).

2. Too many question marks (due to inadequate cash flow and inadequate profits).

3. Too many profit producers (due to inadequate growth and excessive cash flow).

4. Too many developing winners (due to excessive cash demands, excessive demands on management, and unstable growth and profits).

Let us consider one company having just one cash cow, three question marks, and no stars. Thus, the cash base of the company is inadequate and cannot support the question marks. The company may allocate available cash among all question marks in equal proportion. Dogs may also be given occasional cash nourishment. If the company continues its current strategy, it may find itself in a dangerous position in five years, particularly when the cash cow moves closer to becoming a dog. To take corrective action, the company must face the fact that it cannot support all its question marks. It must choose one or maybe two of its three question marks and fund them adequately to make them stars. In addition, disbursement of cash in dogs should be totally prohibited. In brief, the strategic choice for the company, considered in portfolio terms, is obvious. It cannot fund all question marks and dogs equally. The portfolio matrix focuses on the real fundamentals of businesses and their relationships to each other within the portfolio. It is not possible to develop effective strategy in a multi-product, multi-market company without considering the mutual relationships of different businesses.

The portfolio matrix approach provides for the simultaneous comparison of different products. It also underlines the importance of cash flow as a strategic variable. Thus, when continuous long-term growth in earnings is the objective, it is necessary to identify high-growth product/market segments early, develop businesses, and pre-empt the growth in these segments. If necessary, short-term profitability in these segments may be forgone to ensure achievement of the dominant share. Costs must be managed to meet scale-effect standards. The appropriate point at which to shift from an earnings focus to a cash flow focus must be determined and a liquidation plan for cash flow maximization established. A cash-balanced mix of businesses should be maintained. Many companies worldwide have used the portfolio matrix approach in their strategic planning. The first companies to use this approach were the Norton Company, Mead, Borg-Warner, Eaton, and Monsanto. Since then, virtually all large corporations have reported following it. The portfolio matrix approach, however, is not a panacea for strategy development. In reality, many difficulties limit the workability of this approach. Some potential mistakes associated with the portfolio matrix concept are

1. Over-investing in low-growth segments (lack of objectivity and “hard” analysis).

2. Under-investing in high-growth segments (lack of guts).

3. Misjudging the segment growth rate (poor market research).

4. Not achieving market share (because of improper market strategy, sales capabilities, or promotion).

5. Losing cost effectiveness (lack of operating talent and control system).

6. Not uncovering emerging high-growth segments (lack of corporate development effort).

7. Unbalanced business mix (lack of planning and financial resources).

Thus, the portfolio matrix approach should be used with great care.

Multifactor Portfolio Matrix

The two-factor portfolio matrix discussed above provides a useful approach for reviewing the roles of different products in a company. However, the growth rate-relative market share matrix approach leads to many difficulties. At times, factors other than market share and growth rate bear heavily on cash flow, the mainstay of this approach. Some managers may consider return on investment a more suitable criterion than cash flow for making investment decisions. Further, the two-factor portfolio matrix approach does not address major investment decisions between dissimilar businesses. These difficulties can lead a company into too many traps and errors. For this reason, many companies (such as GE and the Shell Group) have developed the multifactor portfolio approach. It is worthwhile to mention that the development of a multifactor matrix may not be as easy as it appears. The actual analysis required may take a considerable amount of foresight and experience and many, many days of work. The major difficulties lie in identifying relevant factors, relating factors to industry attractiveness and business strengths, and weighing the factors.

Strategy Development: The area of the circle refers to the business's sales. Investment priority is given to products in the high area (upper left), where a stronger position is supported by the attractiveness of an industry. Along the diagonal, selectivity is desired to achieve a balanced earnings performance. The businesses in the low area (lower right) are the candidates for harvesting and divestment. A company may position its products or businesses on the matrix to study its present standing. Forecasts may be made to examine the directions different businesses may go in the future, assuming no changes are made in strategy. Future perspectives may be compared to the corporate mission to identify gaps between what is desired and what may be expected if no measures are taken now. Filling the gap requires making strategic moves for different businesses. Once strategic alternatives for an individual business have been identified, the final choice of a strategy should be based on the scope of the overall corporation vis-à-vis the matrix.

