

the matter of timing, but eventually we will have to dissolve this business...there really is no region in the world where you can do good business in compact film cameras any more.' Sure enough, Nikon no longer advertises compact film cameras in its product range, focusing on digital cameras instead.

The audio-cassette tape is another product that has moved from being a cash cow to being a dog. In May 2007, Curry's announced that it would no longer sell blank audio-cassettes. In the UK in 1990, 95 million blank tapes were sold; in 2007, total UK sales of blank tapes are expected to be below 1 million.

Difficulties in practice

There are a number of practical difficulties in using the Boston matrix in real life. First, you need to define what market you are part of. For some products, this question may be easier than others, but, for example, is Nescafé in Italy a tiny player in the overall Italian coffee market, or a large player in the Italian instant coffee market? To analyse market share and market growth, you need to define your market clearly.

Second, the matrix fails to take into account synergies between products. Your dog product may be bringing in customers who also buy your star products and cash cows. Some private schools offer a wide range of subjects, some of which are not

profitable, but simply offering the wide range of subjects attracts more students.

Furthermore, in markets that remain fragmented, it is still possible to make a good return from producing a number of products that individually have small market shares and which, on their own, might be considered dogs. For example, in 2006, Cadbury had a 31% market share in the UK confectionery market and 9.9% globally. Chocolate represented 45% of its confectionery sales, but this is due to its large number of chocolate products -Cadbury's Milk Tray on its own only has a relatively small market share. Nonetheless, it still sells around 8 million boxes each year. A small share of a big market might still be worth having.

Obtaining information

A more basic problem is access to information. Market research companies charge large sums of money for up-to-date information about how industries are developing. Consequently, the data are often not publicly available, particularly where there are confidentiality issues about competitor information. If you don't want to spend money buying expensive research reports, you might find data in newspaper articles or industry journals. Typically though, these provide insufficient detail and you may not be sure what the data include in order to calculate the market share of your own products. Even if you can estimate

your market share, it may be hard to show how the position has changed over time to estimate market growth.

In some industries, there are relatively good sources of information but a major difficulty is that even the most up-to-date information can be as much as a year old by the time it has been gathered, presented and analysed. For example, in the insurance industry, the Financial Services Authority requires every insurance company operating in the UK to submit a highly detailed annual record of sales, split down by product type. This information is a fantastic source of data for analysis, but it only has to be submitted in March of the following year. It may not be made publicly available by the regulator until the summer and may then take further weeks to analyse. This sort of time-lag may not matter too much in some situations, but in other cases would reduce the value of the exercise.

Is the matrix still relevant?

Despite all these difficulties, corporate executives still need to anticipate changes in their industries to ensure that they remain competitive. They will make strategic decisions for their companies based on analysis of the best information available, and many of them will still use some variant of the Boston matrix in their analysis.

The Boston matrix can also be used retrospectively to analyse the reasons for business failure. In addition to the point that Henderson made about dogs being evidence of failure to invest or exit, a number of common mistakes continue to be made:

- Over-investing in cash cows. This investment is unlikely to produce an attractive return and reduces the amount of money available to invest in developing problem children.
- Under-investing in stars. This allows competitors to gain a share in a highgrowth market and means that your company will fail to reach a level where it can benefit from economies of scale.
- Over-milking the cash cows. This can lead to a fall in market share, which means that the product turns into a dog.

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