

The Boston matrix reloaded

Geoffrey Stanford assesses the state of the Boston matrix, the most famous form of product portfolio analysis, which classifies products according to their market share and rate of growth

The Boston matrix was first proposed by the Boston Consulting Group in 1970, as a way of thinking about where companies should allocate funds to maximise returns to investors. It became a tool that helped to define how companies would try to compete against each other over the course of the following decade and beyond.

How the Boston matrix evolved

The Boston Consulting Group was formed in 1962 and is now a leading consultancy firm, specialising in advising companies on their corporate strategy. The Boston matrix evolved out of the work of the group's founder, Bruce Henderson, who believed that increasing market share was an important element of a firm's strategy, not least for the cost advantages this can bring. What was also important was the overall position of a firm's products. He believed that: 'Only a diversified company with a balanced portfolio can use its

strengths to truly capitalise on its growth opportunities.'

Henderson plotted individual products on a graph with axes showing their market share and the growth of their market. This allowed him to compare the relative positions of each of the different products within a company's portfolio. The graph was divided into a two-by-two matrix (see Figure 1) to distinguish how a company should manage each different product. Options included investing in a product for growth, harvesting the cash flow from a product or discontinuing it.

The theory behind the matrix

Products with high share and low growth typically generate more cash than they can profitably reinvest, owing to lack of competition and the reduced scope for further expansion. These products are called **cash cows** and should be milked to fund investment in other high-growth products. These high-growth products typically have negative net cash flow, owing to the investment

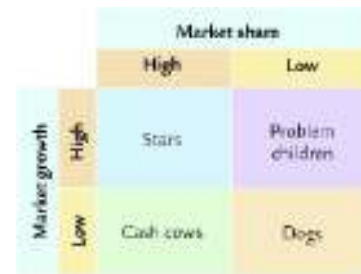


Figure 1 The Boston matrix

needed to increase capacity and to market the product to a wider audience. Using the positive cash flows from the cash cows to fund other higher-growth products should lead to the company having a balanced portfolio of products at all stages in the product life cycle. This in turn should help to ensure the long-term success of its business.

According to Henderson, 'the payoff from investing in market share during the growth phase can be very attractive'. Conversely, he viewed low market share products as 'cash traps' that could absorb investment without generating attractive returns for investors. **Dogs** are not necessary,' he said. 'They are evidence of failure either to obtain a leadership position during the growth phase or to get out and cut losses.' In other words, he believed that if a company had a **problem child** (or question mark) product, it had to invest in gaining market share before growth slowed and the product turned into a dog. The logic of the Boston matrix dictated that a company which did have a product classified as a dog in its portfolio should discontinue producing that product and exit that market.

Successful companies will therefore use funds from cash cows to invest in increasing the market share of problem children to make them into **stars** (the 'success





The Zune, Microsoft's problem child product

sequence', see Figure 2). These in turn will become cash cows as market growth slows. In contrast, unsuccessful companies will allow the market share of stars and cash cows to be eroded. In this 'disaster sequence', stars and cash cows over time will both turn into dogs, as demonstrated in Figure 2.

Developing the logic of the matrix

In the 1980s, conglomerates became fashionable; these were companies which had a number of different business units. The underlying logic of the Boston matrix was taken a step further by some analysts to help justify diversification, not only across products, but also across business units. Rather than just using the model to consider the products of a business, it was also used to evaluate the position of the different businesses owned by a parent company. This logic led the highly successful General Electric (GE) to sell numerous smaller businesses that were not able to reach its stated goal of a 'number one or number two position' in their markets.

To develop its strategy, GE worked with the Boston Consulting Group's main competitor, McKinsey, on its own version of the Boston matrix. This involved trying to quantify a number of qualitative input factors. The results were also plotted on two axes, separating the portfolio between 'business strength' and 'industry attractiveness.' Each axis was split into three: high, medium and low (see Figure 3). The aim was to evaluate whether a parent company had the right collection of businesses. Nonetheless, the basic conclusions that were drawn were the same as the Boston Consulting Group: one should invest

for growth, manage selectively for earnings, harvest or divest.

In recent years, conglomerates have fallen out of favour and their stockmarket values have often been less than their net asset value, owing to investors' suspicion of complex businesses. Instead of using the portfolio logic of the Boston matrix, experts argue that businesses should focus on their core product, and that if investors want exposure to a range of different businesses, they can buy shares in those companies directly without being forced to do so by corporate managers.

However, a counter argument is that managers are usually better able to estimate the potential of businesses than outside investors. Current evidence suggests that some (though not all) conglomerates do provide attractive returns for investors. Those businesses that don't manage their portfolio successfully become targets for takeovers by private firms, which are themselves a form of conglomerate. The businesses that fail may not be applying the logic of the Boston matrix as rigorously as GE did.

Applying the matrix today

The simplicity of using the concepts of market share and market growth was a significant reason why the Boston matrix has had such influence on corporate strategy. Unlike the results of increasingly sophisticated computer models, corporate executives intuitively understood both the matrix and the actions that it suggested. It remains the case in business that keeping things simple is often the most effective way to operate.

The Boston matrix can still be used to analyse how companies develop their product portfolios. In the technology sector, a good example of a star is Apple's

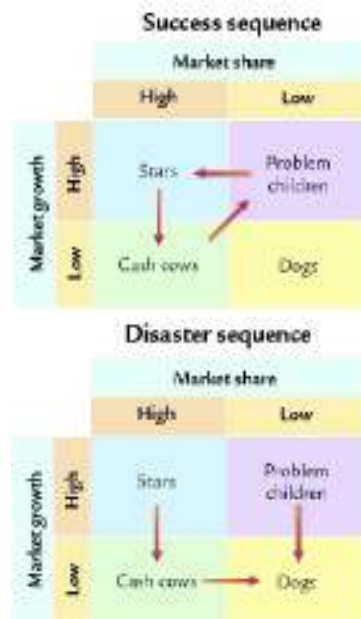


Figure 2 Success sequence versus disaster sequence



Figure 3 The GE version of the Boston matrix

Source: Kotler

iPod — the market for MP3 players is expanding rapidly and Apple has captured a large market share. Microsoft's Windows operating system has been a significant cash cow for Microsoft while it invests in other problem child products, such as the Zune, a digital media player and Microsoft's answer to Apple's iPod. There is also a fast-growing market for accessories for MP3 players yet few companies have significant market share and so these products are currently problem children.

An example of a dog is the traditional film camera, for which there have been many producers and, for some years, negative growth. In 2004, Nikon's managing director Makoto Kimura said: 'There is still