For example, the prospects for a business along the diagonal may appear good, but this business cannot be funded in preference to a business in the high-high cell. In devising future strategy, a company generally likes to have a few businesses on the left to provide growth and to furnish potential for investment and a few on the right to generate cash for investment in the former. The businesses along the diagonal may be selectively supported (based on resources) for relocation on the left. For an individual business, there can be four strategy options: investing to maintain, investing to grow, investing to regain, and investing to exit. The choice of a strategy depends on the current position of the business in the matrix (i.e., toward the high side, along the diagonal, or toward the low side) and its future direction, assuming the current strategic perspective continues to be followed. If the future appears unpromising, a new strategy for the business is called for. Analysis of present position on the matrix may not pose any problem. At GE, for example, there was little disagreement on the position of the business. The mapping of future direction, however, may not be easy. A rigorous analysis must be performed, taking into account environmental shifts, competitors' perspectives, and internal strengths and weaknesses. Strategy to maintain the current position may be adopted if, in the absence of a new strategy, erosion is expected in the future. Investment will be sought to hold the position; hence, the name invest-to-maintain strategy. The second option is the invest-to-grow strategy. Here, the product's current position is perceived as less than optimum vis-à-vis industry attractiveness and business strengths. In other words, considering the opportunities furnished by the industry and the strengths exhibited by the business, the current position is considered inadequate.

A growth strategy is adopted with the aim of shifting the product position upward or toward the left. Movement in both directions is an expensive option with high risk. The invest-to-regain strategy is an attempt to rebuild the product or business to its previous position. Usually, when the environment (i.e., industry) continues to be relatively attractive but the business position has slipped because of some strategic past mistake (e.g., premature harvesting), the company may decide to revitalize the business through new investments. The fourth and final option, the invest-to-exit strategy, is directed toward leaving the market through harvesting or divesting. Harvesting amounts to making very low investments in the business so that in the short run the business will secure positive cash flow and in a few years die out. (With no new investments, the position will continue to deteriorate.) Alternatively, the whole business may be divested, that is, sold to another party in a one-time deal. Sometimes small investments may be made to maintain the viability of business if divestment is desired but there is no immediate suitor. In this way the business can eventually be sold at a higher price than would have been possible right away.

Unit of Analysis:

The framework discussed here may be applied to either a product/market or an SBU. As a matter of fact, it may be equally applicable to a much higher level of aggregation in the organization, such as a division or a group. Of course, at the group or division level, it may be very difficult to measure industry attractiveness and business strengths unless the group or division happens to be in one business. In the scheme followed in this article, the analysis may be performed first at the SBU level to determine the strategic perspective of different products/ markets. Finally, all SBUs may be simultaneously positioned on the matrix to determine a corporate-wide portfolio.

The General Electric Model

McKinsey & Co prepared the nine boxes for General Electric, which became popular and is better known as **GE Business Screen or GE Strategic Business Planning Grid.** This model is very similar to the BCG matrix in the sense that the vertical axis represents industry attractiveness and the horizontal axis represents the company's strength in the industry or business position. These parameters are necessary in the sense that any company's success depends on the extent of ease and promptness it enters attractive markets and has the required business strengths to succeed in those markets. One difference from BCG matrix is that the GE approach considers more than just market growth rate and relative market share in order to determine market attractiveness and business strength. The industry attractiveness index is made up of such factors as market size, market growth, industry profit margin, amount of competition, seasonal and cyclical nature of demand, and industry cost structure. Business strength is an index of factors like relative market share, price, competitiveness, product quality, customer and market knowledge, sales effectiveness, and geographic advantages.

Factors that affect Market Attractiveness

Whilst any assessment of market attractiveness is necessarily subjective, there are several factors which can help determine attractiveness. These are listed below:

- Market Size
- Market growth
- Market profitability
- Pricing trends
- Competitive intensity / rivalry
- Overall risk of returns in the industry
- Opportunity to differentiate products and services
- Segmentation
- Distribution structure (e.g. retail, direct, wholesale)

Factors that affect Competitive Strength

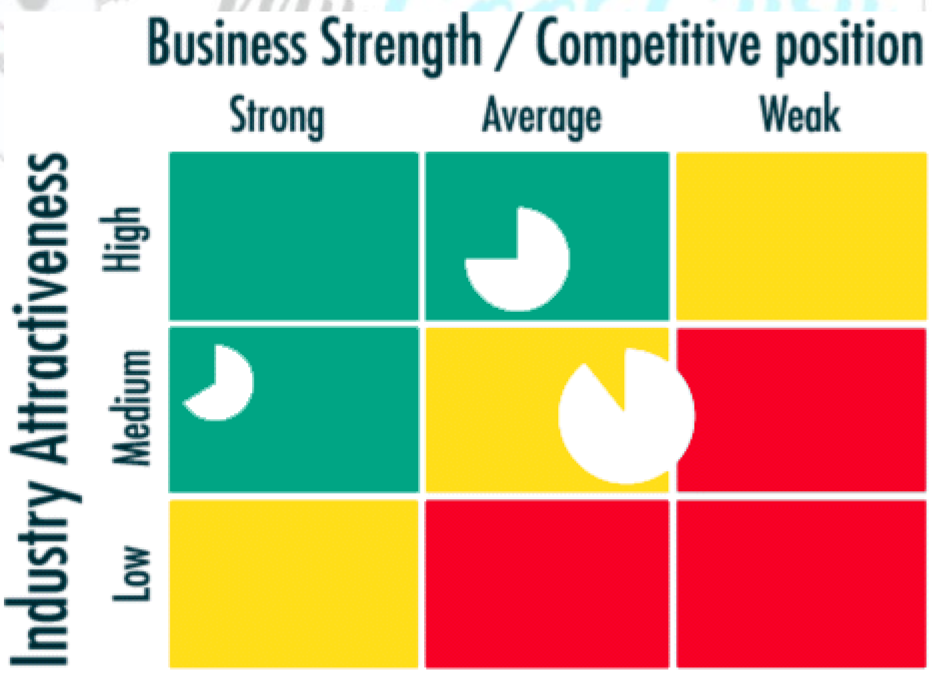
- Strength of assets and competencies
- Relative brand strength
- Market share
- Customer loyalty
- Relative cost position (cost structure compared with competitors)
- Distribution strength
- Record of technological or other innovation
- Access to financial and other investment resources

GE matrix is divided into 9 cells, which form 3 zones.

- The most desirable SBUs are those located in the highly attractive industries where the company has high business strength. Strategically, the SBUs located in the 3 green cells in the upper-left corner are those in which the company should **invest and grow**.

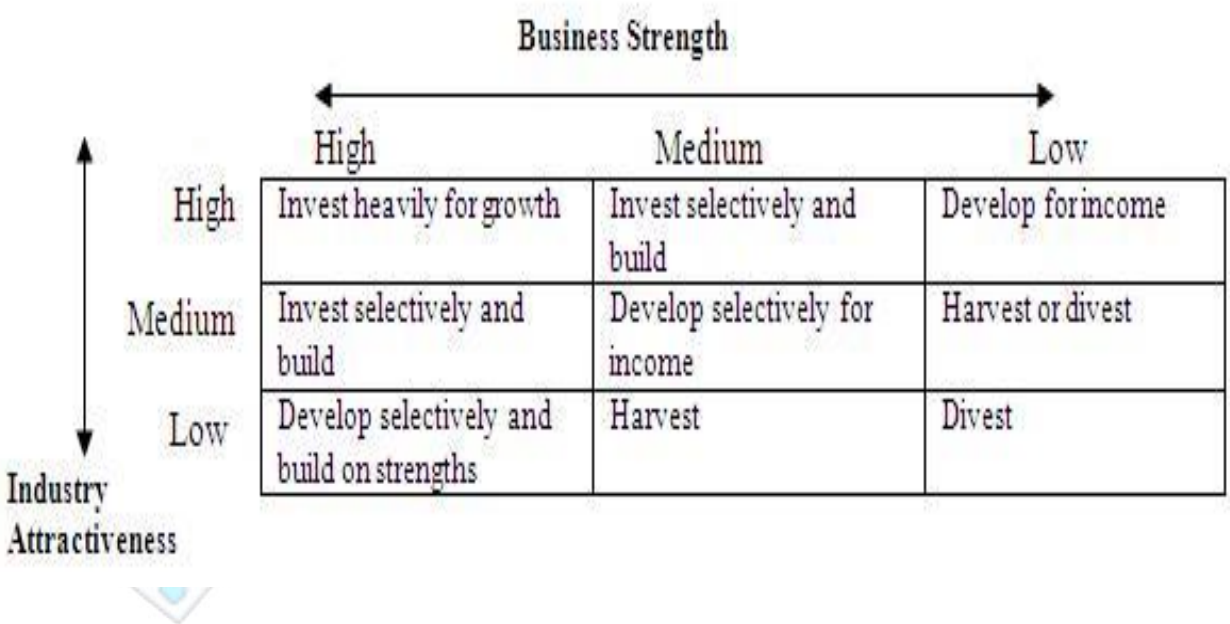
- The SBUs in the yellow cells along the diagonal running from lower left to upper right are overall medium in attractiveness. The strategy is to **protect** or allocate resources on a selective basis.

- The SBUs in the red cells on the lower right corner have low overall attractiveness. A **harvest** strategy should be used in the two cells just below the three-cell diagonal. These SBUs should not receive substantial new resources. The SBUs in the lower right cell should not receive any resources and should probably be **divested** or eliminated from an organization's portfolio.



	Invest/Grow
	Selectivity/Earnings
	Harvest/Divest

Management should also forecast each SBU's expected position both in short-term as well as long-term in view of product life cycle, competitor's strategies, economic cycles, threat of substitutes or new entrants. The specific strategies for 9 situations are:



Business Strength

Industry Attractiveness	High	Medium	Low
High	Invest heavily for growth	Invest selectively and build	Develop for income
Medium	Invest selectively and build	Develop selectively for income	Harvest or divest
Low	Develop selectively and build on strengths	Harvest	Divest

Shell Directional Policy Matrix

A slightly different technique, the directional policy matrix, is popularly used in Europe. It was initially worked out at the Shell Group but later caught the fancy of many businesses across the Atlantic. The two sides of the 3-by-3 matrix are labelled business sector prospects (industry attractiveness) and company's competitive capabilities (business strengths). Business sector prospects are categorized as unattractive, average, and attractive; and the company's competitive capabilities are categorized as weak, average, and strong. Within each cell is the overall strategy direction for a business depicted by the cell. The consideration of factors used to measure business sector prospects and a company's competitive capabilities follows the same logic and analyses discussed above. Like Boston model, it has been designed to assess business or strategic business units, but it can be applied to products too.

Prospects for sector profitability

Company's Competitive Capabilities	Unattractive	Average	Attractive
Weak	Disinvest	Phased withdrawal	Double or quit
Average	Phased withdrawal	Custodial	Try harder
Strong	Cash generation	Growth	Leader

Porter's Competitive Positioning Matrix

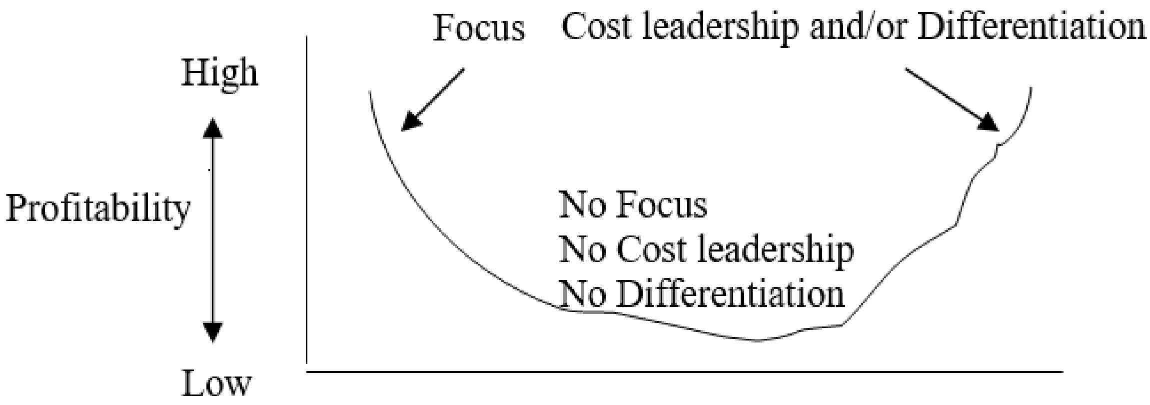
Michael Porter first recognized the generic strategies for success in a competitive market. He identified two key factors for attaining the competitive advantage that wins higher market share. These two factors are low costs in relation to other competitors and a high degree of product differentiation. These two aspects of competitive positioning form the axes of Porter's Competitive Positioning Matrix as shown in following figure.

Relative costs with respect to competitors

Degree of Product Differentiation	*High*	*Low*
High	Niche market	Outstanding success
Low	Disaster	Cost leadership

As seen from the matrix, the most undesirable (and hence disastrous) situation would be when an organization offers a product that is undistinguished against its rivals with relatively high cost in comparison to competitors. The unquestionable organizational success lies in attaining just opposite status i.e. low costs and high product distinctiveness. Some companies may survive with high costs with distinctive product offerings in a niche market or with undistinguished run-of-the-mill products having tight control over operating costs.

But Porter also mentioned that a high market share is not necessarily a major financial criterion, which is shown in the following figure.

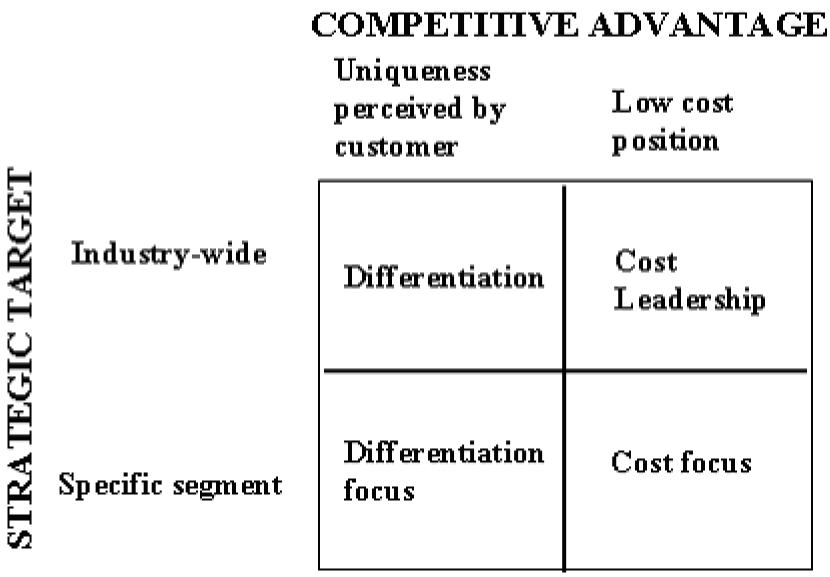


Here three situations are important.

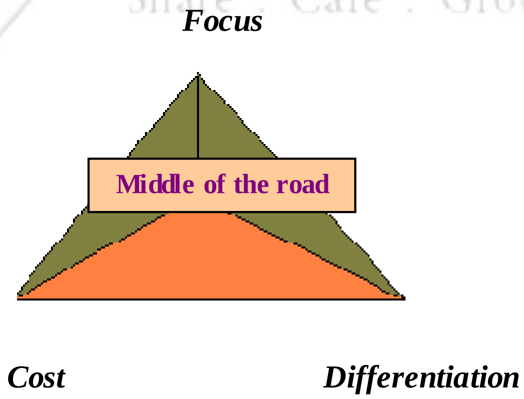
- Cost leadership: This simply means reducing prices to be lowest in the market. By pursuing this strategy, the organization concentrates upon achieving the lowest costs of production and distribution so that it has the capability of setting its prices at a lower level than its competitors. Whether it then chooses to do this depends on its objectives and perception of the market. Saunders provided the examples of IBM and Boeing, both of which are cost leaders who have chosen to use their lower costs not to reduce prices, but rather to generate higher returns that could subsequently be invested in marketing, R&D and manufacturing as a means of maintaining or strengthening their position.

- Differentiation: This is the establishment of some unique features (also described as USP by Roger Reeves), which could be product or image related that competitors couldn't match. By pursuing this strategy, the organization emphasizes a particular element of the marketing-mix that is seen by customers to be important and as a result provides a meaningful basis for competitive advantage. The firm then wants to be quality leader (Mercedes Benz with cars), service leader (McDonald's), marketing leader (Japanese cars) or the technological leader (Dolby with noise suppression circuits for tape decks). Differentiation can also be achieved by means of the brand image and packaging especially in a mature market where the products are for the most part physically indistinguishable.

- Focus: This is where the company consolidates its efforts on a small product range in a singular market niche.



'Stuck in the middle' is the term used by Porter to describe those companies at the bottom of the curve.



There is no single best strategy within a given industry and the task faced by the marketing strategists involves selecting the strategic approach that will best allow it to maximize its strengths vis-à-vis its competitors.

Type of strategy	Ways to achieve the strategy	Benefits	Possible problems
Cost leadership	Size and economies of scale Globalisation Relocating to low-cost parts of world Modification/simplification of designs Greater labour effectiveness Greater operating effectiveness Strategic alliance New sources of supply	Outperforming rivals Erecting entry barriers Resisting five competitive forces	Vulnerability to even lower cost operators Possible price wars Difficulty of sustaining in long-term
Focus	Concentration upon one or a small number of segments The creation of a strong and specialist	A more detailed understanding of particular segments Creation of entry barriers Reputation for specialisation Ability to concentrate efforts	Limited opportunities for sector growth Possibility of outgrowing market Decline of the sector Reputation for specialisation that ultimately inhibits growth and development into other sectors
Differentiation	The creation of strong brand identities The consistent pursuit of those factors which customers perceive to be important High performance in one or more of a spectrum of activities	Distancing from others in the market Creation of major competitive advantage Flexibility	Difficulties of sustaining the bases for differentiation Possible high costs Difficulty of achieving true and meaningful differentiation

Porter produced a more sophisticated model in 1985, which was based on a number of evolutionary stages, which were examined in terms of whether the company was a leader or a follower. These are illustrated in following figure:

Porter's Advanced Model

Strategic Position	Growth (Emerging industry)	Maturity (Transition to maturity)	Decline
Leader	Keep ahead of the field	Cost leadership Raise barriers to entry Deter competitors	Redefine scope Divest peripheral activities Encourage departures
Follower	Imitation at lower cost Joint ventures	Differentiation Focus	Differentiation Look for new opportunities

- 'Growth' is exemplified in an emerging industry by purchasing conservatism over the attributes of new products and the potential for them becoming quickly dated in the style or functional senses.

- 'Transition to maturity' usually means diminished profit margins as more competitors enter the market and there is a slowing down of sales. Purchasing confidence is higher through product familiarity, and the emphasis is upon features and non-price factors like image. Focus is important in terms of attempting to serve individual market segment needs.

- 'Decline' suggests that the marketplace has become saturated and that products are uninteresting. Alternate products start to appear and this stage is when companies should seek to exit the marketplace and look for alternative markets and products.

Industry maturity/competitive position matrix

This was proposed by the consultants Arthur D Little. The vertical axis cites a number of criteria from 'dominant' to 'weak' and the SBU is then entered into the appropriate box along the horizontal axis, depending upon the life-cycle stage the overall industry has reached. It is perhaps a slightly subjective set of measures, but at least it does give the analyst an immediate point of reference, and its utility is perhaps more one of comparing one company or SBU against another, rather than a practical marketing planning tool. It is depicted in following figure:

	Embryonic	Growth	Maturity	Ageing
Dominant				
Strong				
Favourable				
Tentative				
Weak				

Industry Maturity

There are four categories of industry maturity (also referred to as the industry life cycle):

- **Embryonic** – The introduction stage, characterized by rapid market growth, very little competition, new technology, high investment and high prices.
- **Growth** – The market continues to strengthen, sales increase, few (if any) competitors exist, and company reaps rewards for bringing a new product to market.
- **Mature** – The market is stable, there's a well-established customer base, market share is stable, there are lots of competitors, and energy is put toward differentiating from competitors.
- **Aging** – Demand decreases, companies start abandoning the market, the fight for market share among remaining competitors gets too expensive, and companies begin leaving or consolidating until the market's demise.

Competitive Position

The five categories for competitive position are as follows:

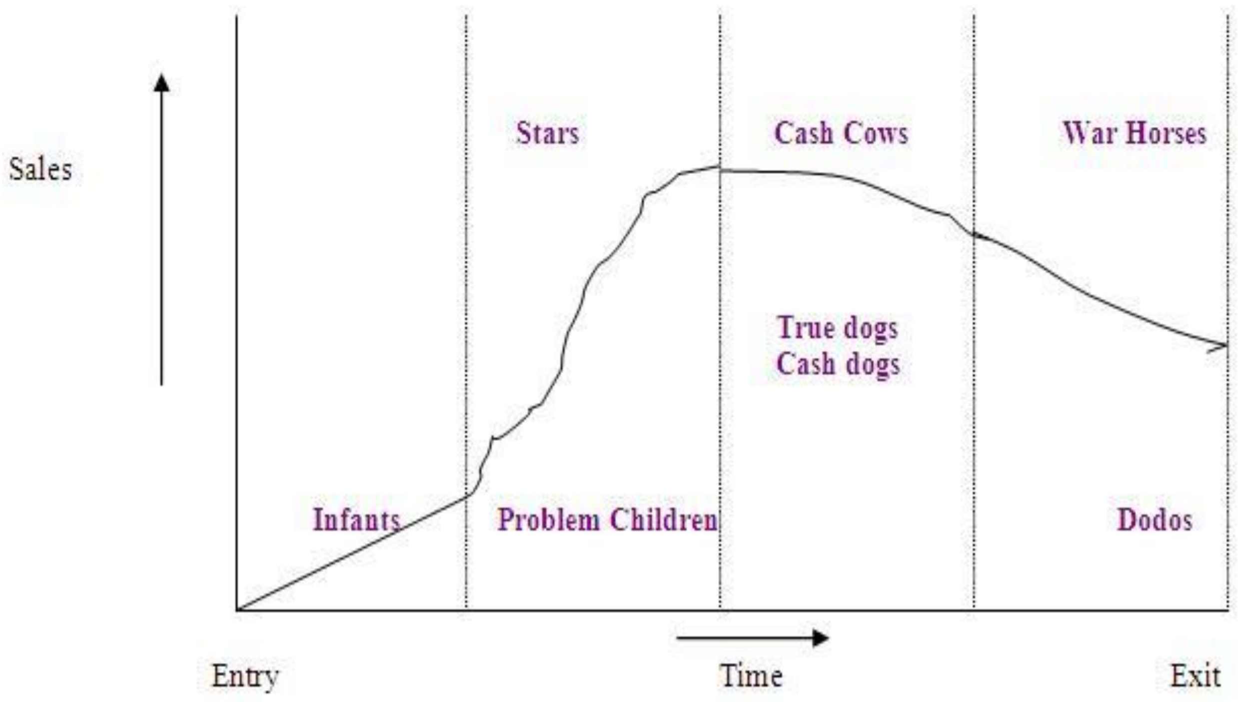
- **Dominant** – This is rare and typically short-lived. There's little, if any, competition, usually a result of bringing a brand-new product to market or having built an extremely strong reputation in the market (think Microsoft).

- **Strong** – Market share is strong and stable, regardless of the activities of the competitors.
- **Favourable** – Your business line enjoys competitive advantages in certain segments of the market. However, there are many rivals of equal strength, and you have to work to maintain your advantage.
- **Tenable** – Your position in the overall market is small, and market share is based on a niche, a strong geographic location, or some other product differentiation. Strong competitors are overtaking your market share by building their products and defining clear competitive advantages.
- **Weak** – There's continual loss of market share, and your business line, as it exists, is too small to maintain profitability.

The resulting ADL Matrix looks like this, with the various strategies prescribed for each of the 20 combinations:

BCG/product life cycle matrix

This model was developed by Barksdale and Harris on the grounds that the BCG matrix ignores the position of the industry. Their matrix attempts to resolve this difficulty as indicated in following figure.



- 'Infants' are seen at the pioneering (introduction) stage. Research and development costs are being recouped and promotional costs are high because most communication effort is being directed towards informing the marketplace.

- 'Stars' enjoy high market share in a high growth market. These are costly in terms of communication costs at this growth stage, but this SBU has good potential for the future once the product becomes accepted and the SBU moves into the 'cash cow' category.

- 'Problem children' being in a low market share but high growth situation are costly to maintain and to become successful marketing action must be taken to move them to star or ultimately to cash cow status.

- 'Cash cows' provide a steady revenue flow as they simply make money having a high market share, albeit in a low growth market.

- 'True dogs' have a low market share in a saturated market and provide a flat or even negative cash flow.

- 'Cash dogs' have a low market share in a saturated market, but produce a small positive cash flow.

- 'War horses' are seen in a declining market but are still supportable because of their high market share, which contributes to a positive cash flow. The likelihood, too, is that competitors are leaving the market, so handing their market share back to the marketplace.

- 'Dodos' are precarious SBUs in that they are in a declining market and have a low market share and the likelihood is that their cash flow is negative. They should be deleted, but are probably still there because management clings to the belief that they might witness a revival.

Drawbacks of the Product Portfolio Approach

In recent years, a variety of criticisms has been levelled at the portfolio framework. Most of the criticism has centred on the Boston Consulting Group matrix.

1. A question has been raised about the use of market share as the most important influence on marketing strategy. The BCG matrix is derived from an application of the learning curve to manufacturing and other costs. It was observed that, as a firm's product output (and thus market share) increases, total cost declines by a fixed percentage. This may be true for commodities; however, in most product/market situations, products are differentiated, new products and brands are continually introduced, and the pace of technological changes keeps increasing. As a result, one may move from learning curve to learning curve or encounter a discontinuity. More concrete evidence is needed before the validity of market share as a dimension in strategy formulation is established or rejected.

2. Another criticism, closely related to the first, is how product/market boundaries are defined. Market share varies depending on the definition of the corresponding product/market. Hence, a product may be classified in different cells, depending on the market boundaries used.

3. The stability of product life cycles is implicitly assumed in some portfolio models. However, as in the case of the learning curve, it is possible for the product life cycle to change during the life of the product. For example, recycling can extend the life cycle of a product, sparking a second growth stage after maturity. A related sub-issue concerns the assumption that investment is more desirable in high-growth markets than in low-growth ones. There is insufficient evidence to support this proposition. This overall issue becomes more problematic for international firms because a given product may be in different stages of its life cycle in different countries.

4. The BCG portfolio framework was developed for balancing cash flows. It ignores the existence of capital markets. Cash balancing is not always an important consideration.

5. The portfolio framework assumes that investments in all products/markets are equally risky, but this is not the case. In fact, financial portfolio management theory does take risk into account. The more risky the investment, the higher the return expected of it. The portfolio matrix does not consider the risk factor.

6. The BCG portfolio model assumes that there is no interdependency between products/markets. This assumption can be questioned on various grounds. For instance, different products/markets might share technology or costs. These interdependencies should be accounted for in a portfolio framework.

7. There is no consensus on the level at which portfolio models must be appropriately used. Five levels can be identified: product, product line, market segment, SBU, and business sector. The most frequent application has been at the SBU level; however, it has been suggested that the framework is equally applicable at other levels. Because it is unlikely that any one model could have such wide application, the suggestion that it does casts doubt on the model itself.

8. Most portfolio approaches are retrospective and overly dependent on conventional wisdom in the way in which they treat both market attractiveness and business strengths. For example, despite evidence to the contrary, conventional wisdom suggests the following:

- Dominant market share endows companies with sufficient power to maintain price above a competitive level or to obtain massive cost advantages through economies of scale and the experience curve. However, the returns for such companies as Goodyear and Maytag show that this is not always the case.
- High market growth means that rivals can expand output and show profits without having to take demand out of each other's plants and provoking price warfare. But the experience of industries as different as the European tungsten carbide industry and the U.S. airline industry suggests that it is not always true.
- High barriers to entry allow existing competitors to keep prices high and earn high profits. But the experience of the U.S. brewing industry seems to refute conventional wisdom.

9. There are also issues of measurement and weighting. Different measures have been proposed and used for the dimensions of portfolio models; however, a product's position on a matrix may vary depending on the measures used. In addition, the weights used for models having composite dimensions may impact the results, and the position of a business on the matrix may change with the weighting scheme used.

10. Portfolio models ignore the impact of both the external and internal environments of a company. Because a firm's strategic decisions are made within its environments, their potential impact must be taken into account. Day highlights a few situational factors that might affect a firm's strategic plan. As examples of internal factors, he cites rate of capacity utilization, union pressures, barriers to entry, and extent of captive business. GNP, interest rates, and social, legal, and regulatory environment are cited as examples of external factors. No systematic treatment has been accorded to such environmental influences in the portfolio models. These influences

are always unique to a company, so the importance of customizing a portfolio approach becomes clear.

11. The relevance of a particular strategy for a business depends on its correct categorization on the matrix. If a mistake is made in locating a business in a particular cell of the matrix, the failure of the prescribed strategy cannot be blamed on the framework. In other words, superficial and uncritical application of the portfolio framework can misdirect a business's strategy. As Gluck has observed, Portfolio approaches have the following limitations:

- It is not quite easy to define the businesses or product/market units appropriately before you begin to analyse them.
- Some attractive strategic opportunities can be overlooked if management treats its businesses as independent entities when there may be real advantages in their sharing resources at the research or manufacturing or distribution level.
- Like more sophisticated models, when it's used uncritically the portfolio can give its users the illusion that they're being rigorous and scientific when in fact they've fallen prey to the old garbage-in, garbage-out syndrome.

12. Most portfolio approaches suggest standard or generic strategies based on the portfolio position of individual SBUs. But these kinds of responses can often result in lost opportunities, turn out to be impractical or unrealistic, and stifle creativity. For example, the standard strategy for managing dogs (SBUs that have a low share of a mature market) is to treat them as candidates for divestment or liquidation. New evidence demonstrates, however, that, with proper management, dogs can be assets to a diversified corporation. One recent study of the performance of more than a thousand industrial-product businesses slotted into the four cells of the BCG matrix found that the average dog had a positive cash flow even greater than the cash needs of the average question mark. Moreover, in a slow-growth economy, more than half of a company's businesses might qualify as dogs. Disposing of them all would be neither feasible nor desirable. Yet the portfolio approach provides no help in suggesting how to improve the performance of such businesses.

13. Portfolio models fail to answer such questions as:

a) How a company may determine whether its strategic goals are consistent with its financial objectives:

b) How a company may relate strategic goals to its affordable growth?

c) How relevant the designated strategies are vis-à-vis competition from overseas companies?

In addition, many marketers have raised other questions about the viability of portfolio approaches as a strategy development tool. For example, it has been claimed that the BCG matrix approach is relevant only for positioning existing businesses and fails to prescribe how a question mark may be reared to emerge as a star, how new stars can be located, and so on. Empirical supports for the limitations of portfolio planning methods come from the work of Armstrong and Brodie. According to them, the limitations are so serious that portfolio matrices are detrimental since they produce poorer decisions.

In response to these criticisms, it should be pointed out that the BCG portfolio framework was developed as an aid in formulating business strategies in complex environments. Its aim was not to prescribe strategy, though many executives and academicians have misused it in this way. No simple, monolithic set of rules or strategy imperatives will point automatically to the right course. No planning system guarantees the development of successful strategies, nor does any technique. The Business Portfolio (the growth/share matrix) made a major contribution to strategic thought. Today it is misused and overexposed. It can be a helpful tool, but it can also be misleading or, worse, a straitjacket.